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Everglades National Park
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Acquisition of Florida Power & Light Company Land in the East Everglades Expansion Area Final Environmental Impact Statement

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UNITED STATES DEPARTMENT OF THE INTERIOR – NATIONAL PARK SERVICE

ACQUISITION OF FLORIDA POWER & LIGHT COMPANY LAND IN THE EAST EVERGLADES EXPANSION AREA, EVERGLADES NATIONAL PARK, FLORIDA

FINAL ENVIRONMENTAL IMPACT STATEMENT

Lead Agency: National Park Service (NPS), U.S. Department of the Interior

This draft environmental impact statement (EIS) describes five alternatives for acquiring land owned by the Florida Power & Light Company (FPL) in the East Everglades Expansion Area (EEEA) within the boundary of Everglades National Park (the park), or sufficient interest in this property, to allow for higher water levels in the area to facilitate restoration efforts within the park. The document also describes the affected environment and evaluates the environmental consequences of implementing these alternatives.

The purpose of the project is NPS acquisition of the existing FPL land within the park, or sufficient interest in the property, to facilitate hydrologic and ecologic restoration of the park and Everglades ecosystem. This action is needed to support the mission of the NPS and the park, because the EEEA, which includes the existing FPL parcel, has been identified as vital to long-term protection of the park for ecosystem restoration purposes. Also, the acquisition of the existing FPL parcel within the EEEA is needed to support the goals of restoring the Northeast Shark River Slough (NESRS) and to fulfill the purposes of the Modified Water Deliveries project and the Comprehensive Everglades Restoration Plan. Acquisition of land within the EEEA is legally authorized. Public Law (PL) 101-229 (December 13, 1989) articulates that the Everglades is both nationally and internationally significant and sets forth specific goals and objectives for acquisition of properties in this area. Acquisition of land within the EEEA through an exchange of lands with FPL is also legally authorized (PL 111-11, 2009).

The no-action alternative in this EIS assumes that the NPS would take no action to acquire FPL property within the EEEA. However, this EIS addresses both the potential impacts from the acquisition of FPL land in the park as well as the indirect impacts that could result from the subsequent construction and operation of transmission lines that could be built either inside or outside the park as a result of the alternatives selected. These transmission line construction scenarios depend in part on the alternative selected for land acquisition, but also on other factors that are beyond the NPS's control. For each of the possible actions NPS could select with respect to acquisition of the FPL corridor within the park (alternatives), there are several possible scenarios regarding where and whether the FPL transmission lines may ultimately be constructed. For the sake of clarity, the NPS decided not to repeat the description and analysis of every one of the possible scenarios if it was already described under another alternative. There are two no action alternatives, one with a "no-build" scenario for analyzing baseline conditions (1a), and one other with a "build" construction scenario (1b). Each other alternative was assigned one scenario for analysis.

Under alternative 1a (no NPS action), the NPS would not take action to acquire FPL property within the park or a flowage easement on it. There would be no change in the status of the FPL lands in the park, and the NPS would retain ownership of lands being considered for exchange. The NPS and U.S. Army Corps of Engineers (USACE) would continue to lack a perpetual flowage easement on FPL's entire property in the EEEA necessary to implement higher water levels resulting from ecosystem restoration projects. This alternative assumes that FPL would not construct transmission lines on its existing land in the park, in the exchange corridor, or in any area outside the park. This alternative could result if other necessary permits are denied by regulatory agencies or if FPL chooses not to build transmission lines.

Under alternative 1b, the NPS would not take action to acquire FPL property within the park or a flowage easement on it. Although it represents the same land acquisition option as alternative 1a, this alternative assumes that FPL would construct transmission lines on its existing land in the park (designated as FPL's "West Secondary Corridor"). It also assumes that the NPS would not be able to flow additional water on this property to achieve its long-term ecosystem restoration objectives because it would not have acquired the right or interest to do so. In late 2013, FPL withdrew the West Secondary Corridor from its application for State of Florida site certification and from its application for a USACE Section 404 wetland fill permit. In light of this development, construction of transmission lines in the West Secondary Corridor is less likely than before; however it is included to provide a full range of alternatives and assessment of impacts."

Under alternative 2, the 320-acre FPL corridor would be acquired directly by purchase or through the exercise of eminent domain authority by the United States. This alternative would result in an increase of 320 acres of NPS-owned land within the authorized boundary of the park and would allow for flowage of water on this property. **T**he construction scenario associated with alternative 2 assumes that FPL would likely acquire a replacement corridor east of the existing park boundary to meet its transmission needs and the transmission lines would be built outside the park on lands within the FPL West Consensus Corridor and West Preferred Corridor.

Under alternative 3, the NPS would acquire fee title to the 320-acre FPL corridor through an exchange for park property, as authorized by the exchange legislation. NPS land conveyed to FPL would consist of 260 acres along 6.5 miles of the

eastern boundary of the EEEA. The NPS would also convey a 90-foot-wide perpetual nonnative vegetation management easement to FPL adjacent to the entire length of the exchange corridor. The “fee for fee” land exchange would be subject to terms and conditions that are to be agreed upon between NPS and FPL and incorporated into a binding exchange agreement. FPL would be required to allow the United States the perpetual right, power, and privilege to flood and submerge the property consistent with hydrologic restoration requirements. The May 2014 Final Order of Certification directs FPL to pursue locating transmission lines in the FPL West Consensus Corridor east of the current park boundary and indicates that the FPL West Preferred Corridor would only be used in the event that an adequate right-of-way within the FPL West Consensus Corridor cannot be secured in a timely manner and at a reasonable cost. Therefore, the NPS has revised alternative 3 to include a commitment that FPL shall reconvey to the NPS any and all acreage in the FPL West Preferred Corridor determined to be unneeded by FPL to build transmission lines. In this instance, after going through the process described below, FPL would return to the NPS land in the FPL West Preferred Corridor that it would no longer need to complete the transmission line requirements. After the reconveyance is complete, the park boundary would be adjusted to reflect final land ownership between FPL and NPS. FPL would strive to avoid siting transmission lines within the park to the extent practical. For a conservative analysis, the construction scenario associated with this alternative assumes that FPL would build the transmission lines in the exchange corridor and meet the fee for fee terms and conditions that include additional requirements developed by the NPS for environmental protection.

Under alternative 4, the NPS would acquire fee title to the 320-acre FPL corridor through an exchange for an easement on NPS property. The NPS would grant an easement to FPL on 260 acres of park land along 6.5 miles of the eastern boundary of the EEEA for potential construction of transmission lines, in accordance with the terms and conditions developed for this “easement for fee” exchange. Although the exchange corridor involved in this alternative is the same as alternative 3, under this easement for fee exchange, NPS would retain ownership of the corridor. No adjustments would be made to the boundary of the park, but the NPS would no longer have the unencumbered use of the exchange corridor. The NPS would also convey a 90-foot-wide perpetual easement to FPL adjacent to the entire length of the exchange corridor for nonnative vegetation management. The easement for fee land exchange would be subject to terms and conditions that are to be agreed upon between NPS and FPL and incorporated into a binding exchange agreement. Similar to alternative 3, an essential condition for this exchange is that the FPL Utility Easement Area would be subject to a perpetual flowage easement.

Under alternative 5, the NPS would acquire a perpetual flowage easement on FPL’s property within the EEEA through purchase, condemnation, or donation by FPL. FPL would retain ownership of its 320-acre corridor in the park during the term of the easement and could seek to site transmission lines there. The flowage allowed under this easement would allow sufficient water flow over this area to support ecosystem restoration projects. There would be no change to the authorized boundary of the park, although NPS would retain the current goal of acquiring this property over the long term. The construction scenario associated with this alternative would be the same as the one for alternative 1b (FPL construction of transmission lines on its existing land in the park), except that NPS would acquire a long-term, perpetual flowage easement.

Alternative 2 is the environmentally preferred alternative. Alternative 3 is the NPS preferred alternative.

The potential environmental consequences of the alternatives are addressed for hydrology, water quality, soils, vegetation and wetlands, floodplains, soundscapes, wildlife, special status species (both federally listed and state listed species), visual resources, wilderness, visitor use and experience, adjacent land uses and policies, tribal lands (including Indian trust resources), socioeconomics, and park operations and management.

The draft EIS was made available for public and agency review and comment for 60 days after publication of the U.S. Environmental Protection Agency Notice of Availability in the Federal Register, from January 17, 2014, to March 18, 2014. Copies of the draft EIS or links to download it on the NPS Planning, Environment and Public Comment website, were sent to individuals, agencies, organizations, libraries, and local businesses. This final EIS provides responses to substantive stakeholder and public comments, incorporates those comments and suggested revisions where necessary. Once this document is released and a Notice of Availability is published in the Federal Register, a 30-day no-action period will follow. Following the 30-day no-action period, the alternative or actions constituting the selected alternative will be documented in a record of decision that will be signed by the Regional Director of the Southeast Region. For further information regarding this document, please contact Everglades National Park at the address below or at the following number: (305) 242-7700.

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National Park Service
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Florida

EVERGLADES NATIONAL PARK

ACQUISITION OF FLORIDA POWER & LIGHT COMPANY LAND IN THE EAST EVERGLADES EXPANSION AREA

FINAL ENVIRONMENTAL IMPACT STATEMENT

NOVEMBER 2015

EXECUTIVE SUMMARY

PURPOSE OF AND NEED FOR ACTION

The National Park Service (NPS) is preparing an environmental impact statement (EIS) to evaluate the options for and impacts of acquiring land owned by the Florida Power & Light Company (FPL) in the East Everglades Expansion Area (EEEA) within the boundary of Everglades National Park (the park), or sufficient interest in this property, to allow for higher water levels in the area to facilitate ecosystem restoration efforts within the park. This includes the exchange of lands authorized in the Omnibus Public Land Management Act of 2009 (Public Law (PL) 111-11) and other reasonable alternatives.

The NPS must acquire the FPL parcel and several other properties, or sufficient interest in these properties, to allow for higher water levels in the area to facilitate ecosystem restoration efforts within the park – one of the primary objectives of the Modified Water Deliveries to the Everglades National Park (MWD) project and other long-term Everglades ecosystem restoration plans. The FPL parcel is a linear north-south corridor of between 330 feet and 370 feet in width and approximately 7.4 miles in length within the park. The parcel was purchased by FPL in the 1960s and early 1970s, prior to the expansion of the park, with the intention of supporting future transmission lines from the Turkey Point power plant, located south of the Biscayne National Park visitor center, to locations north of metropolitan Miami (FPL 2011). The NPS decision to be made at the conclusion of this process is whether to acquire FPL's lands within the park, or sufficient interest in this property, to allow for higher water levels in the area to facilitate ecosystem restoration efforts within the park, by exchange, direct purchase, or other means.

The purpose of the project is NPS acquisition of the existing FPL land within the park, or sufficient interest in the property, to facilitate hydrologic and ecologic restoration of the park and Everglades ecosystem. The need for the project can be summarized as follows:

- This action is needed to support the mission of the NPS and the park. The EEEA, which includes the existing FPL parcel, has been identified as vital to long-term protection of the park for ecosystem restoration purposes.
- The acquisition of the existing FPL parcel within the EEEA is needed to support the goals of restoring the Northeast Shark River Slough (NESRS) and to fulfill the purposes of the MWD project and the Comprehensive Everglades Restoration Plan.
- Acquisition of land within the EEEA is legally authorized. PL 101-229 (December 13, 1989) articulates that the Everglades is both nationally and internationally significant and sets forth specific goals and objectives for acquisition of properties in this area.
- Acquisition of land within the EEEA through an exchange of lands with FPL is also legally authorized by the Omnibus Public Lands Management Act of 2009 (PL 111-11).

OBJECTIVES IN TAKING ACTION

"Objectives" are specific purpose statements that describe what must be achieved to a large degree for the action to be considered a success. All of the alternatives selected for detailed analysis must meet project objectives to a large degree and support the purpose of and need for action. Alternatives proposing the acquisition and/or exchange of FPL land and/or land interests must:

- Ensure consistency with the Everglades National Park Protection and Expansion Act of 1989 (Expansion Act) and the 1991 Land Protection Plan (LPP) for the EEEA. This includes the following:
  - Increasing the level of protection of the outstanding natural values of the park and enhancing and restoring the ecological values, natural hydrologic conditions, and public enjoyment of such areas by adding the area commonly known as the NESRS and the East Everglades to the park (16 USC 410r-5) and
  - Assuring that the park is managed in a way that maintains the natural abundance, diversity, and ecological integrity of native plants and animals, as well as the behavior of native animals, as part of its ecosystem (16 USC 410r-5);
- Ensure consistency with the Congressional intent of the Omnibus Public Land Management Act of 2009 such that the Secretary of the Interior considers the land exchange with specified terms and conditions including appropriate environmental review of the impacts of the exchange;
- Support and facilitate implementation of ecosystem restoration projects including the MWD project, the Tamiami Trail Next Steps Project and the Comprehensive Everglades Restoration Plan; and
- Support the timely acquisition of existing FPL property within the EEEA, or sufficient interest in this property, to allow for higher water levels in the area to facilitate ecosystem restoration efforts within the park.

ALTERNATIVES CONSIDERED

The alternatives under consideration must include a "no-action" alternative to ensure that the NPS compares the potential impacts of the proposed action to the likely impacts of maintaining the *status quo*. The no-action alternative in this EIS assumes that the NPS would take no action to acquire FPL property within the EEEA or a flowage easement on it. In contrast, the action alternatives incorporate different approaches that the NPS would take to acquire lands or interest in lands within the FPL corridor. This EIS addresses both the potential impacts from the acquisition of FPL land in the park as well as the indirect impacts that could result from the subsequent construction and operation of transmission lines that could be built either inside or outside the park as a result of the alternative selected. Although the NPS does not have responsibility to choose or authorize where FPL builds transmission lines, it is foreseeable that FPL would build transmission lines, and each of the possible alternatives that NPS considers with respect to acquisition of the FPL corridor within the park has multiple possible outcomes or scenarios about where construction of the FPL transmission lines may ultimately occur. These transmission line construction scenarios depend in part on the alternative selected by the NPS regarding the land acquisition, but also on other factors that are beyond the NPS's control. NPS consideration of any transmission line construction scenarios in this EIS is not an admission or acknowledgement by the NPS or the U.S. Army Corps of Engineers (USACE) that use of these properties as a transmission corridor is permissible or suitable because FPL has not completed the USACE Clean Water Act (CWA) Section 404 permitting process for its proposed western transmission lines.

Based on the possible alternatives and transmission line construction scenarios, There are six alternatives that are fully described and analyzed in the draft EIS. There is a no-action alternative with a "no-build" scenario for analyzing baseline conditions (1a), as well as an alternative that analyzes no NPS action with a "build" construction scenario (1b). Each other alternative is assigned one scenario for analysis. For the sake of clarity, the NPS decided not to repeat the description and analysis of every one of the possible scenarios if it was already described under another scenario. It was determined that this would simplify the way the information is presented, and therefore improve the readability of the EIS.

In this way, the full range of possible construction scenarios is described. The following summarizes the alternatives analyzed in this EIS:

ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION

Under the no-action alternative, the NPS would not take action to acquire FPL property within the park or a flowage easement on it. There would be no change in the status of the 7.4-mile-long corridor containing 320 acres of FPL lands in the park, and the NPS would retain ownership of lands being considered for exchange. There would be no change to the authorized boundary of the park. The NPS and USACE would continue to lack a perpetual flowage easement on FPL's entire property in the EEEA necessary to implement higher water levels resulting from ecosystem restoration projects.

This alternative assumes that FPL would not construct transmission lines on its existing land in the park, in the exchange corridor, or in any area outside the park. This alternative could result if other necessary permits are denied by regulatory agencies or if FPL chooses not to build transmission lines. Although this scenario is not likely, it is included to represent a status quo baseline for National Environmental Policy Act (NEPA) purposes. The impacts of constructing transmission lines, as analyzed in other alternatives, is compared to this baseline.

ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN PARK

Under this alternative, the NPS would not take action to acquire FPL property within the park or a flowage easement on it. With respect to the action selected for acquisition, it is thus the same as alternative 1a. However, this alternative assumes that FPL would construct transmission lines on its existing land in the park (FPL's "West Secondary Corridor"). Although it represents the same management option as alternative 1a, this alternative is included because it is a potential but uncertain outcome if NPS takes no action. This alternative assumes that FPL would be able to secure all federal, state, and local permits necessary to construct transmission lines, associated fill pads, and access roads on its existing property within the park. It also assumes that the NPS would not be able to increase water levels on this property to achieve its long-term restoration objectives because it would not have acquired the right or interest to do so. In late 2013, FPL withdrew the West Secondary Corridor from its application for State of Florida site certification and from its application for a USACE Section 404 wetland fill permit. As a result, FPL is no longer seeking the federal, state and local permits needed to construct transmission lines in the West Secondary Corridor. Although this construction scenario is less likely than before, it is included to provide a full range of alternatives and assessment of impacts.

ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Under alternative 2, the FPL property (7.4-mile-long FPL corridor containing 320 acres of FPL lands) would be acquired directly by purchase or through the exercise of eminent domain authority by the United States. This alternative would result in an increase of 320 acres of NPS-owned land within the authorized boundary of the park and would allow for flowage of water on this property.

The construction scenario associated with this alternative assumes that FPL would likely acquire a replacement corridor east of the existing park boundary to meet its transmission needs because the option selected by NPS for land acquisition would leave FPL without a transmission corridor through the park. This alternative assumes that FPL would be able to secure all federal, state, and local permits necessary to construct transmission lines, associated fill pads, and access roads on lands FPL would likely acquire somewhere within this area east of the park. The impact analysis for alternative 2 assumes FPL is able to build entirely outside the park on lands within the FPL West Consensus and West Preferred Corridors.

ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Under alternative 3, the NPS would acquire fee title to the FPL property (7.4-mile-long corridor containing 320 acres of FPL lands) through an exchange for park property, as authorized by the exchange legislation. NPS land conveyed to FPL would consist of 260 acres along 6.5 miles of the eastern boundary of the EEEA. The values of lands exchanged would be equalized in accordance with the Omnibus Act. This alternative would result in a 260-acre decrease in lands within the authorized boundary on the east side of the park, and an increase of 320 acres of federally owned land within the authorized boundary (the former FPL corridor), for a net gain of 60 acres of federally owned park land. The NPS would also convey a 90-foot-wide perpetual nonnative vegetation management easement to FPL adjacent to the entire length of the 6.5-mile exchange corridor. The fee for fee land exchange would be subject to terms and conditions that are to be agreed upon between NPS and FPL and incorporated into a binding exchange agreement. An essential condition for this exchange is that the lands conveyed to FPL would be subject to a perpetual flowage easement. FPL would be required to allow the United States the perpetual right, power and privilege to flood and submerge the property consistent with hydrologic restoration requirements. Also, the terms and conditions for this alternative allow for other utility related facilities in the corridor. As a result of the final order of the Site Certification Application (SCA) process, FPL must pursue the use of the West Consensus Corridor as the primary corridor in the west for the transmission lines associated with the Turkey Point Power Plant Units 6 and 7 project and avoid siting any transmission lines in the park. The FPL West Preferred Corridor would only be used for placement of FPL's western transmission lines in the event that an adequate right-of-way within the FPL West Consensus Corridor cannot be secured in a timely manner and at a reasonable cost. FPL shall reconvey to the NPS any and all acreage in the FPL West Preferred Corridor determined to be unneeded by FPL to build transmission lines. FPL success in acquiring interests and developing the West Consensus Corridor would minimize or eliminate the amount of property in the exchange corridor required for the western transmission lines. This information was not available in time to inform the draft EIS, and the requirement and commitment by FPL to avoid siting any transmission lines in the park was important in developing a revised fee for fee acquisition alternative. FPL shall reconvey to the NPS any and all acreage in the FPL West Preferred Corridor determined to be unneeded by FPL to build transmission lines.

The construction scenario associated with this alternative assumes that FPL would be able to secure all federal, state, and local permits necessary to construct transmission lines, associated fill pads, and access roads on lands FPL acquired by exchange. In this instance, FPL would be unsuccessful in acquiring adequate right of way within the West Consensus Corridor and would pursue full construction of transmission lines in the FPL West Preferred Corridor. Construction would need to meet the fee for fee terms and conditions that include additional requirements developed by the NPS for environmental protection. The construction scenario for alternative 3 assumes transmission line construction on the entire 6.5-mile corridor within the park. The NPS views this transmission line construction scenario as the worst-case impact scenario associated with this alternative.

ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Under alternative 4, the NPS would acquire fee title to the FPL property (7.4–mile-long corridor containing 320 acres of FPL lands) through an exchange for an easement on NPS property. The NPS would grant an easement to FPL on 260 acres of park land along 6.5 miles of the eastern boundary of the EEEA for potential construction of transmission lines, in accordance with the terms and conditions developed for this "easement for fee" exchange. Although the exchange corridor involved in this alternative is the same as that under alternative 3, under this easement for fee exchange, NPS would retain ownership of the corridor. No adjustments would be made to the boundary of the park. This alternative would result in an increase of 320 acres of NPS-owned land within the authorized boundary of the park (the former FPL corridor). The NPS would no longer have the unencumbered use of the FPL Utility Easement Area, which would potentially contain transmission lines, but would retain the right to carry out all other management activities as needed in this area. The NPS would also convey a 90-foot-wide perpetual easement to FPL adjacent to the entire length of the 6.5-mile exchange corridor to conduct nonnative vegetation management. The easement for fee land exchange would be subject to terms and conditions that are to be agreed upon between NPS and FPL and incorporated into a binding exchange agreement. The main difference between the draft terms and conditions for this alternative and those for alternative 3 is that under the easement for fee conditions, FPL could use the FPL Utility Easement Area only for conservation or the potential construction of electric transmission lines and appurtenant facilities, not other utility-related facilities.

Similar to alternative 3, an essential condition for this exchange is that the FPL Utility Easement Area would be subject to a perpetual flowage easement. The United States would retain the perpetual right, power and privilege to flood and submerge the property consistent with hydrologic restoration requirements.

The construction scenario associated with this alternative would be the same as the one for alternative 3, except that NPS would retain ownership of the FPL Utility Easement Area. FPL's long-term use of the area would follow the slightly different easement for fee terms and conditions that include additional requirements developed by the NPS for environmental protection.

ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Under this alternative, the NPS would acquire a perpetual flowage easement on FPL's property within the EEEA through purchase, condemnation, or donation by FPL. FPL would retain ownership of its 7.4-mile-long corridor in the park during the term of the easement and could seek to site transmission lines there. The flowage easement would include the entire FPL property from Tamiami Trail to the 8.5-square-mile area, and the flowage allowed under this easement would allow sufficient water flow over this area to support ecosystem restoration projects. There would be no change to the authorized boundary of the park, although NPS would retain the current goal of acquiring this property over the long term.

The construction scenario associated with this alternative would be the same as alternative 1b (FPL construction on its existing land in the park), except that NPS would acquire a long-term, perpetual flowage easement that provides sufficient flowage for completion of Everglades restoration projects. FPL would be able to secure all federal, state, and local permits necessary to construct transmission lines, associated fill pads, and access roads on its existing property within the park. The NPS would be able to increase water levels on this property including over the area that is used for construction of the transmission lines to achieve its long-term ecosystem restoration objectives.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The NPS, in accordance with the U.S. Department of the Interior (DOI) NEPA regulations (43 CFR part 46) and the Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, defines the environmentally preferable alternative as the alternative "that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources" (43 CFR 46.30). Alternative 2, the direct acquisition alternative, was identified as the environmentally preferable alternative by the NPS. This determination was based on available scientific data compiled for the draft EIS and the comparative analysis of impacts of the various alternatives. An analysis of available data and relative impacts made it clear that alternative 2 best meets the requirements of the environmentally preferable alternative.

NPS PREFERRED ALTERNATIVE

Having considered all available information including public comments on the draft EIS, and discussions with the utilities including property rights concerns, the NPS has identified its preferred alternative as alternative 3, the fee-for-fee land exchange alternative as described in chapter 2, with modifications from the draft EIS. Alternative 3 was identified as the preferred alternative for its ability to allow the park to achieve the majority of its restoration goals identified in the purpose and need of the EIS in a timely manner while considering relative costs to the government.

The identification of alternative 3 as the NPS preferred alternative is contingent on several assumptions, including FPL's acceptance of mitigation measures identified in a final terms and conditions. In the event that an adequate right-of-way within the FPL West Consensus Corridor can be secured in a timely manner and at a reasonable cost, FPL shall reconvey all lands not necessary for construction of transmission lines in the FPL West Preferred Corridor to the NPS, reducing impacts to park resources and allowing for hydrologic projects in the region to move forward.

ISSUES RELATING TO THE PROJECT

Several issues of concern were identified through both internal and public scoping. Internal scoping identified preliminary alternatives and issues relating to potential effects of the proposed land exchange and the foreseeable indirect effects of construction and operation of the transmission line infrastructure. These issues were discussed with the public at a scoping meeting held on June 22, 2011, and comments were solicited through distribution of a public scoping newsletter and posting on the NPS website. During the public scoping period, the park received 10,120 correspondences containing 39,739 individual comments. The comments received were reflective of a public that is passionate about the future of park resources, their uses, and their management. The most common comment received expressed opposition to installation of any transmission lines in or adjacent to the park, representing 74 percent of all comments. The second most prevalent comment expressed opposition to any land exchange with FPL, representing 25 percent of all comments. Thus, approximately 99 percent of all comments expressed opposition to all transmission line construction or completion of the land exchange for the purposes of constructing a transmission line. Commenters also contributed ideas for new alternatives and raised specific concerns regarding resource protection and visitor enjoyment of the park. As a result of this scoping effort, additional issues and alternatives were identified for further analysis in this EIS.

ENVIRONMENTAL CONSEQUENCES

Those issues identified during internal and public scoping formed the basis for the 15 impact topics discussed in the EIS. The summary of environmental consequences considers the actions being proposed

and the cumulative impacts to resources from actions both inside and outside the park. The potential environmental consequences of the actions are addressed for the following topics: hydrology, water quality, soils, vegetation and wetlands, floodplains, soundscapes, wildlife, special status species (both federally listed and state listed species), visual resources, wilderness, visitor use and experience, adjacent land uses and policies, tribal lands (including Indian trust resources), socioeconomics, and park operations and management. Table 3 in chapter 2 summarizes impacts by topic and alternative. The following presents some of the major conclusions of the consequences, focusing on the most severe long-term adverse impacts and beneficial effects. This does not address all topics and impacts; please see the full impact analysis in "Chapter 4: Environmental Consequences," for a complete representation of the impacts.

Alternative 1a: This alternative is the "no action" baseline alternative. This alternative would result in major long-term adverse impacts due to the inability to increase water levels the EEEA and complete the planned Everglades ecosystem restoration projects, which adversely impacts most natural resource topics, visitor use and experience and wilderness to a major level. It would have a major adverse impact because of the conflict with existing NPS land use policies relating to acquisition of the FPL corridor. This alternative would not involve transmission line construction.

Alternative 1b: This alternative would have the same adverse effects on natural resources as alternative 1a and would add the impacts of transmission line construction and operation. The construction and continued presence of the transmission lines in the FPL corridor within the EEEA would result in long-term major adverse impacts on hydrology, water quality, soils, vegetation and wetlands, floodplains, special-status species, visual resources, visitor use and experience, wilderness, and adjacent land use/policy. Construction of transmission lines in this location would present high risks to avian species, especially Everglades snail kite and wood stork, due to the proximity of the lines to nesting and foraging locations.

Alternative 2: This acquisition alternative would have long-term benefits to most resources and values, because it would allow for increased water levels in the EEEA and completion of the planned Everglades ecosystem restoration projects. Also, the transmission line would not be built in the park, but in an area outside the park east of its boundary; therefore, impacts on park resources and values would be eliminated or reduced. This area has already been hydrologically segmented by canals and development and generally has a reduced quality of wetland habitat. Impacts would vary based on the location selected for the corridor, but many impacts considered as major adverse in the park would be reduced to moderate or less in this area. For the analysis in EIS, the West Consensus Corridor, as developed by FPL and the Miami-Dade Limestone Products Association, Inc. (MDLPA) was used for potential development and the impacts of transmission line construction and presence were assessed in that area. No major impacts were identified except for possible conflict with adjacent land use or policies, depending on the location of the corridor.

Alternative 3: The "fee for fee" land exchange, as analyzed, would have the same long-term benefits as alternative 2 because of the ability to increase water levels and proceed with the planned Everglades ecosystem restoration projects. The worst-case assumption of construction of the transmission lines entirely within the exchange corridor would have long-term major adverse impacts on soils, vegetation and wetlands, wildlife, special-status species, visual resources, and adjacent land use/policy. Construction would be guided by the terms and conditions developed to provide for resource protection, and these terms and conditions would allow for other utility related used (pipelines, communication facilities). At whatever point FPL is able to construct outside of NPS lands and within the West Consensus Corridor, impacts to park resources would be reduced and would be similar to those described under alternative 2.

Alternative 4: The “fee for easement” land exchange alternative would have the same impacts as alternative 3 except that no other utilities could be built in the corridor, which would lessen the risk of impacts to natural resources or other park values such as soundscapes that could occur from future construction. Also, this alternative would retain ownership of the exchange corridor with the NPS and not reduce the acreage of the park, and the park would approve the actions taken by FPL, as guided by the terms and conditions of the exchange.

Alternative 5: The flowage easement would have the same long-term benefits as alternative 2 because the flowage easement would provide for increased water levels and the ability to proceed with the planned Everglades ecosystem restoration projects. Impacts of transmission line construction would be the same as described for alternative 1b.

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Acronyms

ACHP	Advisory Council on Historic Preservation
ARA	Avian Risk Assessment
BMP	Best Management Practice
C&SF	Central and Southern Florida
CEQ	Council on Environmental Quality
CEPP	Central Everglades Planning Project
CERP	Comprehensive Everglades Restoration Plan
CFR	Code of Federal Regulations
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DOI	Department of the Interior
EA	Environmental Assessment
EEEA	East Everglades Expansion Area
EIS	Environmental Impact Statement
EMF	electromagnetic field
EPA	U.S. Environmental Protection Agency
ERTP	Everglades Restoration Transition Plan
ESA	Endangered Species Act
Expansion Act	Everglades National Park Protection and Expansion Act of 1989
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FFWCC	Florida Fish and Wildlife Conservation Commission
FLUCFCS	Florida Land Use, Cover and Forms Classification System
FNAI	Florida Natural Areas Inventory
FONSI	Finding of No Significant Impact
FPL	Florida Power & Light Company
GIS	geographic information system
GMP	general management plan
kV	kilovolt
KOP	key observation point
LPP	Land Protection Plan
MDLPA	Maimi-Dade Limestone Products Association, Inc.
MWD	Modified Water Deliveries
NEPA	National Environmental Policy Act
NESRS	Northeast Shark River Slough
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System

NPS	National Park Service
NRC	Nuclear Regulatory Commission
PEPC	Planning, Environment, and Public Comment
PL	Public Law
ROD	Record of Decision
SCA	Site Certification Application
SFNRC	South Florida Natural Resource Center
SFWMD	South Florida Water Management District
SHPO	State Historic Preservation Office
SRS	Shark River Slough
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WCA	Water Conservation Area

CHAPTER 1

Purpose of and Need for Action

CHAPTER 1: PURPOSE OF AND NEED FOR ACTION

INTRODUCTION

This "Purpose of and Need for Action" chapter explains what this project intends to accomplish and why the National Park Service (NPS) is taking action at this time. The NPS is preparing an environmental impact statement (EIS) to evaluate the options for and impacts of acquiring land owned by the Florida Power & Light Company (FPL) in the East Everglades Expansion Area (EEEA) within the boundary of Everglades National Park (the park), or sufficient interest in this property, to allow for flooding of the area to facilitate ecosystem restoration efforts within the park. This includes the exchange of lands authorized in the Omnibus Public Land Management Act of 2009 (Public Law (P.L.) 111-11) and other reasonable alternatives.

The NPS is preparing an EIS to evaluate the options for and impacts of acquiring land owned by the FPL in the EEEA within the boundary of Everglades National Park (the park), or sufficient interest in this property, to allow for flooding of the area to facilitate restoration efforts within the park.

The NPS must acquire the FPL parcel and several other properties, or sufficient interest in these properties, to allow for higher water levels to facilitate ecosystem restoration efforts within the park – one of the primary objectives of the Modified Water Deliveries to the Everglades National Park (MWD) project and other long-term Everglades ecosystem restoration plans. The FPL parcel is a linear north-south corridor of between 330 feet and 370 feet in width and approximately 7.4 miles in length within the park. The parcel was purchased by FPL in the 1960s and early 1970s, prior to the expansion of the park, with the intention of supporting future transmission lines from the Turkey Point Power Plant, located south of the Biscayne National Park visitor center, to locations north of metropolitan Miami (FPL 2011).

The NPS decision to be made at the conclusion of this process is whether to acquire FPL's lands within the park, or sufficient interest in this property (to allow for raising water levels the area to facilitate ecosystem restoration efforts within the park), by exchange, direct purchase, or other means. This EIS addresses potential impacts to the natural and human environment that may result from the acquisition of FPL land in the park and the indirect impacts that could result from the subsequent construction and operation of transmission lines that could possibly be built either inside or outside the park as a result of the NPS decision that will be made.

PROJECT BACKGROUND

Everglades National Park was authorized by Congress in 1934. A fundamental purpose for the park's establishment was provided in the enabling legislation (appendix A):

> The said area or areas shall be permanently reserved as a wilderness, and no development of the project or plan for the entertainment of visitors shall be undertaken which will interfere with the preservation intact of the unique flora and fauna and the essential primitive natural conditions now prevailing in this area.

Because park lands could be acquired only through public or private donation, land acquisition proceeded slowly over the ensuing years. Through the sustained efforts of many supporters, and critical funding

provided by the state of Florida, the park was eventually established 13 years later. President Harry S. Truman dedicated the park on December 6, 1947.

Everglades National Park was the first national park in the United States set aside solely for its biological resources rather than its scenic or historic values. The park was established as a permanent wilderness, preserving essential primitive conditions, including the natural abundance, diversity, behavior, and ecological integrity of the unique flora and fauna. More than 60 years later, protection of the park's natural resources and of the ecosystem remains a primary focus of park management.

From the original 460,000 acres at the time of the park's establishment in 1947, boundary changes expanded the park to 1.4 million acres by 1958. The Everglades National Park Protection and Expansion Act of 1989 (P.L. 101-229) (Expansion Act) added the EEEA (109,506 acres) to the park, bringing the Northeast Shark River Slough (NESRS) within the park boundary (figure 1). A copy of the Expansion Act is included in appendix B. The EEEA is located just south of the Tamiami Trail in Miami-Dade County. Because of the park expansion, the approximately 7.4-mile north-south parcel owned by FPL is now contained within the park's boundary. Long-range planning for the EEEA seeks to acquire all lands within the area and to restore more natural hydrologic conditions and revitalize habitat and ecosystem health in the park. The Expansion Act also authorized the MWD project. The purpose of the project is, to the extent practicable, restoration of more natural flows of water into the park, including flood protection provisions for adjacent agricultural and residential areas. The park now encompasses 1,509,000 acres, including the largest legislated wilderness area (1,296,500 acres) east of the Rocky Mountains, the Marjory Stoneman Douglas Wilderness.

The EEEA contains the headwaters of the NESRS and Taylor Slough, which, along with western Shark Slough, are the primary sources of water flow to the park. Historically, water flowed gradually from the Lake Okeechobee basin in a southerly direction through the Everglades into Florida Bay and the Gulf of Mexico, with most of the water moving through the Shark River Slough (SRS). During the rainy season (June through October), water levels rises and fills the slough and often inundates the majority of the surrounding Everglades landscape. During the drier winter months, water recedes toward the center of the slough, allowing the edges to gradually dry. This naturally occurring ebb and flow is crucial to the survival of much of the region's wildlife and maintenance of natural plant communities. When the park was established, only half of the SRS was included within the park boundary, with the eastern portion remaining outside the park in the area known as the East Everglades.

The Expansion Act authorized the NPS and the U.S. Army Corps of Engineers (USACE) to acquire lands within the EEEA to help achieve the goals and objectives set forth in the Expansion Act. The purpose for expanding the park includes the following:

- Increasing the level of protection of the outstanding natural values of the park;
- Enhancing and restoring the ecological values, natural hydrologic conditions, and public enjoyment of such areas by adding the area commonly known as the NESRS and the East Everglades; and
- Ensuring that the park is managed to maintain the natural abundance, diversity, and ecological integrity of native plants and animals, as well as the behavior of native animals, as a part of their ecosystem.

FIGURE 1: EVERGLADES NATIONAL PARK AND VICINITY MAP

The Expansion Act also authorized the MWD project "…to improve water deliveries into the park and shall, to the extent practicable, take steps to restore the natural hydrologic conditions within the park." This initiative is currently underway. A specific goal of the MWD project is to restore the historic hydrologic conditions within the SRS basin by redistributing flows from West SRS to NESRS. The existing FPL corridor lies within the NESRS – an area considered critical for ecosystem restoration efforts. Both the FPL West Secondary and the FPL West Preferred Corridors are considered critical to ecosystem restoration efforts. The area outside the park is not considered critical to ecosystem restoration efforts.

In 1991, the NPS completed a Land Protection Plan (LPP) and environmental assessment (EA) for the EEEA to ensure the restoration and enhancement of the Everglades ecosystem in the EEEA (NPS 1991). (Note that the EEEA is also referred to as "the Addition," however, throughout this EIS it is called the EEEA.) The plan and subsequent Finding of No Significant Impact (FONSI) concluded that in order to enhance and to restore the ecology and hydroperiod of the East Everglades and the SRS basin, it would be necessary to acquire fee ownership of all lands contained within the EEEA. Therefore, in the long term, lands not owned by the NPS would not be compatible with this objective. A copy of the LPP is included in appendix B.

To implement the restoration of water flow provisions outlined in the Expansion Act, the USACE issued a 1992 General Design Memorandum which identified hydrologic modifications necessary to achieve more natural flows (USACE 1992). The General Design Memorandum, and a 2008 Limited Reevaluation Report and EA, identified the need to construct a bridge and associated road raising to improve water flows under the Tamiami Trail (U.S. Highway 41) (USACE and NPS 2008). Construction of this 1-mile bridge was completed in March 2013; the road raising was completed in December 2013. Additionally, the USACE must prepare a water control plan that would guide decisions to allow more natural flows under the bridge to the expansion area. However, additional water flows resulting from implementation of these projects cannot occur until the FPL parcel, which is currently undeveloped, and five other commercial properties within the expansion area are acquired or flowage easements are granted by the property owners. In addition, the USACE must acquire a flowage easement on the Airboat Association of Florida property located immediately adjacent to the park, south of Tamiami Trail. Acquisition of fee title or flowage easements is needed because these properties would be affected by higher water levels upon restoration of flows. Such acquisitions are authorized by the United States under the Expansion Act.

In 1996, the NPS began negotiations with FPL for the parcel they own in the EEEA. However, the federal government and FPL were unsuccessful in reaching an agreement on the direct acquisition of FPL's property by the United States.

Between 2006 and 2008, the NPS, USACE, FPL, and the South Florida Water Management District (SFWMD) identified approximately 260 acres of NPS property at the eastern edge of the park that could be considered a suitable land exchange for the abovementioned FPL parcel. This land was identified because it was believed that the potential future construction and operation of transmission lines at this location would have fewer adverse effects on the natural and human environment than if the same facilities were built and operated on FPL's land within the park. In addition, it would serve to accomplish the hydrologic restoration objectives described previously. To facilitate construction of the 1-mile bridge, FPL granted four easements to USACE. These easements included a perpetual easement for the bridge and roadway; a perpetual easement for the channel under the bridge; a temporary flowage easement; and a temporary construction easement. The temporary flowage easement expired on August 22, 2013, and the temporary construction easement expired on October 31, 2013 (Goral pers. comm. 2013).

In July 2008, the NPS and FPL executed an agreement to exchange the NPS boundary parcel for FPL's land in the EEEA contingent upon federal legislation ratifying this agreement and authorizing the

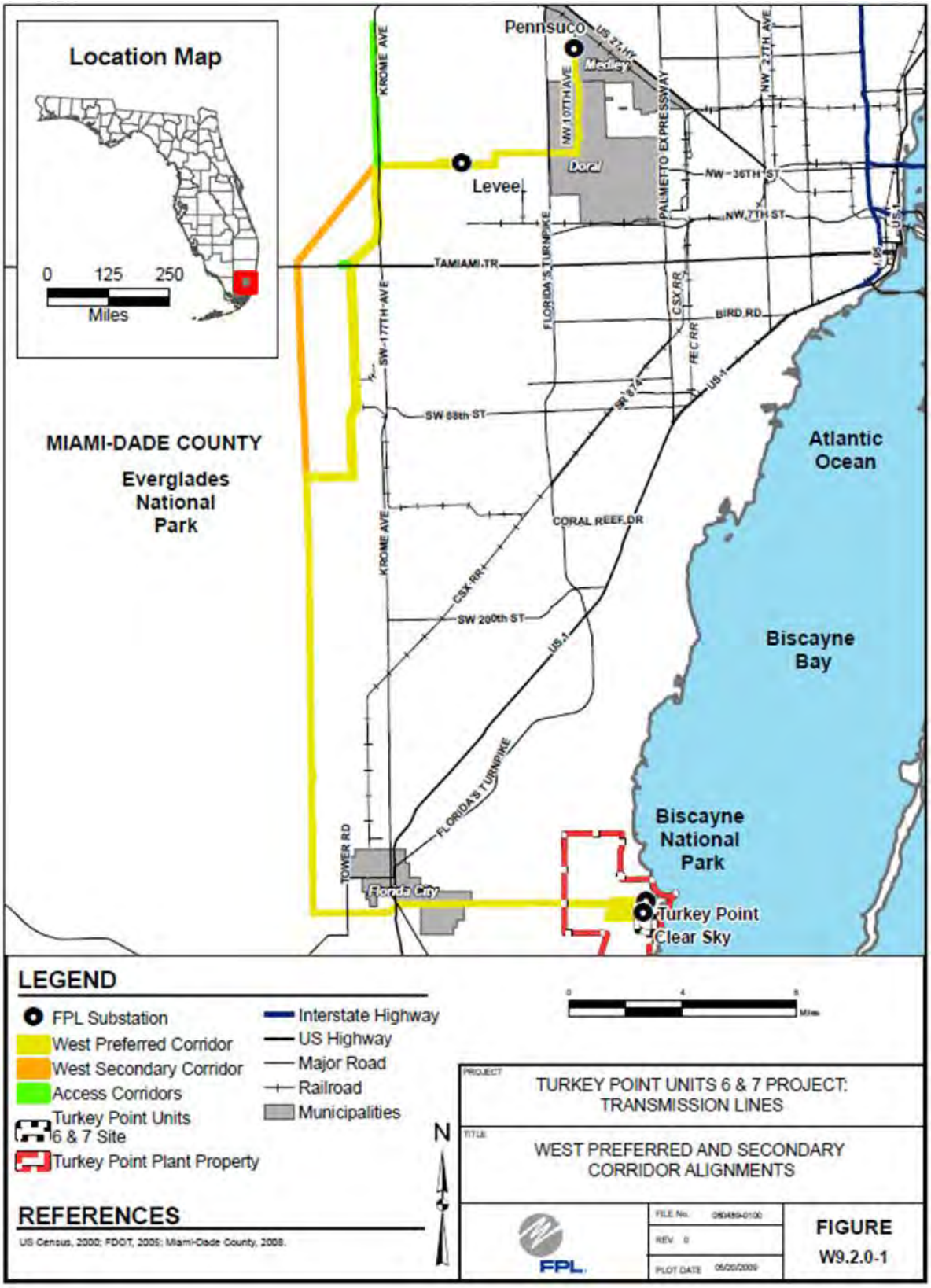
exchange (contingent agreement) (FPL and NPS 2008). FPL also conditioned negotiations with the USACE for easements on FPL's land needed for the 1-mile bridge project, on obtaining agreements with all other parties necessary to complete the exchange. FPL then completed real estate agreements with these landowners to secure a relocated transmission line corridor. Copies of these agreements and the 1 mile bridge easements discussed above are included in appendix C.

In August 2008, legislation was introduced in Congress to authorize the land exchange. The final text (Section 7107(b) of the Omnibus Public Land Management Act of 2009) identified the 260-acre parcel at the eastern edge of the EEEA as potential land to be exchanged (P.L. 111-11). The act authorized, but did not mandate, the Secretary of the Interior to exchange lands with FPL. This decision was left to the Secretary of the Interior's discretion subject to conditions necessary for protection of resources, the appraisal and equalization of land values, and analysis of potential environmental impacts under the National Environmental Policy Act (NEPA). Sec. 7107(b) of the Omnibus Act is included in appendix B.

The FPL West Preferred and West Secondary Corridors would both contain two 500-kilovolt (kV) single-circuit transmission lines and one 230-kV single-circuit transmission line.

In June, 2009, FPL filed a Site Certification Application (SCA) seeking State of Florida approval to construct two new nuclear generating units (Turkey Point Units 6 and 7) and supporting facilities at the Turkey Point Nuclear Generating Station near Homestead, Florida. The filing included transmission facilities to interconnect and integrate the new generation to the transmission grid. These transmission facilities included what was identified as the "FPL West Preferred Corridor," which includes the 260-acre parcel at the eastern edge of the EEEA, as described above, and an alternate corridor, identified as the "FPL West Secondary Corridor," which includes the 7.4-mile-long parcel that FPL owns within the park. The FPL West Preferred and FPL West Secondary Corridors would both contain two 500-kilovolt (kV) single-circuit transmission lines and one 230-kV single-circuit transmission line. The 500-kV lines would connect the Clear Sky Substation located at the Turkey Point Power Plant to the existing Levee Substation in northern Miami–Dade County. The 230-kV line would connect the Clear Sky Substation to the existing Pennsuco Substation in northern Miami-Dade County, but would not connect to the Levee substation (see figure 2). For the sake of clarity, these corridors are referred to as the "FPL West Preferred Corridor" and "FPL West Secondary Corridor" throughout this document, although the terms are strictly based on FPL's designation in their siting application and do not reflect a preference by the NPS.

NPS began an EA of the potential land exchange in June 2009. The focus of the EA was the major federal action of exchanging lands with FPL as described in the Omnibus Act; however as part of the NEPA process, the NPS must consider the potential for changes in land use as a result of the land exchange. Therefore, as part of the EA preparation, NPS completed a peer-reviewed study of the potential impacts to endangered wood storks and wading birds from the reasonably foreseeable construction and operation of transmission lines on lands that would be conveyed to FPL by the exchange (NPS 2010e). NPS also conferred with the U.S. Fish and Wildlife Service (USFWS) and other resource agencies related to these potential effects. After careful consideration of public and agency comments and the issues and analyses developed during the EA process, a number of potentially significant environmental impacts associated with reasonably foreseeable construction and operation of transmission lines on the exchange lands were identified. Therefore, in accordance with NEPA regulations, the NPS initiated this EIS in May 2011 to evaluate the potential effects on the environment from acquiring FPL's lands in the park by exchange, direct purchase, and other reasonable alternatives.



Source: FPL 2009a.

FIGURE 2: FPL WEST PREFERRED AND FPL WEST SECONDARY CORRIDORS

The Omnibus Act provides that the potential land exchange be subject to terms and conditions as the Secretary of the Interior may require. This EIS also serves to develop the appropriate terms and conditions for the land exchange alternatives.

As a related but distinct matter, FPL is seeking approval, through the Nuclear Regulatory Commission (NRC), USACE, and the State of Florida, to construct two additional nuclear reactors at its Turkey Point facility (Turkey Point 6 and 7 project), adjacent to Biscayne National Park. The NRC released the draft EIS in February 2015, in cooperation with the USACE, for a new FPL license and Clean Water Act (CWA) Section 404 permit. The NPS is a cooperating agency in the preparation of this NRC EIS.

PURPOSE OF AND NEED FOR ACTION

"Purpose" is an overarching statement of what the project must do to be considered a success.

> The purpose of the project is NPS acquisition of the existing FPL land within the park, or sufficient interest in the property, to facilitate hydrologic and ecologic restoration of the park and Everglades ecosystem.

"Need for Action" describes why action is required. It summarizes the most important points of the planning issues and provides the reasons why the project is needed at this time.

- This action is needed to support the mission of the NPS and the park. The EEEA, which includes the existing FPL parcel, has been identified as vital to long-term protection of the park for ecosystem restoration purposes.
- The acquisition of the existing FPL parcel within the EEEA is needed to support the goals of restoring the NESRS and to fulfill the purposes of the MWD project and the Comprehensive Everglades Restoration Plan (CERP).
- Acquisition of land within the EEEA is legally authorized. P.L. 101-229 (December 13, 1989) articulates that the Everglades is both nationally and internationally significant and sets forth specific goals and objectives for acquisition of properties in this area.
- Acquisition of land within the EEEA through an exchange of lands with FPL is legally authorized by the Omnibus Public Lands Management Act of 2009 (P.L. 111-11).

OBJECTIVES

"Objectives" are specific purpose statements that describe what must be achieved to a large degree for the action to be considered a success. All of the alternatives selected for detailed analysis must meet project objectives to a large degree and support the purpose of and need for action. Alternatives proposing the acquisition and/or exchange of FPL land and/or land interests must

- Ensure consistency with the Everglades National Park Protection and Expansion Act of 1989 (Expansion Act) and the 1991 LPP for the EEEA. This includes the following:
  - Increasing the level of protection of the outstanding natural values of the park and enhancing and restoring the ecological values, natural hydrologic conditions, and public enjoyment of such areas by adding the area commonly known as the NESRS and the East Everglades to the park (16 USC 410r-5) and

  - Assuring that the park is managed in a way that maintains the natural abundance, diversity, and ecological integrity of native plants and animals, as well as the behavior of native animals, as part of its ecosystem (16 USC 410r-5);
- Ensure consistency with the Congressional intent of the Omnibus Public Land Management Act of 2009 such that the Secretary of the Interior consider the land exchange with specified terms and conditions including appropriate environmental review of the impacts of the exchange;
- Support and facilitate implementation of ecosystem restoration projects including the MWD project, the Tamiami Trail Next Steps Project and the CERP; and
- Support the timely acquisition of existing FPL property within the EEEA, or sufficient interest in this property, to allow for higher water levels in the area to facilitate ecosystem restoration efforts within the park.

PURPOSE AND SIGNIFICANCE OF THE PARK

The direction for the alternatives considered in this plan is based on the national park's purpose and significance, special mandates, and servicewide laws and policies. The purpose statement describes why Everglades National Park was established as a national park. Significance describes the qualities that make the national park special.

PARK PURPOSE

The purpose statement conveys the reasons that the area was set aside as a national park. Grounded in an analysis of park legislation and legislative history, purpose statements also provide primary criteria against which the appropriateness of plan recommendations, operational decisions, and actions are tested.

The purpose of Everglades National Park is as follows:

- Everglades National Park is a public park for the benefit and enjoyment of the people. It is set apart as a permanent wilderness preserving essential primitive conditions, including the natural abundance, diversity, behavior, and ecological integrity of the unique flora and fauna.

PARK SIGNIFICANCE

Significance statements capture the essence of the national park system unit's importance to the nation's natural and cultural heritage. They describe the unit's distinctiveness and describe why an area is important within regional, national, and global contexts. This helps managers focus their efforts and limited funding on protection and enjoyment of attributes that are directly related to the purpose of the park unit.

Everglades National Park is nationally and internationally significant because it

- Is a unique subtropical wetland that is the hydrologic connection between central Florida's freshwater ecosystem and the marine systems of Florida Bay and the Gulf of Mexico. It is the only place in the United States jointly designated an International Biosphere Reserve, a World Heritage Site, a Wetland of International Importance, and a Specially Protected Area under the Cartagena Convention.
- Comprises the largest subtropical wilderness reserve in North America. The park contains vast ecosystems, including freshwater marshes, tropical hardwood, pine rockland, extensive mangrove

estuaries, and seagrasses, which support a diverse mix of tropical and temperate plants and animals.

- Serves as sanctuary for the protection of more than 20 federally listed and 70 state-listed threatened and endangered species, as well as numerous species of special concern. Many of these species face tremendous pressure from natural forces and human influences in the south Florida ecosystem.
- Provides important foraging and breeding habitat for more than 400 species of birds (including homeland to world-renowned wading bird populations), and functions as a primary corridor and refuge for migratory and wintering bird populations.
- Includes archeological and historical resources spanning approximately 6,000 years of human history, revealing adaptation to and exploitation of its unique environment.
- Preserves natural and cultural resources associated with the homeland of American Indian tribes of Florida (including the Miccosukee Tribe of Indians of Florida, the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, and other American Indian groups such as the Independent Traditional Seminole Nation of Florida).
- Preserves the remnants of a nationally significant hydrologic resource that sustains south Florida's human population and serves as a global experiment in ecosystem restoration.
- Provides the public with the opportunity to experience Everglades wilderness for recreation, reflection, and solitude in proximity to a major metropolitan area.

RELATIONSHIP TO LAWS, EXECUTIVE ORDERS, AND POLICIES

APPLICABLE FEDERAL LAWS, EXECUTIVE ORDERS, AND STATE LAWS

National Park Service Organic Act of 1916—By enacting the NPS Organic Act of 1916, Congress directed the U.S. Department of the Interior (DOI) and the NPS to manage units "to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations" (16 USC 1). The Organic Act and its amendments provide the NPS with direction when making resource decisions that balance resource preservation and visitor recreation.

The General Authorities Act of 1970, as amended by the Redwoods Act of 1978—The Redwoods Act reasserted the systemwide standard of protection established by Congress in the original Organic Act. The 1978 amendment stated that "The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress."

National Environmental Policy Act of 1969, as Amended—NEPA was passed by Congress in 1969 and took effect on January 1, 1970. It requires that every federal agency conduct an in-depth study of potential impacts of "major federal actions having a significant effect on the environment" and alternatives to those actions. NEPA is implemented through Council on Environmental Quality (CEQ) regulations (40 CFR 1500–1508) (CEQ 1981). The NPS has adopted procedures to comply with NEPA and CEQ regulations. These procedures are found in *Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-making* (NPS 2011a) and its accompanying handbook (NPS 2001).

Clean Water Act—The Federal Water Pollution Control and Prevention Act, commonly known as the CWA, is the primary federal law in the United States governing water pollution. The objectives of the CWA include restoration and maintenance of chemical, physical, and biological integrity of the nation's waters (33 USC 1251(a)).

In 1993, the U.S. Environmental Protection Agency (EPA) and the USACE completed a *Technical Summary Document for The Advance Identification of Possible Future Disposal Sites and Areas Generally Unsuitable for Dredge and Fill Material in North East Shark River Slough (NESRS).* The EPA and USACE determined that the NESRS west of the L-31N levee is an area unsuitable for dredging or filling and that filling these wetlands even partially would likely fail to comply with the Guidelines to Section 404 of the CWA. The purpose of this advance notification was to warn applicants of the difficulty of obtaining a Section 404 permit to fill these wetlands and to encourage applicants to seek alternative solutions that will not result in wetland losses. This document is available in the public documents section on the project website at http://parkplanning.nps.gov/projectHome.cfm?projectID=37220.

Endangered Species Act of 1973 (ESA), as amended— This act requires all federal agencies to consult with the Secretary of the Interior on all projects and proposals with the potential to impact federally endangered or threatened plants and animals. It also requires federal agencies to use their authorities in furtherance of the purposes of the ESA by carrying out programs for the conservation of endangered and threatened species and to ensure that any agency action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat.

Wilderness Act of 1964—The Wilderness Act states, "In order to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition, it is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness." Despite the great similarity between the NPS Organic Act and the Wilderness Act, Congress applied the Wilderness Act to NPS to strengthen its protective capabilities. Though the text of the enabling statute describes the park as a wilderness, this does not mean that the entire park is designated wilderness within the meaning of the Wilderness Act. The status of the park under the Wilderness Act is described below.

Under the Wilderness Act, the park must apply the 'minimum requirement' concept to all management activities that affect the wilderness resource. This concept is intended to minimize impacts on wilderness values and resources. Managers may authorize (using a documented process) the generally prohibited activities or uses listed in Section 4(c) of the Wilderness Act if deemed necessary to meet the minimum requirements for the administration of the area as wilderness and where those methods are determined to be the 'minimum tool' for the project.

National Parks Omnibus Management Act of 1998—The National Parks Omnibus Management Act of 1998 (16 USC 5901 et seq.) is fundamental to NPS park management decisions. This act provides direction for articulating and connecting the ultimate resource management decision to the analysis of impacts, using appropriate technical and scientific information.

National Historic Preservation Act (NHPA) of 1966, as Amended—Section 106 of this act requires federal agencies to consider the effects of their undertakings on properties listed or potentially eligible for listing on the National Register of Historic Places. All actions affecting the park's cultural resources must comply with this legislation.

Executive Order 11990 – Protection of Wetlands—This executive order, enacted in 1977, directs federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Executive Order 11988 – Floodplain Management—This executive order, issued in 1977, directs federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.

Executive Order 13112 – Invasive Species—This executive order requires federal agencies to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species may cause.

Outstanding Florida Waters—All waters that are a part of the Everglades are defined as Outstanding Florida Waters. Section 403.061 (27), Florida Statutes, grants the Florida Department of Environmental Protection (FDEP) power to establish rules that provide for a special category of water bodies within the state to be referred as "Outstanding Florida Waters" which shall be worthy of special protection because of their natural attributes. FPL would require a permit from FDEP as part of any transmission line construction that may result from the NPS land acquisition or exchange alternative selected (see chapter 5 in this document). In general, the FDEP cannot issue permits for direct pollutant discharges to Outstanding Florida Waters that would lower ambient (existing) water quality or indirect discharges that would significantly degrade the waters. Permits for new dredging and filling must be clearly in the public interest, taking into consideration whether the

- Activity would adversely affect the public health, safety, or welfare or property of others;
- Activity would adversely affect the conservation of fish and wildlife, including endangered or threatened species, or their habitats;
- Activity would adversely affect navigation or water flows or cause harmful erosion or shoaling;
- Activity would adversely affect the fishing or recreational values or marine productivity in the vicinity of the activity;
- Activity would be of a temporary or permanent nature;
- Activity would adversely affect or enhance significant historical and archeological resources under the provisions of Sec. 267.061 Florida Statutes; and/or
- Current condition and relative value of functions being performed by areas affected by the proposed activity (373.414(1)(a), Florida Statutes).

NATIONAL PARK SERVICE MANAGEMENT POLICIES AND DIRECTOR'S AND SECRETARY OF THE INTERIOR ORDERS

National Park Service Management Policies—NPS *Management Policies 2006* establishes servicewide policies for the preservation, management, and use of park resources and facilities. These policies provide guidelines and direction for management of resources within the park. NPS *Management Policies 2006* provides general principles for the maintenance of natural resources in the park by "preserving and restoring the natural abundances, diversities, dynamics, distributions, habitats, and behaviors of native plant and animal populations and the communities and ecosystems in which they occur" (NPS 2006a).

In addition to determining the environmental consequences of implementing alternatives under study in a NEPA document, NPS *Management Policies 2006* (Section 1.4) requires analysis of potential effects to determine whether the alternatives would impair the park's resources and values. The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of resources and values, including the opportunities that would otherwise be present for the enjoyment of those resources and values. An impact on any resource or value may constitute impairment. An impact would be more likely to constitute impairment if it results in a moderate or major adverse effect on a resource or value whose conservation is

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the area;
- Key to the natural or cultural integrity of the area or to opportunities for enjoyment of the area; or
- Identified as a goal in the area's general management plan (GMP) or other relevant NPS planning documents.

Impairment may result from NPS activities in managing the area; visitor activities; or activities undertaken by concessioners, contractors, and others operating in the park. Pursuant to the NPS Guidance for Non-Impairment Determinations and the NPS NEPA Process, a non-impairment determination for the selected alternative will be appended to the Record of Decision (ROD).

Section 1.6 of NPS *Management Policies 2006* discusses the importance of cooperative conservation efforts beyond the park boundary to help the NPS fulfill its mandate to preserve the natural and cultural resources of park unimpaired for future generations. Activities proposed for adjacent lands may significantly affect park programs, resources, and values. Conversely, NPS activities may have impacts outside the park boundary. Recognizing that parks are integral parts of larger regional environments, and to support its primary concern of protecting park resources and values, the NPS works cooperatively with others to

- anticipate, avoid, and resolve potential conflicts;
- protect park resources and values;
- provide for visitor enjoyment; and
- address mutual interests in the quality of life of community residents, including matters such as compatible economic development and resource and environmental protection.

The Service does these things because cooperative conservation activities are a vital element in establishing relationships that will benefit the parks and in fostering decisions that are sustainable.

Section 1.6 directs that,

> The Service will use all available tools to protect park resources and values from unacceptable impacts…Superintendents will encourage compatible adjacent land uses and seek to avoid and mitigate potential adverse impacts on park resources by actively participating in the planning and regulatory processes of other federal agencies and tribal, state, and local governments having jurisdiction over property affecting, or affected by, the park. If a decision is imminent that will result in unacceptable impacts on park resources, superintendents must take appropriate action, to the extent possible within the Service's authorities and available resources, to manage or constrain the use to minimize impacts.

NPS *Management Policies 2006* also identifies the need to bring logic, analysis, public involvement, and accountability into the decision-making process (Section 2.1.1). NPS *Management Policies 2006* (Chapter 6) requires the NPS to review roadless and undeveloped areas, including new areas or expanded boundaries within the national park system to determine whether they are suitable for preserving wilderness. The purpose of Chapter 6 of the NPS *Management Policies 2006* is to provide accountability, consistency, and continuity within the NPS wilderness management program, and to otherwise guide servicewide efforts in meeting the letter and spirit of the 1964 Wilderness Act. Chapter 6 of the NPS *Management Policies 2006* addresses all aspects of wilderness management and preservation of designated wilderness in units of the national park system. Chapter 6 of the NPS *Management Policie*s *2006* requires integrating wilderness considerations into all planning documents to guide the preservation, management, and use of wilderness area in the park and ensuring that wilderness is unimpaired for future use and enjoyment as such. According to Section 6.1, the purpose of wilderness in the national parks includes the preservation of wilderness character and wilderness resources in an unimpaired condition and, in accordance with the Wilderness Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use. The NPS *Management Policies 2006* as it relates to wilderness is discussed in more detail in chapter 4 of this document.

Director's Order 41: Wilderness Preservation and Management, and Reference Manual 41—Director's Order 41 interprets the Wilderness Act and consolidates its requirements and all applicable NPS *Management Policies 2006* to set guiding principles for all NPS units to determine wilderness suitability and appropriately manage those lands. Lands identified as being suitable for wilderness designation, wilderness study areas, proposed wilderness, and recommended wilderness must also be managed to preserve their wilderness character and values in the same manner as "designated wilderness" until Congress has acted on the recommendations. Director's Order 41 and Reference Manual 41 provide guidance for applying the minimum requirement concept to protect wilderness, as well as guidance for the overall management, interpretation, and uses of wilderness.

Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision Making and Handbook—Director's Order 12 (NPS 2011a) and the accompanying handbook (NPS 2001) provide guidance for the NPS to comply with NEPA. Director's Order 12 and the handbook set forth a planning process for incorporating scientific and technical information and establishing a solid administrative record for NPS projects. Director's Order 12 requires that impacts to park resources be analyzed in terms of their context, duration, and intensity.

Environmental Compliance Memorandum No. ECM97-2—This memorandum provides guidance on implementation of 512 DM Chapter 2, Departmental Responsibility for Indian Trust Resources, and Executive Order No. 13007, Indian Sacred Sites. Chapter 2 requires that for any anticipated impacts to an Indian trust resource from a proposed project or action by a federal agency, the impacts must be addressed explicitly in all planning, decision, and operational documents. Accordingly, the agency must identify and evaluate during the scoping/planning process any anticipated direct or indirect effects on Indian trust resources. If any impact on Indian trust resources is identified, the agency must consult with the affected tribe(s) on a government-to-government basis. Executive Order No. 13007 requires that any executive branch agency with responsibility for federal lands shall, to the extent practicable, permitted by law and not inconsistent with agency functions, (1) accommodate access to and ceremonial use of Indian scared sites by Indian religious practitioners, and (2) avoid adversely affecting the physical integrity of the sacred sites. In addition, where appropriate, the agencies shall maintain the confidentiality of the sacred sites. The executive order also carries with it the intent that agencies must ensure that any anticipated effects on Indian sacred sites are identified and evaluated in the scoping/planning process for any proposed federal project and clearly described in the environmental documents for the project. If any impact on Indian sacred sites is identified, the agency must consult with the affected tribe(s) on a government-to-government basis.

PARK-SPECIFIC LEGISLATION

Everglades National Park Enabling Legislation, Purpose, and Significance—On May 30, 1934 Congress passed an act authorizing a park of 2,164,480 acres to be acquired through public and private donations (45 Stat. 1443). The park was to be "…wilderness where no development…or plan for the entertainment of visitors shall be undertaken which would interfere with the preservation of the unique flora and fauna and the essential primitive natural conditions now prevailing in the area." It took another 10 years to acquire the lands, but in 1947, the park was established.

Everglades National Park is a public park for the benefit and enjoyment of the people. It is set apart as a permanent wilderness preserving essential primitive conditions, including the natural abundance, diversity, behavior, and ecological integrity of the unique flora and fauna.

Everglades Wilderness Act of 1978—In 1978, Congress designated almost 1.3 million acres of wilderness in Everglades National Park under the terms of the Wilderness Act. Originally named "Everglades Wilderness," the name was changed to "Marjory Stoneman Douglas Wilderness" in 1997.

Everglades National Park Protection and Expansion Act of 1989—The following legislative direction is contained within the Expansion Act:

- Congress determined that there are significant adverse effects to the ecosystem from external sources and that the ecosystem should be restored.
- The act directs the Secretary of the Interior to manage the park "in order to maintain the natural abundance, diversity and ecological integrity of the native plants and animals, as well as the behavior of native plants and animals as part of their ecosystem."
- The act directs the Secretary of the Army's water programs to improve water delivery into the park and to restore natural systems in conjunction with the Central and Southern Florida (C&SF) Project. The C&SF project, which was first authorized by Congress in 1948, is a multi-purpose project that provides flood control, water supply for municipal, industrial, and agricultural uses, prevention of saltwater intrusion, water supply for the Everglades, and protection of fish and wildlife resources. The primary system includes about 1,000 miles of levees, 720 miles of canals, and almost 200 water control structures (USACE 2005).
- The act directs the Secretary of the Army to protect natural values in all work performed on the C-111 canal.
- In the EEEA, land acquisition is to be accomplished using 80 percent federal and 20 percent State of Florida funds.
- The act provides for assistance to the State of Florida in land acquisition of the park.
- The act requires the Secretary of the Interior to consult with the USACE on the C&SF project.
- The act authorizes the implementation of the MWD project to restore, to the extent practicable, the natural hydrologic conditions of the Everglades.
- The Secretary of the Interior is authorized to acquire lands and interests in land by donation, purchase with donated or appropriated funds, or exchange.

Section 7107 of the Omnibus Public Lands Management Act of 2009—This act identified a series of parcels at the eastern edge of the EEEA as potential land to be exchanged for the FPL-owned parcel. The act authorized the Secretary of the Interior to exchange NPS land for the FPL property and to convey a perpetual easement on a corridor of land contiguous to the NPS exchange land for the purpose of vegetation management. The land exchange shall be subject to such terms and conditions as the Secretary of the Interior may require.

RELATIONSHIP TO OTHER PROJECTS AND PLANS

The following plans, policies, and actions occurring at or near the park were considered during the development of this EIS. These actions have the potential to contribute to the indirect or cumulative impacts of the potential land acquisition and subsequent development of the transmission corridor and are addressed in "Chapter 4: Environmental Consequences" in this document.

CENTRAL AND SOUTHERN FLORIDA PROJECT

The C&SF project, which was first authorized by Congress in 1948, is a multi-purpose project that provides flood control, water supply for municipal, industrial, and agricultural uses, prevention of saltwater intrusion, water supply for Everglades National Park, and protection of fish and wildlife resources. The project is operated jointly by the USACE and the local sponsor, the SFWMD. The primary system includes about 1,000 miles of levees, 720 miles of canals, and almost 200 water control structures. These features have divided the former Everglades into areas designated for urban and agricultural development, and areas for fish and wildlife benefits, natural system preservation and water storage. The natural areas consist of three Water Conservation Areas (WCAs) located north of Tamiami Trail (U.S. Highway 41) and Everglades National Park to the south. The USACE and the SFWMD are continuously evaluating the project, making modifications to the system and the operations of the system in order to meet the purposes of the project.

- **Everglades Restoration Transition Plan (ERTP)**—The ERTP is the current operating plan for selected project features which directly impact the WCAs and Everglades National Park, replacing the Interim Operational Plan, which was the operational plan that was in place from approximately 2002 to 2012. The ERTP defines water management operating criteria for C&SF project features near Everglades National Park and the constructed features of the MWD and C-111 South Dade projects. This plan incorporates more flexible operating criteria than were used in the Interim Operational Plan to better manage WCA 3A, with objectives that include improving conditions in the WCA 3A for the endangered Everglades snail kite, wood stork and wading bird species and their habitat, while maintaining protection for the endangered Cape Sable seaside sparrow. The ERTP ROD was signed in October 2012. ERTP was intended to be a temporary operational plan to bridge the gap between the Interim Operational Plan and a Water Control Plan for the MWD project and the C-111 South Dade project. The USFWS biological opinion for ERTP expires on January 1, 2016. Either a new biological opinion and/or a revision to the operational plan will be required to continue operations under ERTP after that date. As a result of completing 1-mile bridge and road removal, the USACE and NPS are implementing up to 3.6 percent increased flows into the EEEA due to the larger conveyance capacity of the opening under the 1-mile bridge, and USACE has determined this does not require a flowage easement from FPL (Goral pers. comm. 2013).
- **Water Quality Improvement Projects**—The State of Florida and the EPA have agreed upon new water quality improvement projects for the Everglades. Based on extensive scientific and technical discussions, these projects and strategies will expand water quality improvement projects in an important step forward toward achieving the phosphorus water quality standard

established for the Everglades. Under these strategies, the SFWMD is implementing a technical plan to complete six projects that will create more than 6,500 acres of new stormwater treatment areas and 110,000 acre-feet of additional water storage through construction of flow equalization basins. Flow equalization basins are a storage feature used to capture and store peak stormwater flows. They will provide a more steady flow of water to the stormwater treatment areas, helping to maintain desired water levels needed to achieve optimal water quality treatment performance.

The strategies also include additional phosphorus source controls upstream of the stormwater treatment areas – where pollution is reduced at the source – in areas of the eastern Everglades where phosphorus levels in stormwater runoff have been historically higher. In addition, a science plan will ensure continued research and monitoring to improve and optimize the performance of water quality treatment technologies. Design and construction of the treatment and storage projects will be completed in three phases with completion set for 2024.

EVERGLADES RESTORATION PLANS

Regional Everglades restoration plans, most involving water management projects in south Florida to modify and add to C&SF project features, have the potential to alter or improve hydrology and water quality in or near the EEEA and surrounding area. Should all these projects be successfully implemented over the next 30 years, their cumulative impact is expected to improve degraded ecological conditions currently experienced in the park. These projects are described below.

- **Modified Water Deliveries Project**—The MWD project was initiated by Congress as part of the Expansion Act, which authorized the park to acquire 109,506 acres including NESRS. The act also directed the USACE to modify the C&SF project to help restore natural hydrology by providing a way for additional water to flow from WCA 3, north of the Tamiami Trail, into the park. Project features should allow for improved quantity, quality, timing, and distribution of water flows into NESRS while mitigating for potential flooding impacts from the project to the 8.5-square-mile area. Construction of the 1-mile Tamiami Trail bridge was completed in March 2013 and the raising of the remainder of the 10.7-mile highway corridor to allow increased water flow under the Tamiami Trail and into the park was completed in December 2013. In addition, a seepage control feature in the 8.5-square-mile area is expected to be completed in early 2017. An operational plan for the MWD project remains to be developed; however, pilot testing of operational changes is expected to begin in 2015 and a comprehensive water control plan for the MWD project and C-111 South Dade projects is expected to be completed no later than 2019. As a result of completing 1-mile bridge and road removal, the USACE and NPS are implementing up to 3.6 percent increased flows into the EEEA due to the larger conveyance capacity of the opening under the 1-mile bridge, and USACE has determined this does not require a flowage easement from FPL (Goral pers. comm. 2013).

The two components of the MWD project that have not been initiated—the conveyance features to improve flows from WCA 3 to NESRS, and the combined operational plan—will be addressed through the Central Everglades Planning Project (CEPP) described below.

- **Tamiami Trail Modifications: Next Steps Project**—The Tamiami Trail Modifications: Next Steps project was approved in February 2011 and authorized by Congress later that year. The Next Steps project builds on the 1-mile bridge and Tamiami Trail road improvements discussed under the MWD project. The selected alternative for this project includes an additional 5.5 miles of bridging and additional road raising within the 10.7-mile section of Tamiami Trail adjacent to the NESRS. The additional bridging would allow for much greater (i.e., unconstrained) water flows into the park and provide additional hydrological and ecologic restoration of significant

park resources. A 2.6-mile western bridge is currently in pre-design. The State of Florida recently committed up to $90 million to support construction of this bridge, and the President's Fiscal Year 2014 budget proposal includes $30 million for this bridge; however, Congressional appropriation (or other alternative funding) is needed to fully fund the balance of the project. Currently, preliminary design and permitting have been completed and an invitation to bid on a design-build contract was announced in July 2015. Construction is expected to begin in late 2015.

- **Canal 111 (C-111) Project Modifications**—The C-111 project modifications to the C&SF project, referred to as the C-111 project, were authorized by the Water Resources Development Act of 1996 based on the legislative direction contained in the Expansion Act. This project consists primarily of a series of detention basins between Everglades National Park and the southern end of the L-31N canal, pumps to fill the detention basins from the L-31N canal, and modifications to the L-31W and C-111 canals to restore wetlands in the lower C-111 basin. The C-111 project also provided for operational changes in the L-31N and C-111 canals to maintain flood protection for the developed areas to the east

Although the MWD, Next Steps, and C-111 projects will improve ecological conditions in the park, they were never intended to address regional environmental degradation. The CERP was authorized to accomplish restoration of the Greater Everglades ecosystem.

- **Comprehensive Everglades Restoration Plan**—The CERP, authorized by the Water Resources Development Act of 2000, is a framework to restore, protect, and preserve the water resources of central and south Florida while providing for other water-related needs. CERP is implemented by a partnership of the USACE, SFWMD, and many other federal, state, local, and tribal partners. It provides a framework for restoration of the Everglades while providing for other water-related needs of the region, including water supply and flood protection. The CERP includes more than 60 elements designed to capture, store, and redistribute fresh water previously lost to tide, and to regulate the quality, quantity, timing, and distribution of flows. The USACE is the lead agency for the federal government and the SFWMD is the local sponsor. Implementation of this restoration plan could take more than 30 years to complete and cost at least $16 billion. A number of CERP projects are intended to provide improvements to flows in and around the park. The projects listed below have the most direct relationship to the park.
  - **WCA 3 Decompartmentalization**—WCA 3 is immediately north of the park, with WCA 3A and 3B separated by the L-67A and L-67C levees and canals. The compartmentalization and constriction of historically broad wetlands, altered hydroperiods, reduction of wildlife, and degradation of water quality are among the environmentally detrimental effects resulting from construction of the C&SF project. This project would reduce barriers to sheet flow such as canals and levees to the extent practicable. The goal is to restore historical sheet flow distributions, depth patterns, hydroperiods, and hydrologic connectivity in the various landscapes within WCA 3 and in the NESRS within the park. The Decomp Physical Model project is a small-scale preliminary pilot project intended to test the Decomp concepts. The Decomp Physical Model has been constructed and operated for a 2-year period with a final test to be completed in 2016. Portions of the Decomp project are planned for implementation through CEPP. The remainder of the Decomp project may be implemented after the revised CERP schedule and any project modifications are determined.
  - **Everglades National Park Seepage Management**—The goal of Everglades National Park seepage management is to reduce eastward water seepage from the Everglades system for the benefit of wetland communities within the park. Because of the effects of existing canals, pump stations, and other water control structures providing flood control and water supply, it has long been recognized that controlling fresh water seepage out of natural system areas is necessary to restore ecological function to the park. In addition, increased stages in NESRS

as a result of restoration projects would result in increased seepage and the potential for increased flooding in the developed areas to the east. The project would likely include a suite of measures including detention ponds, in-ground seepage barriers, and modifications to adjacent canal water level management to maintain surface and groundwater in the park. Due to costs of the proposed pilot project, the CERP pilot seepage management project has been put on hold, delaying implementation of the CERP Everglades National Park seepage management project. However, a non-CERP pilot project was constructed in 2012 under the auspices of the state-authorized Lake Belt Mitigation Committee. This 2-mile-long, 35-foot-deep seepage barrier along the L-31N canal adjacent to NESRS was built to mitigate for the impacts of rock mining adjacent to the park and the WCAs. Current plans are to build an additional 3 to 5 miles of seepage barrier if the evaluation of this project indicates that it is working as predicted. This would essentially complete a portion of the original CERP seepage management project.

- **C-111 Spreader Canal Project**—This project operated by the SFWMD, is designed to rehydrate southeastern coastal marshes by restoring more natural overland sheet flow, restoring natural flows to Florida Bay via Taylor Slough, and returning coastal zone salinities in eastern Florida Bay to pre-drainage conditions The first phase of this project is intended to provide a more natural hydropattern in Taylor Slough by reducing eastward groundwater losses to the C-111 canal system, including features that extend the existing seepage management aspects of the MWD and C-111 projects southward, with additional detention areas and the use of a canal that runs along the park boundary. This project is also intended to minimize damage to Barnes Sound/Manatee Bay and provide flood protection to adjacent agricultural lands. Loss of freshwater from the park into the canal system is frequently observed, and in the wet season, water that would normally flow through Taylor Slough bypasses the park. This project would alleviate the problem of significant diversion of water from Taylor Slough. The project ROD was signed in June 2012. The project is currently in operation, and monitoring is underway to understand the ecological and water management responses.
- **CERP Master Recreation Plan**—The Master Recreation Plan focuses on opportunities to provide recreational features as CERP projects are designed, planned, and implemented. The plan provides guidance for identifying, evaluating, and addressing the impacts of CERP implementation on existing recreational use in the south Florida ecosystem and identifying and evaluating potential new recreation, public use, and public educational opportunities.
- **Central Everglades Planning Project**—The CEPP was initiated in 2011 for the purpose of expediting the delivery of increased clean water to the Central Everglades and Everglades National Park, including Florida Bay. The final CEPP Project Implementation Report was completed in 2014. Pending CEPP authorization and any schedule changes, associated with authorization, CEPP may begin implementation as early as 2019. As currently formulated, CEPP is expected to cost $1.8 billion, including contingency costs.
- **Water Control Plan—**A new operational plan will be needed for operating the completed modifications of the C&SF project described above. The USACE does not have a planned date for completion of the operational plan as it is dependent on other planned restoration projects associated with either the CEPP or the CERP. In addition to the new operational plan, tests of operational changes are planned and are likely to be conducted in coming years.

FPL TURKEY POINT 6 AND 7 PROJECT

FPL proposes using the property which it would receive through a land exchange as part of a new transmission corridor to service a proposed expansion of electrical generating capacity at its Turkey Point

Power Plant. Turkey Point is located 25 miles south of Miami on Biscayne Bay, adjacent to the Biscayne National Park Convoy Point Visitor Center, and 15 miles east of Everglades National Park. The following project components have been considered during the development of this EIS.

- **Turkey Point Power Plant expansion**—In June 2009, FPL filed applications with the NRC for a Combined Operating License, with the USACE for a dredge and fill permit, and with the State of Florida (for Site Certification under the Florida Electrical Power Plant Siting Act) for two new nuclear power plants at its Turkey Point site (Units 6 and 7). These new units would produce an estimated 2,200 megawatts of electricity. The applications include approximately 89 miles of new transmission lines in two corridors required to interconnect the new nuclear units into FPL's transmission system, as described below.
- **Western transmission corridor**—FPL's proposed western transmission corridor would be completed from the Clear Sky substation at Turkey Point to the Pennsuco Substation northeast of the park. This is the corridor whose path in the vicinity of the park would be affected by the NPS action taken regarding acquisition of FPL's land. Initially, two options were submitted for the western corridor: a 51-mile FPL West Preferred Corridor (including NPS lands being considered for exchange) and a 52-mile FPL West Secondary Corridor on lands currently owned by FPL inside the park. Both corridor options pass through Everglades National Park and eastern WCA 3B. As currently proposed, either western corridor option would include the installation of two 500-kV transmission lines, one 230-kV transmission line and related towers, guy wires, fill pads, and access roads. If FPL lands inside the park are relocated by an exchange, the connecting corridor easements north of Tamiami Trail, held by SFWMD and Florida's Board of Trustees of the Internal Improvement Trust Fund, would also have to be relocated. Relocation would also require easements from the SFWMD and private landowners across lands in the 8.5-square-mile area east of the park boundary. FPL has completed real estate agreements with these parties to secure a contiguous replacement corridor (FPL West Preferred Corridor). Copies of these agreements and a figure that shows the various land interests are included in appendix C. The FPL West Consensus Corridor represents a third western corridor option; the FPL West Secondary Corridor was withdrawn (as described below).
- **Eastern transmission corridor upgrades and expansion**—FPL plans to upgrade and expand their eastern power transmission corridor that leads north from the Turkey Point Power Plant and runs through portions of Biscayne National Park, southern suburban areas of Miami, and along U.S. Highway 1 to downtown Miami. This corridor would include one 230-kV transmission line.

FPL must obtain state and federal approvals for the Turkey Point Power Plant Units 6 and 7 project. These include the following:

- **State of Florida Site Certification**—The certification process is a legal proceeding overseen by an Administrative Law Judge from Florida's Division of Administrative Hearings. The FDEP administers the processing of FPL's SCA. The SCA Siting Board decision on certification was issued in May 2014 (see expanded discussion below). Certification (licensing) supersedes and encompasses all state and local permits and approvals. Certification does not supersede federal permitting processes. Details about the certification process are available at the FDEP website: http://www.dep.state.fl.us/siting/apps.htm#ppn1.
- **Proposed Alternate Transmission Corridors**—The certification process provides opportunity for parties to propose alternate transmission corridors for certification. In December 2012, the National Parks Conservation Association and the Miami-Dade Limestone Products Association, Inc. (MDLPA) filed proposed alternate western transmission corridors for consideration in the certification process. MDLPA submitted two corridors and National Parks Conservation

Association submitted one corridor. The stated purposes of the corridors are to avoid and minimize impacts of transmission lines on Everglades National Park by relocating the FPL West Preferred Corridor to an area east of the park. The FDEP and FPL accepted the proposed corridors for consideration in the certification process. Maps and descriptions of the proposed corridors are included in appendix D.

On August 30, 2013, FPL entered into an agreement with the MDLPA to join in support of a "West Consensus Corridor" as its preferred choice for the construction of transmission lines between the Clear Sky and Pennsuco substations. The West Consensus Corridor is an assemblage of the southern and northern sections of FPL's West Preferred Corridor and the alternate corridor filed in the State of Florida's site certification proceeding by the MDLPA on December 10, 2012, known as the "MDLPA 2 Corridor." The agreement was formally introduced in the State of Florida's site certification hearing. A copy of the FPL / MDLPA agreement and map of the West Consensus Corridor is included in appendix D.

On October 3, 2013, at the site certification hearing, FPL announced it is withdrawing the West Secondary Corridor from its application for site certification. Citing the agreement with the MDLPA, and the intention to pursue certification of the FPL West Consensus Corridor as its preferred western route, FPL stated it will no longer seek certification of the FPL West Secondary Corridor. As a result, FPL is no longer pursuing the state and local government permits needed to construct transmission lines in the FPL West Secondary Corridor.

On May 19, 2014, Florida's Governor and Cabinet, sitting as the Siting Board, issued a Final Order of Certification approving FPL's application to construct and operate two new nuclear generating units within FPL's Turkey Point plant property, as well as new electrical transmission lines and other off-site facilities. The location, construction, and operation of electrical transmission lines was certified for the West Consensus Corridor (see figure 4 later in this chapter) as the primary corridor and the FPL West Preferred Corridor as a back-up if an adequate right-of-way within the West Consensus Corridor cannot be secured in a timely manner[1] and at a reasonable cost[2]. The final order also included additional conditions of certification. The Siting Board's final order is currently under appeal.

Upon completion of a final non-appealable final order, FPL shall make all reasonable efforts to secure the necessary authorizations, approvals, and property rights to support the timely siting, construction, operation, and maintenance of transmission lines within the West Consensus Corridor, subject to the final conditions of certification and the terms and conditions of the August 30, 2013, agreement between FPL and the MDLPA regarding the West Consensus Corridor (appendix D). The FPL West Preferred Corridor would only be used for placement of FPL's western transmission lines in the event that an adequate right-of-way within the West Consensus Corridor cannot be secured in a timely manner and at a reasonable cost. In accordance with the final order and its conditions of certification, FPL shall diligently pursue the placement of transmission lines in the West Consensus Corridor to the east of the L-31N canal to avoid siting any transmission lines in Everglades National Park. In areas where FPL is unable to build and maintain its structures east of the L-31N canal (outside of the park), FPL shall only use the minimum amount of land west of the L-31N canal (inside the current boundaries of the park) that is necessary to build and maintain the structures, and FPL shall return to installing structures to the east side of the L-31N canal at the first available and practicable location.

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[1] "Timely manner" is defined as within 36 months from the date of the final non-appealable site certification.

[2] "Reasonable cost" is defined as total costs that are no greater than the total projected costs, including costs for land acquisition, construction, and mitigation of the FPL West Preferred Corridor, plus ten percent.

- **Nuclear Regulatory Commission Combined Operating License**—The NRC initiated an EIS under NEPA for FPL's Combined Operating License Application in 2010. The NRC EIS is evaluating alternative power plant sites and potential impacts of the entire Turkey Point 6 and 7 project including two new reactors, transmission lines, and related facilities. The USACE and the NPS are cooperating agencies in the EIS process. A substantial schedule delay has occurred while FPL and NRC work to resolve technical issues regarding the alternative power plant sites in FPL's application. The draft EIS was issued in 2015 and the completion date for the final EIS is anticipated in 2016.

  On November 5, 2013, FPL submitted an amendment to its Combined Operating License Application Environmental Report to the NRC. The amendment summarizes the environmental and land use characteristics for the West Consensus Corridor, consistent with the analysis of the FPL West Preferred and FPL West Secondary Corridors presented in the its Combined Operating License Application Environmental Report. FPL also advised the NRC and the USACE that it plans to remove the West Secondary Corridor from consideration as part of its Section 404 wetland fill permit application. As a result, FPL stated that the West Secondary Corridor need not be considered as part of the NRC EIS.

- **USACE Clean Water Act Permit**—The USACE is separately reviewing the FPL CWA Section 404 permit application for the Turkey Point Power Plant Units 6 and 7 project. USACE is working with FPL and NRC on the alternative power plant sites issues. USACE has also requested that FPL consider alternative western transmission corridors that would avoid adverse impacts to Everglades National Park. As noted above, FPL notified the USACE on November 5th, 2013 that it plans to remove the West Secondary Corridor from consideration as part of its Section 404 permit application. A USACE decision on the 404 permit would follow completion of the final NRC EIS. The EPA has the right to restrict or prohibit wetland fill under Section 404c of the CWA, either in response to a permit application or before a permit application has been submitted. In essence, the EPA has the authority to prevent or restrict the USACE from issuing a Section 404 permit. In the EEEA, some wetlands have already been identified by the EPA as generally unsuitable for fill under Section 404c (USEPA and USACE 1993).

PARK MANAGEMENT PLANS AND PROJECTS

Land Protection Plan for the East Everglades Addition—This 1991 plan determined that all lands in the East Everglades Addition are needed for ecosystem restoration, it set priorities for acquisition, and it gave examples of compatible and incompatible land uses. Land acquisition is integral to the restoration of the hydroperiod and sheet flow of the SRS. The plan determined that no private uses of the land will be compatible with this goal over the long term.

The undisturbed, privately owned tracts needed to enhance and restore the ecosystem through restoration of the hydrologic system constituted the top priority for protection. State and other nonfederal public lands comprised the second priority group, and the commercial tracts along U.S. Highway 41 constituted the third priority group. Third-party mineral rights were included in the fourth priority grouping.

Activities that would disturb the ecosystem, interfere with restored hydrologic systems, or prevent public enjoyment of the Addition would be considered incompatible uses. Residential, commercial, or industrial construction or agricultural activities would not be compatible. Major additions to existing developments or agricultural activities, as well as the construction of utility lines and roads, also would not be compatible.

The LPP identified that hunting and off-road vehicle use (e.g., airboats and all-terrain vehicles), except as authorized in the enabling legislation, would not be compatible with the purpose of the Addition. A copy of the LLP is included in appendix B.

Acquisition of Lands in the EEEA under the Expansion Act—Since the 1989 Expansion Act and 1991 LPP were adopted, the NPS Lands Office has pursued a variety of methods in accordance with legislation to acquire lands in the EEEA. Thousands of small, privately-owned parcels in the EEEA have been purchased from willing sellers or acquired through the use of eminent domain. As of July 2015, in addition to the FPL parcel, five properties within the park boundary, all serving commercial uses, remain to be acquired before restoration flows can be implemented in NESRS. The remaining properties within the park include three commercial airboat operations (Coopertown Airboat, Gator Park, Everglades Safari Park) and two AM radio properties (Lincoln Financial Media, Salem Communications). The NPS must acquire either fee title or flowage easements on these properties before increased flows can be brought into the park. In addition, the USACE must acquire a flowage easement on the Airboat Association of Florida property adjacent to but outside the park. Figure 3 shows the locations of these properties. Congress has appropriated $25 million for the acquisition of these properties (excluding the FPL tract). The timing of acquisition of these properties in currently uncertain as the federal government negotiates with the properties owners.

Everglades National Park GMP / East Everglades Wilderness Study / EIS—The park is in the process of developing the draft GMP / East Everglades Wilderness Study / EIS, which will include a range of options for resource protection and visitor use in the park over the next 20 years. As part of the GMP process, in order to identify activities desired by park visitors as well as concerns regarding park management, information was collected from the general public and interested parties. The Wilderness Study, which is integrated into the GMP, has found that significant portions of the EEEA are eligible for wilderness designation. The study has found that approximately 102,100 acres are eligible, including the FPL parcel. The draft GMP/EIS public review and comment period concluded in May, 2013. The final GMP/EIS was released on August 28, 2015, and approval of the ROD is anticipated in 2015.

South Florida and Caribbean Parks Exotic Plant Management Plan and Environmental Impact Statement—In 2010, the NPS completed an exotic vegetation management plan, EIS and ROD for the control of nonnative plant species in nine south Florida and Caribbean park units. The plan includes NPS goals and methods for the continued control and reduction of nonnative plant species throughout the Everglades (NPS 2006b). Lands adjacent to the eastern boundary of the park include commercial production of ornamental landscape plants, many of which can become invasive in the subtropical climate found in south Florida. Incompatible land uses in the EEEA prior to its inclusion in the park boundary have also facilitated nonnative plant species growth in the area. As a result, the EEEA and eastern park boundary have been a focus of exotic vegetation management in the park for some years.

Everglades National Park Fire Management Plan—The park is currently developing a fire management plan and EA that identifies alternatives for implementing NPS and federal wildland fire policies within the park. The EA to accompany the fire management plan will assess the impacts of those alternatives on the natural and human environment. Fire management is an integral part of the park's natural and cultural resource management program and supports the park's management objectives and goals for the future condition of park resources, including the EEEA. Managing the role of fire in park ecosystems is one of the highest natural resource management priorities in the park. Under the fire management plan, park staff implements a variety of fire management techniques, also called treatments, to accomplish land and resource condition objectives and reduce risk to firefighters, public health and safety, and private property. Strategies for implementation would be based on knowledge gained from fire and fuels research, resource monitoring, and decades of experience in the Everglades ecosystem. The draft Fire Management Plan EA was published for public review and comment in October 2014. Approval of the NEPA decision document and final Fire Management Plan are anticipated in 2015.

FIGURE 3: LOCATION OF PRIVATELY OWNED PARCELS IN THE EEEA

Research, surveys, and monitoring in the EEEA—Park staff and other resource scientists routinely conduct research activities and surveys to monitor park resources within the EEEA. Such activities include the monitoring of hydrologic conditions in the NESRS and special-status species (e.g., wood stork, snail kite, Cape Sable seaside sparrow) use and numbers in the EEEA. This also includes colonial and wading bird surveys and counts.

GENERAL PROJECT AREA AND SCOPE OF THE ANALYSIS

The general project area for analysis includes not only the EEEA but also the area where the transmission lines could be located.

As discussed in the "Purpose of and Need for Action" section, the focus of this EIS is the acquisition of the FPL corridor located within the park for ecosystem restoration purposes. However, the indirect effects of the proposed action include several different scenarios that involve the potential construction of reasonably foreseeable transmission lines either in corridors inside or outside the park based on various FPL submissions during the site certification process. Because of this, the general project area for analysis includes not only the EEEA but also the area where the transmission lines could be located. That area is shown on figure 4, and includes the areas in and around the two FPL transmission corridors (the FPL West Preferred Corridor, which includes the proposed exchange corridor, and the FPL West Secondary Corridor; see figure 2) and the West Consensus Corridor. The rationale for the area of possible construction is that if the NPS acquires FPL's property without providing a replacement corridor within the park, FPL would likely seek to build transmission lines within an area outside of the park to the east. In the draft EIS, for purposes of analysis, the NPS determined an "area of possible relocated corridor," which represented an area of highest potential where FPL would seek to build transmission lines outside the park based on the most recent information from the state site certification process at that time. As a result of the Final Order of Certification described above in the section "FPL Turkey Point 6 and 7 Project," the most likely location of transmission lines outside of the park would be within the portion of the FPL West Consensus Corridor that is located outside the park boundary, and within the portion of the FPL West Preferred Corridor that is located outside the park boundary. The site certification approval does not automatically mean that FPL will be able to construct transmission lines within the FPL West Consensus Corridor and there is still uncertainty regarding where transmission lines outside the park would ultimately be located, should the NPS acquire the FPL land within the park boundary. The use of the FPL West Consensus Corridor and the FPL West Preferred Corridor as a potential location for construction of transmission lines is used only as a reasonable assumption for the purposes of analysis based on the information available at the time of this EIS.

The project area is the general area where these corridors and area diverge and then rejoin north of the park. That includes lands traversed by the FPL West Preferred and FPL West Secondary Corridors in what is known as the 8.5-square-mile area east of the park, in WCA 3B and the Pennsuco Wetlands north and east of the park, and the West Consensus Corridor outside and east of the park. The NPS land acquisition action would likely influence which corridor FPL might build future transmission lines in and where the impacts of transmission line construction and operation may result. Although this area covers most of the issues and impact topics discussed below, it should be noted that the areas of analysis were extended beyond this boundary for resources that could be affected outside this boundary, such as birds with extensive foraging areas and local socioeconomics, as noted under descriptions for those resources in chapters 3 and 4 of this document.

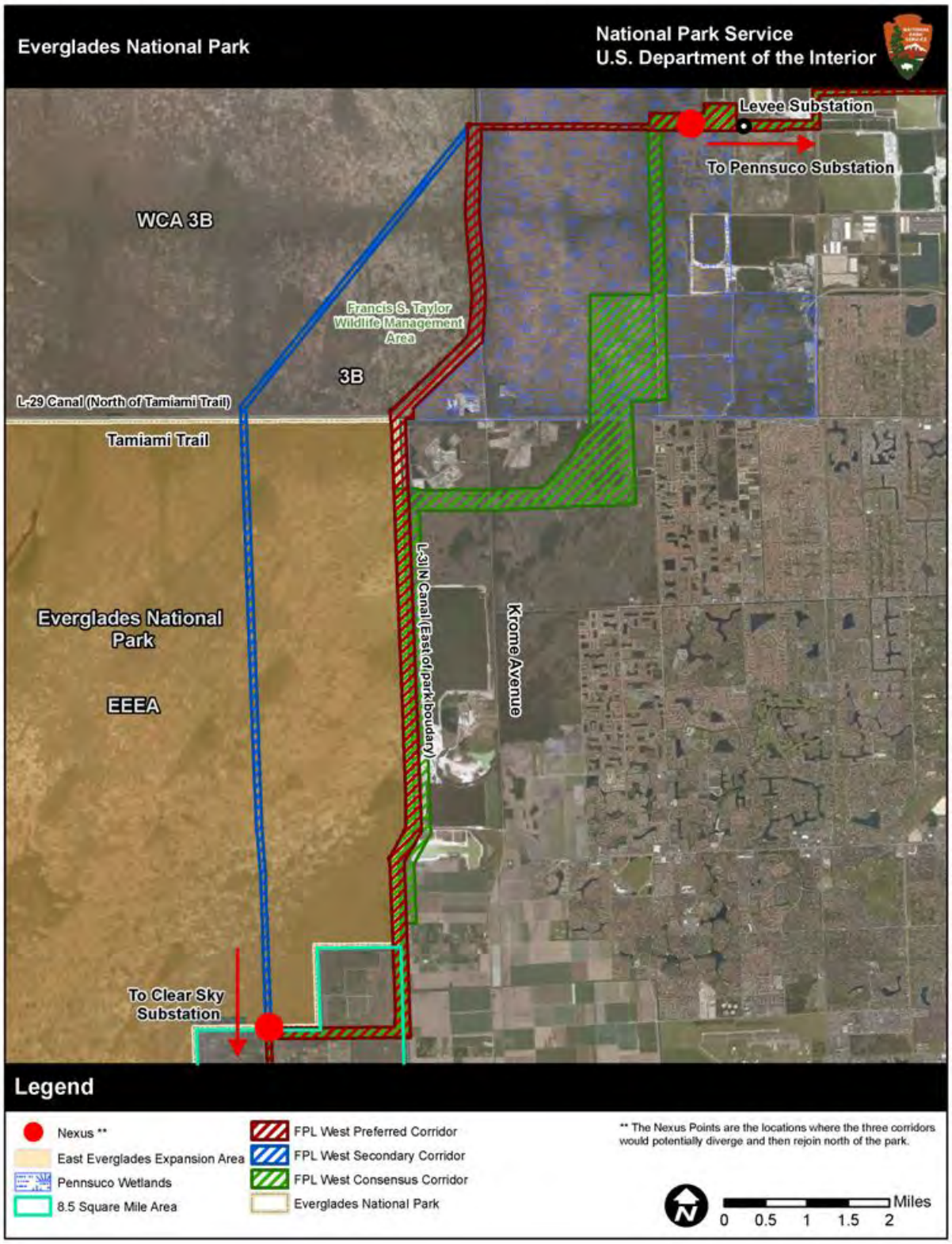


FIGURE 4: GENERAL PROJECT AREA

The FPL West Consensus Corridor alignment follows the FPL West Preferred Corridor until it reaches a point approximately 6 miles south of Tamiami Trail. There, the FPL West Consensus Corridor expands the width of the corridor by 600 feet to the east of the FPL West Preferred Corridor for a distance of about 5 miles until it reaches a point 1 mile south of Tamiami Trail. This segment includes approximately 200 acres of land within the current boundary of Everglades National Park on the west side of the L-31N canal, SFWMD lands, and rock-mining lands on the east side of the L-31N canal. Then, the FPL West Consensus Corridor turns to the east for about 2.5 miles. Then it turns northeast through the Bird Drive Basin and passes through the Pennsuco wetlands north of Tamiami Trail to intersect with the FPL West Preferred Corridor. The FPL West Consensus Corridor differs from the FPL West Preferred Corridor in that it is wide enough to potentially allow FPL to locate the full right-of-way on the east side of the L-31N canal to avoid siting transmission lines within the current boundary of Everglades National Park. The alignment through the Bird Drive Basin and Pennsuco wetlands would locate transmission lines farther to the east of significant wading bird colonies in Everglades National Park and WCA 3B.

SCOPING PROCESS AND PUBLIC PARTICIPATION

INTERNAL AND AGENCY SCOPING

NEPA regulations require an "early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action" (40 CFR 1501.7). To determine the scope of issues to be analyzed in depth in this EIS, meetings were conducted with park staff, NPS Southeast Regional Office staff, NPS Denver Service Center staff, neighboring land management agencies, and other interested parties. All agencies involved during internal or agency scoping are listed below.

To determine the scope of issues to be analyzed in depth in this EIS, meetings were conducted with park staff, NPS Southeast Regional Office staff, NPS Denver Service Center staff, neighboring land management agencies, and other interested parties.

Federal Agencies

- U.S. Nuclear Regulatory Commission
- U.S. Army Corps of Engineers
- U.S. Bureau of Indian Affairs
- U.S. Fish and Wildlife Service (South Florida Ecological Services Office).
- U.S. Environmental Protection Agency
- Department of Interior, Office of the Assistant Secretary for Fish, Wildlife and Parks, Office of the Solicitor
- National Park Service Washington Office and Southeast Regional Office
- Advisory Council on Historic Preservation

Tribal Governments

- Miccosukee Tribe of Indians of Florida
- Seminole Tribe of Florida
- Seminole Nation of Oklahoma

State Agencies

- Florida Department of Environmental Protection
- Florida Fish and Wildlife Conservation Commission
- Florida Department of Transportation
- Florida State Historic Preservation Office
- South Florida Water Management District
- South Florida Regional Planning Council

Local Agencies

- Miami-Dade County Department of Regulatory and Economic Resources
- Miami-Dade County Department of Planning and Zoning

PUBLIC SCOPING

On June 7, 2011, Everglades National Park requested public scoping comments on a public scoping newsletter that was distributed by mail and posted on the NPS website. Scoping comments were accepted through July 25, 2011. A public scoping meeting was held on June 22, 2011. During the public scoping period, the park received 10,120 correspondences containing 39,739 individual comments. There were 9,714 form letters received. Public comments submitted during scoping for the EA in 2009 have been carried forward to this project and considered as part of scoping for this EIS.

The comments received were reflective of a public that is passionate about the future of park resources, their uses and management. The most common comment received expressed opposition to installation of any transmission lines in or adjacent to the park, representing 74 percent of all comments. The second most prevalent comment expressed opposition to any land exchange with FPL, representing 25 percent of all comments. Thus, approximately 99 percent of all comments expressed opposition to all transmission line construction or completion of the land exchange for the purposes of constructing a transmission line.

Commenters also contributed ideas for new alternatives and raised specific concerns regarding resource protection and visitor enjoyment of the park. As a result of this scoping effort, additional issues and alternatives were identified for further analysis in this EIS.

The issues identified during internal and public scoping are presented below and in chapter 5 in this document, which contains more details about agency and public scoping activities that were an integral part of the planning process. The final scoping report and public meeting transcript are available on the internet at the project website: (http://parkplanning.nps.gov/EVER).

ISSUES AND IMPACT TOPICS

Impact topics are used to assess the potential environmental consequences of project alternatives. Candidate impact topics were identified based on legislative requirements, executive orders, topics specified in Director's Order 12 (NPS 2011a) and accompanying handbook (NPS 2001), NPS *Management Policies 2006* (NPS 2006a), additional guidance from the NPS, other agencies, public concerns, and resource information specific to the park. Specific impact topics were identified to facilitate a focused discussion allowing issues to be addressed and environmental consequences of project

alternatives to be compared. A brief rationale for the selection of each impact topic is presented below. Additionally, the rationale for dismissing specific topics from further consideration is also presented. The following text discusses the issues, which are the basis for the impact topics discussed in chapters 3 and 4 in this document.

IMPACT TOPICS ANALYZED IN THE ENVIRONMENTAL IMPACT STATEMENT

Impact topics analyzed in this EIS will include those resources of concern that could be affected by any one or more project alternatives for acquisition of the existing FPL land within the park. For this EIS, the foreseeable indirect effects of construction and operation of power transmission infrastructure were considered when identifying impact topics. The development of power transmission infrastructure would be reasonably foreseeable because FPL has submitted site certification documents, to state and local regulatory agencies, requesting approval and permits for two 500-kV lines and one 230-kV power transmission line within the FPL West Preferred Corridor. A certification decision by the Governor and Cabinet, functioning as the Siting Board, was completed in May 2014. As a result, potential impacts associated with such actions were considered when identifying impact topics. All resources described below are included and described in detail in chapters 3 and 4 in this document.

Hydrology—The proposed project area is within the NESRS, the main historic Everglades ecosystem waterway that conveyed flows from the north into the park. Increasing flows in the NESRS is critical to restoration of the Everglades ecosystem, and the disposition of the FPL parcel or the proposed exchange corridor within the EEEA affects the ability of the park to support the goals of restoring the NESRS. In addition, construction of a transmission corridor and its associated access and spur roads and fill pads could affect overland flows, depth, timing and groundwater movement in and near the project area over both the short and long term.

Water Quality—As noted under Hydrology, the proposed project area is within the NESRS and the disposition of the FPL parcel or the proposed exchange corridor within the EEEA affects the ability of the park to support the goals of restoring the NESRS. In addition, the construction and installation of transmission line pole pads could affect local water quality over both the short and long term. Construction activities, long-term changes to surface flows and conditions, and expanded exotic vegetation management could affect local water quality in and downstream from the transmission corridor.

Soils—Construction activities associated with the installation of a new transmission line would disturb the soil profile and could have potential short- and long-term impacts on soil productivity.

Vegetation and Wetlands— Executive Order 11990, Protection of Wetlands, directs federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Director's Order 77-1 (NPS 2002) addresses wetland protection. Everglades National Park is the only place in the United States jointly designated as an International Biosphere Reserve, a World Heritage Site, and a Wetland of International Importance. These designations are based largely on the unique hydrologic and wetland environment found in the Everglades ecosystem. Currently, Everglades National Park is listed as a World Heritage Site in Danger due to habitat degradation within the park. Construction activities, excavation, placement of fill, expanded exotic vegetation management and potential reintroduction and control of exotic species, and long-term changes in local hydrologic conditions could affect wetlands and vegetation communities in the both the FPL and potential exchange corridors.

Floodplains—Executive Order 11988: Floodplain Management instructs federal agencies to avoid, to the extent possible, the short- and long-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct or indirect support of development in floodplains wherever there is a practicable alternative. Director's Order 77-2 (NPS 2003) addresses development in floodplains.

If transmission corridors were constructed in or adjacent to the park, floodplain functions could be affected over the long term. The presence of transmission structures, fill pads, and access roads would interfere with historic overland flows associated with the Everglades floodplain. The presence of the transmission corridor within or adjacent to the park would have the potential to affect natural floodplain functions, such as groundwater recharge, at the specific locations of fill pads and access roads. During construction activities and until vegetation was reestablished on the site, the potential for erosion would temporarily increase.

Soundscapes—Soundscapes are the ambient or natural occurring sounds found in a given environment. In much of the EEEA, the undeveloped nature of the area results in a soundscape dominated by natural sounds – breezes, insects, birds, and other wildlife. However, along and in the area south of the Tamiami Trail and along the L-31N canal, nearby vehicle and private and commercial airboat traffic, development, and aircraft overflights introduce manmade sounds to the environment. In the short term, construction activities would disturb the natural soundscapes in areas of the park. In addition, the long-term presence of large-scale transmission lines would introduce a continuous, man-made sound that would be audible above the ambient soundscape in the project area.

Wildlife—Construction activities and the long-term presence of large-scale transmission lines have the potential to affect a variety of wildlife species. During construction activities, wildlife would not likely find the construction area suitable habitat due to noise and disturbance. Over the long term, avian species could be affected by guy wires, transmission lines, and structures present in flight paths. Foraging and nesting areas could also be impacted by wetland fill.

Special-status Species—Several species listed as protected under the ESA as well as those warranting special protection by the State of Florida have the potential to be affected by the acquisition of the FPL parcel within the EEEA and both the construction and operation of the transmission corridor. For example, the endangered wood stork and Everglade snail kite nest or forage in and near the project area. On December 26, 2012, the USFWS proposed to have the wood stork reclassified from endangered to threatened due to the substantial improvement in the species' overall status. However, because of its large size and flight pattern, the wood stork, in particular, is susceptible to adverse impacts from transmission structures. Additionally, there is concern about the long-term protection of several species of colonial and wading birds that also occur in and near the project area.

Viewshed (Visual Resources)—The EEEA is generally undeveloped and the lack of topography and low vegetation provide expansive views of the horizon and skyline. High profile structures and development east of the park currently along Tamiami Trail are clearly visible for distances of several miles or more in the area. Construction of a transmission corridor within or near the park boundary would include long-term presence of 80- to 150-foot transmission structures that would be readily visible on the landscape, affecting the park's viewshed resource.

Wilderness—The EEEA was studied for wilderness eligibility as part of the GMP process. The draft GMP/East Everglades Wilderness Study/EIS was released for public comment on February 27, 2013. Areas found eligible for wilderness designation are managed as wilderness under NPS policy. Construction of a transmission line in this area would show the presence of the "hand of man" in the form of large, long-term utility structures and could adversely affect the undeveloped quality of wilderness

character. If such structures were constructed in or adjacent to the park, the eligibility of portions of the EEEA to be designated as wilderness could be affected.

Visitor Use and Experience / Recreation Resources—The EEEA receives approximately 300,000 visitors annually, including those who enter the park as part of a commercial airboat tour and those visiting the Chekika area. The L-31N canal levee is included as part of the greenway/trail system in Miami-Dade County, and bicyclists and pedestrians often use this area for recreational purposes. High-profile structures are currently clearly visible for distances of several miles or more in the area. The presence of the proposed transmission lines could diminish visitor experiences in the EEEA by interfering with views, natural sounds, and wilderness values, and limiting visitor use, access and enjoyment in areas of the park.

Adjacent Land Uses and Policies—The NPS action taken regarding acquisition of the FPL parcel in the park would affect the overall route of the proposed transmission lines from the Turkey Point Power Plant to areas north of the park. Transmission corridor alignments outside the park could affect adjacent landowners, residents, and businesses, including the Miccosukee Tribe, the USACE, SFWMD, and Miami-Dade County. If the NPS were to acquire the corridor without exchange, FPL would likely relocate the proposed transmission corridor outside the park boundary. In such event, land uses along the selected alignment could also be affected. This topic also addresses land use policies in the park that could be affected by the presence of transmission lines in or adjacent to the park.

Tribal Lands Including Indian Trust Resources—Section 1.11.3 of the NPS *Management Policies 2006* defines trust resources as "those natural resources reserved by or for Indian tribes through treaties, statutes, judicial decisions, and executive orders, which are protected by a fiduciary obligation on the part of the United States" (NPS 2006a). In considering the exchange, the NPS will identify and evaluate the potential effects of the proposed alternatives on tribal trust resources. Requirements for protection of these resources can be found in Section 1.11.3 of the NPS *Management Policies 2006* as well as in the Secretary of the Interior's Secretarial Order No. 3206, American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, the ESA, and the DOI Environmental Compliance Memorandum No. ECM97-2 (DOI 1997).

There are land areas held in trust for the Miccosukee Tribe that are in the vicinity of the proposed action; therefore, this topic has been included for full analysis.

Socioeconomics—In the event that FPL must obtain land outside the park for a new transmission line corridor, nearby rural, suburban and urban communities in south Florida could be affected by the land acquisition and transmission line infrastructure. The main socioeconomic effects of concern include effects on neighboring land values and the effects on FPL ratepayers. Construction of the proposed transmission lines would also support jobs in the local economy on a short-term basis.

Park Operations and Management—A variety of park operations and management activities in the EEEA could be affected by both the acquisition of the FPL parcel and the construction and operation of a large-scale transmission corridor within or adjacent to the boundary of the park. Resource monitoring and surveys, fire management, and exotic plant control are among the important management activities that take place in and near the project area. The long-term presence of the transmission lines would interfere with aerial survey, exotic plant management access, visitor and resource protection, and fire management response. A vegetation management easement would need to be added to the exchange corridor for FPL management of exotic vegetation adjacent to its transmission line, if the FPL West Preferred Corridor was used for transmission line construction.

IMPACT TOPICS DISMISSED FROM FURTHER ANALYSIS

Impact topics were dismissed from further analysis for the following reasons:

- Resources or values do not occur in the analysis area;
- Resources or values would not be affected by the proposal, or the likelihood of impacts is not reasonably expected; or
- Through the application of mitigation measures, there would be negligible effects (i.e., no measurable effects) from the proposed actions, there is little controversy on the subject or reasons to otherwise include the topic.

A brief rationale for the dismissal of the following impact topics is provided below. If impacts to these resources would occur, they would be no more than negligible, localized, or most likely undetectable.

Air Quality—The park has a Class I clean air status. Areas with such a designation are subject to the most stringent regulations with very limited increases in pollution permitted. The high air quality in the Everglades is a valuable park resource, encouraging visitation by providing clean air and high visibility to compliment the unique ecosystem experience. The Clean Air Act of 1963 (42 USC 7401) requires federal land managers to protect air quality and the NPS *Management Policies 2006* direct air quality to be analyzed when planning park projects and activities.

The action to acquire FPL's land would result in no activities that would affect air quality. However, construction activities associated with the development of a power transmission corridor – regardless of the selected alternative – would result in limited air quality impacts from material haul truck vehicular movements and fugitive dust. A construction management plan would be put in place which would mitigate adverse effects from construction vehicles by restricting idling time, among other activities. As a result, construction activities associated with the action alternatives would not measurably contribute to adverse air quality conditions or affect visitors and/or staff. Should transmission lines be constructed in or adjacent to the park, wetland conditions of the project area would limit generation of fugitive dust during construction. If dust were generated during construction, best management practices (BMPs) for dust suppression would be initiated.

Cultural Resources—The NHPA (16 USC 470 et seq.), NEPA, NPS 1916 Organic Act, the NPS *Management Policies 2006* (NPS 2006a), Director's Order 12 (Conservation Planning, Environmental Impact Analysis and Decision-making), and NPS Director's Order 28 (Cultural Resources Management Guideline) require the consideration of impacts on any cultural resources that might be affected, and, in particular, on cultural resources either listed in or eligible to be listed in the *National Register of Historic Places* (NRHP). The process and documentation for preparing this EIS will be used to comply with Section 106 consultation of the NHPA of 1966.

Consultation with the Florida State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (ACHP) began for this EIS process with the submittal of letters to the SHPO and the ACHP describing the land exchange project, dated June 8, 2011. Tribes (Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Seminole Nation of Oklahoma) were also notified by letters that were prepared and sent from June 8–10, 2011. Copies of these letters are contained in appendix E of this EIS. An interagency meeting held on June 26, 2012 to discuss possible routes outside the park included representation from the Miccosukee Tribe. Tribal and agency consultation correspondence is available in appendix E.

Potential impacts of the land exchange and foreseeable construction of transmission lines in the corridors in the park include disturbance of soils and underlying rock material that may affect previously unknown archeological resources. The NPS also considers effects on historic structures, ethnographic resources, cultural landscapes, and museum collections in its assessment of cultural resources. All of these types of cultural resources are included in the discussion below.

Effects on Cultural Resources in the Park—There are no known cultural resources of any kind on NPS lands being considered for exchange (i.e., along the FPL West Preferred Corridor). In July 2009, New South Associates conducted an archeological and historical Phase I survey of the 6.5-mile exchange corridor on behalf of FPL. New South Associates identified no cultural resources within the corridor during the investigation. New South Associates determined that the construction of the transmission lines would have no effect on cultural resources listed, or eligible for listing, on the National Register of Historic Places. The Florida SHPO reviewed New South Associates' report and concurred with these determinations on October 1, 2009. The NPS knows of no ethnographic resources or cultural landscapes in this area, and no museum collections would be affected. In addition, a USACE 404 permit with Section 106 consultation and avoidance/mitigation measures would be needed prior to any construction of transmission lines in this corridor. In its SCA, FPL has indicated that following selection of the final right-of-way to be used within the certified transmission line corridor, they will conduct a survey of sensitive cultural resource areas within the right-of-way in consultation with the Florida Department of State, Division of Historic Resources. Also, if cultural resources are discovered during construction activities on NPS property, FPL will be required to immediately inform the Park Superintendent (or representative) and work with the Florida SHPO to define appropriate mitigation measures. Any artifacts found on NPS lands are recognized as the property of the NPS.

There are also no known cultural resources of any kind on FPL's property in the expansion area within the FPL West Secondary Corridor, but there has not been a 100 percent inventory in this area to date. A survey of these lands would need to be conducted prior to any construction of transmission lines. In its SCA, FPL has indicated that following selection of the final right-of-way to be used within the certified transmission line corridor, they will conduct a survey of sensitive cultural resource areas within the right-of-way in consultation with the Florida Department of State, Division of Historic Resources. A USACE 404 permit with Section 106 consultation and avoidance/mitigation measures would be needed prior to any construction of transmission lines in this corridor.

Effects on Cultural Resources outside the Park—Construction of transmission lines in those sections of the FPL West Preferred or FPL West Secondary Corridors located outside the park could potentially impact cultural resources. The park does not have data on cultural resources in those portions of the corridors; therefore potential impacts from construction of transmission lines in them is unknown/uncertain. However, a USACE 404 permit with Section 106 consultation and measures to avoid/mitigate impacts would be needed prior to construction of transmission lines in either corridor outside the park. Also, a Preliminary Cultural Resources Report for the Turkey Point 6 and 7 Associated Linear Facilities is included as Appendix 10.7.2.2 of FPL's SCA. This report provides a preliminary assessment of known cultural resources within and adjacent to the entire length of the FPL West Preferred and FPL West Secondary Corridors for the proposed transmission lines. Following selection of the final right-of-way within the certified transmission line corridor, FPL will conduct a survey of cultural resources within that right-of-way in consultation with Florida Department of State, Division of Historic Resources (Florida SHPO). A July 13, 2009 letter from the SHPO to FPL concurs with FPL's Cultural Resource Assessment Survey Work Plan for the Turkey Point 6 and 7 Associated Linear Facilities outlined in the letter. The work plan outlines the surveys, inadvertent finds plan and consultation that would occur prior to construction of transmission lines.

Construction of transmission lines in the West Consensus Corridor could potentially impact cultural resources. Three cultural resources studies conducted in the project area between 2005 and 2009 documented the presence of an archeological site within or adjacent to the FPL West Consensus Corridor on the east side of the L-31N canal (Janus Research 2009; New South Associates 2009; Koski, Sheffield, and Loubser 2005). However, the location of the route FPL would use, and the potential effects on cultural resources, are uncertain at this time. The park does not have complete data on cultural resources in the West Consensus Corridor, but a survey of cultural resources would be required and a USACE 404 permit with Section 106 SHPO consultation and avoidance/mitigation measures would be needed prior to any construction of transmission lines in a relocated corridor. Based on the siting work conducted to identify the West Consensus Corridor, no historical structures or features were identified, and there are no NPS-recognized cultural landscapes, ethnographic resources, or museum collections associated with lands outside the park.

Conclusion—Based on the information provided above, especially the lack of any such resources in the exchange corridor, the lack of any cultural landscapes and ethnographic resources in this area of the park, the lack of information about cultural resources outside the park in the West Consensus Corridor, and the provisions in place for archeological/cultural resources survey and review required through the permitting process for any route location, the topic of cultural resources was not carried through for detailed analysis.

Climate Change—Climatologists are unsure about the long-term results of global climate change, but it is evident that the planet is experiencing a warming trend that affects ocean currents, sea levels, polar sea ice, and global weather patterns. Although these changes are likely to affect climate patterns in the parks, it would be speculative to predict localized changes in temperature, precipitation, or other weather changes, in part because there are many variables that are not fully understood and others which are not currently defined. In addition, the action taken by the NPS regarding acquisition of FPL land within the park would neither affect nor be affected by climate change.

Ecologically Critical Areas—The unique and ecologically critical resources of the Everglades will be addressed in other impact topics, including hydrology and water quality, wetlands, and special-status species.

Energy Requirements and Conservation Potential—The NPS reduces energy costs, eliminates waste, and conserves energy resources by using energy-efficient and cost-effective technology. Energy efficiency is incorporated into the decision-making process during the design and acquisition of buildings, facilities, and transportation systems that emphasize the use of renewable energy sources. Although FPL's actions would be in response to regional energy usage, no part of the federal action alternatives would include actions that would require increased energy usage.

Environmental Justice—Presidential Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, as amended, directs all federal agencies to develop an environmental justice strategy that identifies and addresses disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. CEQ has oversight responsibility of the federal government's compliance with Executive Order 12898 and NEPA. CEQ, in consultation with the EPA and other agencies, has developed guidance to assist federal agencies with NEPA procedures so that environmental justice concerns are effectively identified and addressed.

A description of environmental justice developed by the EPA follows:

> …fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and

> enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. …The goal of this "fair treatment" is not to shift risks among populations, but to identify potential disproportionately high and adverse effects and to identify alternatives that may mitigate these impacts.

According to guidance from CEQ (1997a) and the EPA (USEPA 1998), agencies should consider the composition of the affected area to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by a proposed action and, if so, whether there may be disproportionately high and adverse environmental effects to those populations. Minority and low-income populations are near the alternative corridors. Impoverished populations were determined by identifying 2010 census block groups with populations where more than 20 percent of the population falls below the poverty threshold (U.S. Census Bureau 2010a). Minority populations were determined by identifying the 2010 census blocks where minority populations were 10 percent more than the Miami-Dade County minority population, which is approximately 85 percent. Therefore, a census block was identified as a minority block if more than 95 percent of its population was identified as a minority.

Within Miami-Dade County, there are 38,790 census blocks and 1,594 census block groups. Of the 1,594 block groups in the county, 421 block groups (26 percent) have 20 percent of the population living below the poverty threshold. There are 16 total block groups within 1 mile of the West Consensus Corridor, as defined in figure 4. Of those 16 block groups, none were identified with impoverished populations.

Within Miami-Dade County, there are 38,790 census blocks, of which 10,698 (27 percent) have populations with minorities accounting for over 95 percent of their residents. There are 348 census blocks within 1 mile of the West Consensus Corridor, and in 61 of these blocks (17.5 percent) more than 95 percent of the population is identified as minority. The remaining census blocks have either no populations or populations with minorities accounting for less than 95 percent of the total populations.

As described in the section on Indian Trust Resources, the Miccosukee Tribe has resources held in trust, including a casino property, in the vicinity of the FPL West Preferred Corridor. To ensure a conservative analysis, the Miccosukee Tribe is considered to be a minority community that could be affected by one or more of the alternatives considered.

No residential areas associated with the Miccosukee Tribe are expected to be impacted by the possible locations of the transmission corridor. The commercial gaming facility and tobacco store are the only establishments that may be indirectly impacted by the land exchange. The potential for the construction of a transmission line in the viewshed of the gaming facility is addressed in the visual impacts analysis. Overall impacts to tribal lands are fully analyzed in chapter 4.

Environmental justice is dismissed as an impact topic for the following reasons:

- The impacts associated with implementation of the proposed alternatives would not disproportionately adversely affect any minority or low-income population or community since there are many more non-environmental justice populations than environmental justice populations residing within 1 mile of the West Consensus Corridor.
- Implementation of the proposed alternatives would not result in any identified effects that would be specific to any Indian, minority, or low-income community.

- Any impacts to the socioeconomic environment would not appreciably alter the physical or social structure of the nearby communities.

Sacred Sites—The NPS has considered the requirements of Executive Order No. 13007, dated May 24, 1996, regarding the duties of agencies with respect to sacred sites. For purposes of the Executive Order, "sacred site" means "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site." NPS staff, in consultation with the Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, and the Seminole Nation of Oklahoma, identified no lands requiring additional analysis of impacts arising from this Executive Order.

Health and Safety—Health and safety including electric and magnetic fields and general health and safety issues are discussed below.

Electromagnetic Fields (EMFs)—EMFs are produced when electricity is passing through an object, (i.e., a transmission line) and results in a field of electrically charged particles. Electric fields are essentially constant and do not change with demand fluctuation on the electric system. Magnetic fields are created by current (measured in Amperes) flowing in a conductor. Magnetic fields are quite variable and change proportionally with demand changes in the electric system. Both of these fields are commonly produced by electrical wires. Electric fields are measured in Volts per meter (V/m); these fields are easily shielded by common materials. Many years of research conclude that electric fields are much less of a health concern. Magnetic fields are typically measured in Gauss (G); these fields are more difficult to shield and pass through most materials (NIEHS 2002).

Since the late 1970s, concerns have been raised about the possible health effects regarding the impact of EMF associated with high-voltage transmission lines on human health. Due to their size and visibility, transmission lines have attracted a large amount of media attention related to health and safety. Numerous studies have been performed by epidemiologists, biologists, and other experts in the field to determine if there is a measurable connection between human health and high-voltage transmission lines. Since 1977 over 130 reviews by expert scientific panels, public health organizations and governmental bodies have examined the scientific evidence on EMF (NIEHS 2002). None of these organizations has found that exposure to power frequency EMF causes or contributes to cancer or any other disease or illness. Their reviews generally conclude that while some epidemiology studies report an association with childhood leukemia, which warrants further research, the scientific studies overall have not demonstrated that EMF causes or contributes to any type of cancer or other disease.

The State of Florida established limits on electric and magnetic field exposure from electric facilities in 1989. The Florida legislature granted the FDEP exclusive jurisdiction to regulate EMF associated with electric facilities and required it to establish rules regulating EMF exposure from those facilities. Future facilities built in the FPL transmission corridors must comply with the Florida EMF regulations specified in Section 62-814 Florida Administrative Code (F.A.C.) (the Florida EMF Rule). The FDEP regularly reviews the EMF science and has not made any changes in the state's EMF standards.

Public use in the vicinity of the FPL transmission lines would likely be incidental and not involve exposure for extended periods, and all Florida EMF regulations would be followed. Because there is no conclusive evidence that EMFs result in adverse health effects and the lines would operate below all standards set by the state of Florida, this topic was not carried forward for further analysis in this EIS.

General Health and Safety—The acquisition of the FPL parcel would have no effects related to health and safety; however, this action would likely result in FPL implementing a power transmission development project as described in chapter 2 in this document. During construction, workers would be exposed to physical hazards from the use of heavy equipment, power saws, falling vegetation, exposure to herbicides, insect stings and animal bites, noise exposure, trips and falls, and heat stress. It is expected that proper training, health and safety planning, daily safety briefings, and observance of safety practices would minimize or eliminate the safety risks associated with construction in the construction zone.

It is also expected that the general public would be protected by appropriate notices, signage, and access limitations. FPL must comply with the standards of the National Electrical Safety Code, as required by the Public Service Commission, in Section 25-6.0345, F.A.C., in the construction of transmission and distribution facilities. The Florida legislature has determined that the standards prescribed by the National Electrical Safety Code constitute "acceptable and adequate requirements for the protection of the safety of the public, and compliance with the minimum requirements of the code shall constitute good engineering practice by the utilities." When in operation, the prospective subsequent FPL facilities will comply in all respects with the National Electrical Safety Code standards.

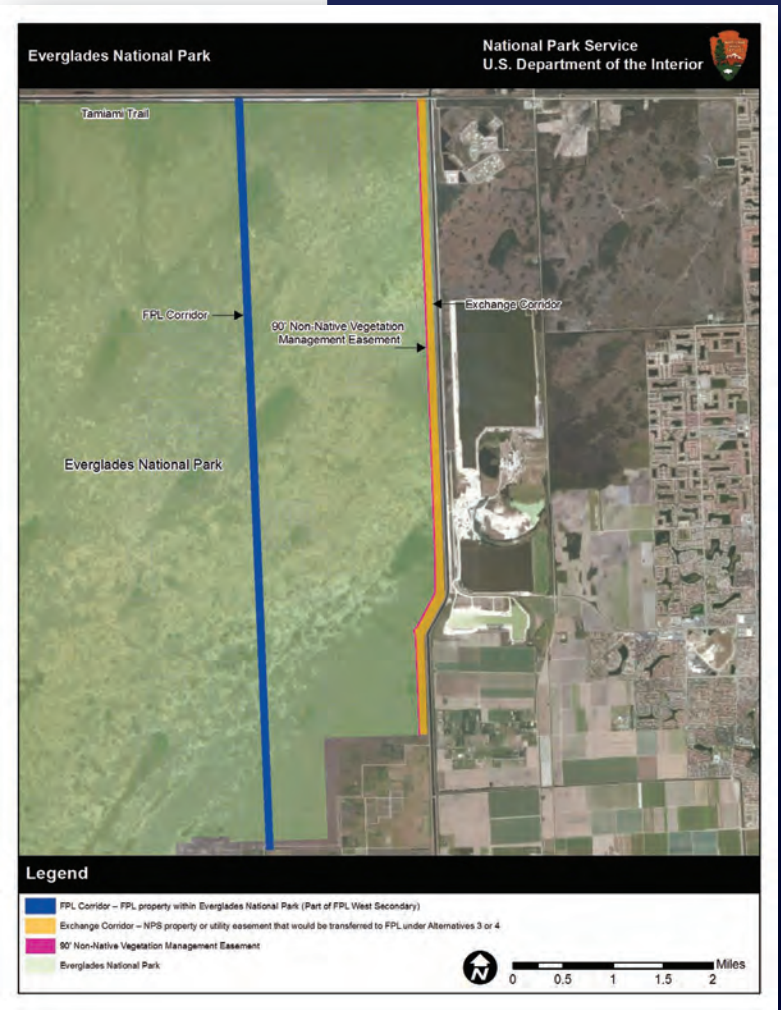
FPL standards require that fences and gates within a transmission line be grounded to mitigate shock hazards. FPL would provide this grounding as part of its construction activities.

Fixed-wing aircraft and helicopters are both used to conduct operations within the EEEA such as inventory and monitoring activities, search and rescue missions, and fire management. These flights would frequently occur in the vicinity of any transmission lines constructed in that area; however, the presence of the lines would be known and identified during pre-flight preparation, similar to precautions taken for other above-ground utility lines in the area surrounding the park boundary. Hazards related to this would be minimized through careful planning of flight activities in the vicinity of any transmission lines, and identification of transmission lines as potential flight hazards on aviation charts and with lighting, as necessary in accordance with FAA guidelines.

Therefore, the topic of health and safety was not carried forward for detailed analysis.

Natural or Depletable Resource Requirements and Conservation Potential—The NPS uses sustainable practices to minimize the short- and long-term environmental impacts of development and other activities through resource conservation, recycling, waste minimization, and the use of energy-efficient and ecologically-responsible materials and techniques. This topic was dismissed because project impacts are addressed specifically under hydrology, vegetation and wetlands, wildlife, and special-status species.

Prime Farmland—Prime farmland has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. Unique agricultural land is land other than prime farmland that is used for production of specific high-value food and fiber crops. Both categories require that the land is available for farming uses. Land within the park is not available for farming and therefore does not meet the definitions. The agricultural lands outside the park in the West Consensus Corridor are not classified as prime farmland by the Natural Resources Conservation Service (NRCS 2013). One soil unit in the area outside the park is classified as "farmland of unique importance," and impacts to this soil are addressed in the soils section of the EIS.



CHAPTER 2
Alternatives

CHAPTER 2: ALTERNATIVES

INTRODUCTION

Chapter 2 describes the range of alternatives that meet the National Park Service (NPS) purpose and need for the project. As described in chapter 1, the purpose of the federal action is to acquire Florida Power & Light Company (FPL) property, or sufficient interest in this property, within the East Everglades Expansion Area (EEEA). This action by the NPS is needed to facilitate the hydrologic and ecologic restoration of Everglades National Park and the Everglades ecosystem. This chapter includes a summary of the alternatives development process and a description of each alternative for acquisition of the existing FPL land within the park.

This chapter also discusses alternatives for acquisition of the FPL property that were considered, but eliminated from further consideration, and addresses selection of a preferred alternative and environmentally preferable alternative. Finally, this chapter includes a table that summarizes the main features or components of each alternative (table 1); a table that summarizes the effectiveness of each alternative in meeting project objectives, which are listed in chapter 1 (table 2); and a table that summarizes the impacts of the alternatives on the natural and human environment (table 3), which are discussed in detail in chapter 4.

ALTERNATIVES DEVELOPMENT PROCESS

The National Environmental Policy Act (NEPA) implementing regulations provide guidance on the consideration of alternatives in an environmental impact statement (EIS). These regulations require federal agencies to consider the environmental effects of the proposed action and a range of alternatives (40 CFR 1502.14). The range of alternatives includes reasonable alternatives that must be rigorously and objectively explored, as well as other alternatives that are eliminated from detailed study. To be "reasonable" an alternative must meet the stated purpose of and need for the project and must be technically and economically feasible.

The alternatives were developed based on an understanding of the purpose, need, and objectives for acquiring FPL property, as well as input from FPL, the public, and government agencies obtained during the scoping phase for the environmental assessment (EA) in 2009 and this EIS in 2011. NPS staff (resource managers from the park, Naples Lands Acquisition Office, Southeast Regional Office, and Washington Office) and U.S. Department of the Interior (DOI) staff (from the Solicitor's office and Assistant Secretary for Fish and Wildlife and Parks) defined the range of alternatives based on the objectives of this EIS, congressional legislation, and scoping input.

The alternatives were developed based on an understanding of the purpose, need, and objectives for acquiring FPL property, as well as input from FPL, the public, and government agencies obtained during the scoping phase for the EA in 2009 and this EIS in 2011.

RELATIONSHIP BETWEEN NPS ACQUISITION ALTERNATIVES AND TRANSMISSION LINE CONSTRUCTION SCENARIOS

As described in chapter 1, this EIS addresses potential impacts on the natural and human environment that may result from the acquisition of FPL land in the park and the indirect impacts that could result from the

subsequent construction and operation of transmission lines that could be built either inside or outside the park as a result of the NPS action taken. Although the NPS does not have responsibility to choose or authorize where FPL builds transmission lines, it is reasonably foreseeable that FPL will build transmission lines, as indicated by the state site certification process. Each of the possible actions NPS could select with respect to acquisition of the FPL corridor within the park (alternatives), has several possible options (scenarios) where the FPL transmission lines may ultimately be constructed.

Below are the alternatives and possible transmission line construction scenarios discussed in this chapter.

Although the NPS does not have responsibility to choose or authorize where FPL builds transmission lines, it is reasonably foreseeable that FPL will build transmission lines, as indicated by the ongoing state site certification process.

ALTERNATIVES

1a: No NPS Action – No FPL Construction (NPS takes no action, FPL neither builds transmission lines nor provides flowage easement on their lands)

For impact comparison purposes, this alternative is the environmental baseline to which all others are compared.

1b: No NPS Action – FPL Construction in the Park (NPS takes no action, FPL builds transmission lines in the park but does not provide NPS with flowage easement)

2: NPS Acquisition of FPL Land

3: Fee for Fee Land Exchange

4: Easement for Fee Land Exchange

5: Perpetual Flowage Easement on FPL Property

TRANSMISSION LINE CONSTRUCTION SCENARIOS

a: No construction

b: Construction on the existing FPL corridor through the park (FPL West Secondary Corridor)

c: Construction on the exchange corridor at the edge of the park (FPL West Preferred Corridor)

d: Construction on a corridor outside of the park (FPL and MDLPA West Consensus Corridor and FPL West Preferred Corridor)

These transmission line construction scenarios depend in part on the alternative that is selected by the NPS regarding the land acquisition, but also on factors that are beyond the control of the NPS. Even though these outcomes are not part of the alternative selected by the NPS, they have been considered in this EIS because they represent the range of indirect impacts that could ultimately result from the action taken by the NPS. Some of the alternatives could result in multiple scenarios, and some of the scenarios could occur under multiple alternatives. For the sake of clarity, the NPS decided not to repeat the description and analysis of every one of the possible scenarios if it is already described under another alternative.

The scenario of no construction is analyzed under alternative 1a, and serves as the environmental baseline. The scenario of construction on the existing FPL corridor through the park is analyzed under alternative 1b, as a possible (albeit unlikely) result of NPS taking no action. The scenario of construction on the exchange corridor at the eastern edge of the park is analyzed under alternatives 3 and 4 (and differs

slightly between the two alternatives, due to the different terms and conditions under those two alternatives). Alternative 5 analyzes a different (and probably also unlikely) version of the scenario that includes construction through the park, under which FPL would construct transmission lines while providing NPS with a flowage easement.

Although other possible scenarios could result under some alternatives, these scenarios are not described further in this document. For example, "no construction" might also result under alternatives 2, 3, 4, and 5 (in which case impacts would be the same as described in alternative 1a). Similarly, construction on a corridor outside the park could result under alternatives 1, 3, 4, and 5 (in which case impacts would be the same as described in alternative 2). It was determined that removing these duplicative analyses would simplify the way the information is presented, and therefore improve the readability of the EIS.

NPS consideration of any transmission line construction scenarios in this EIS is not an admission or acknowledgement by the NPS or the U.S. Army Corps of Engineers (USACE) that use of these properties as a transmission corridor is permissible or suitable because FPL has not completed the USACE Clean Water Act (CWA) Section 404 permitting process for its proposed western transmission lines. The following sections describe the no-action and action alternatives, together with their associated construction scenarios. The impacts of the alternatives, and their respective construction scenarios, are described in chapter 4.

ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION

Under alternative 1a, the NPS would not take action to acquire FPL property within the park or a flowage easement on it. There would be no change in the status of the 7.4-mile-long corridor containing 320 acres of FPL lands in the park, and the NPS would retain ownership of lands being considered for exchange. Figure 5 shows the location of the FPL corridor within the boundary of Everglades National Park. The NPS and USACE would continue to lack a perpetual flowage easement on FPL's entire property in the EEEA necessary to implement higher water levels from ecosystem restoration projects.

Under alternative 1a, the NPS would not take action to acquire FPL property within the park. FPL would not construct transmission lines on its existing land in the park, in the exchange corridor, or in any area outside the park.

Transmission Line Construction Scenario

For the purposes of analysis of impacts in chapter 4, this alternative assumes that FPL would not construct transmission lines on its existing land in the park, in the exchange corridor, or in any area outside the park. This alternative could result if other necessary permits are denied by regulatory agencies or if FPL chooses not to build transmission lines. This alternative is included to represent a *status quo* baseline for NEPA purposes. The impacts of constructing transmission lines, as analyzed in other alternatives, will be compared to this baseline.

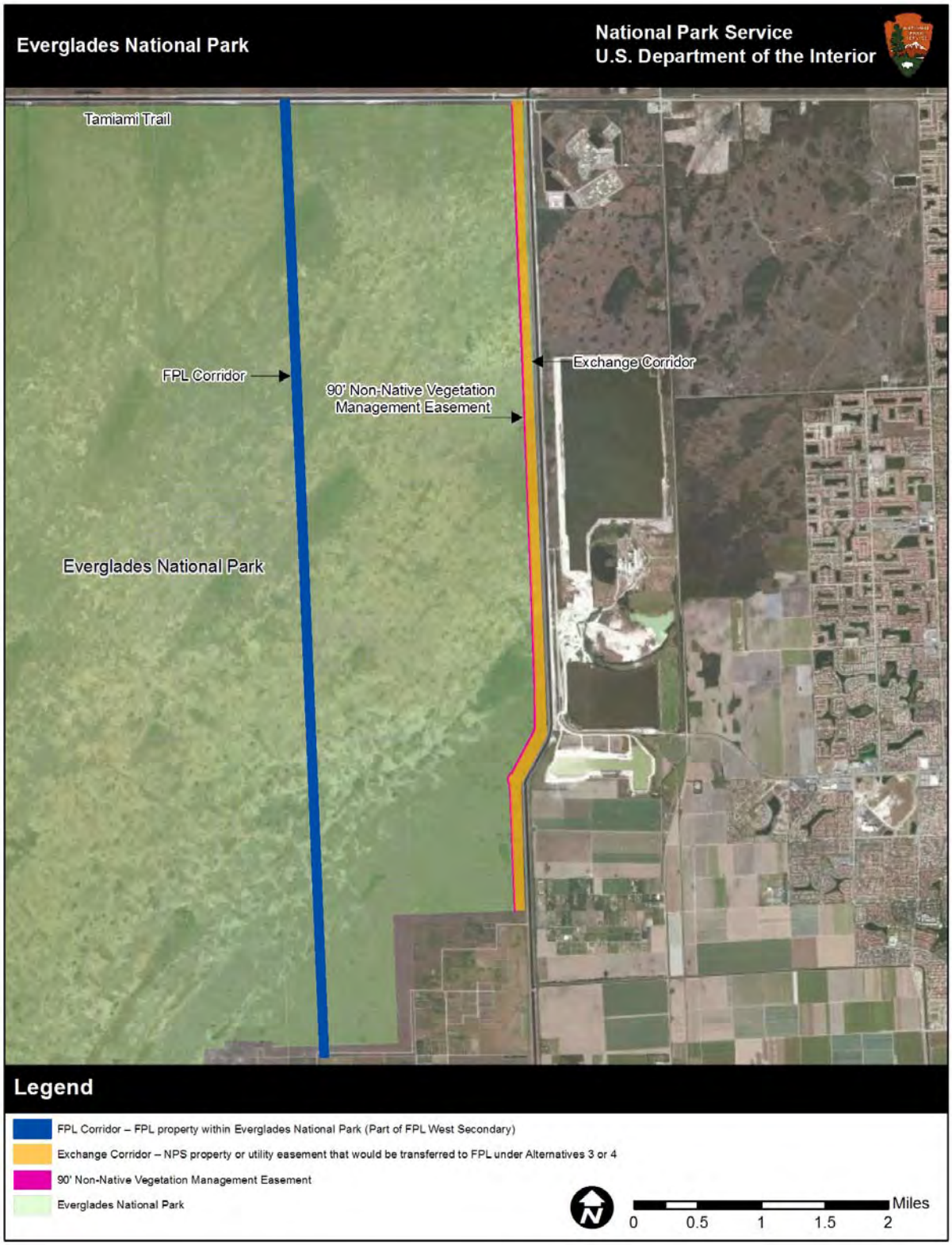


FIGURE 5: EVERGLADES NATIONAL PARK SHOWING VARIOUS CORRIDORS AND AREAS ADDRESSED IN ALTERNATIVES 1–5

ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Under this alternative, the NPS would not take action to acquire FPL property within the park or a flowage easement on it. With respect to the NPS management option selected, it is thus the same as alternative 1a.

Transmission Line Construction Scenario

This alternative differs from alternative 1a, however, because it assumes that FPL would construct transmission lines on its existing land in the park and therefore, the impacts would be very different. Although it represents the same management option, this alternative is included because it is a potential but uncertain outcome if NPS takes no action and allows for the analysis of the impacts of such construction, should FPL be able to secure all federal, state, and local permits necessary to construct these lines in this location (in the FPL West Secondary Corridor; see figure 5). Based on FPL's withdrawal of the West Secondary Corridor from its application for site certification and from its application for a Section 404 permit, this scenario is less likely than before; however it is included to provide a full range of alternatives and assessment of impacts.

Under alternative 1b, the NPS would not take action to acquire FPL property within the park but FPL would proceed to construct two 500-kV lines and one 230-kV transmission line within the park boundary.

Under alternative 1b, FPL would proceed to construct two 500-kilovolt (kV) lines and one 230-kV transmission line within the park boundary in this corridor, approximately 7.4 miles long. The characteristics of the transmission infrastructure and construction methods would be as described in FPL's Site Certification Application (SCA), summarized in appendix F, and would include associated federal, state, and local permit requirements. The NPS would not be able to increase water levels on this property to achieve its long-term restoration objectives because it would not have acquired the right or interest to do so. Alternative 1b was developed for the purposes of analyzing this scenario.

ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Under alternative 2, the FPL property (7.4-mile-long FPL corridor containing 320 acres of FPL lands) would be acquired directly by purchase or through the exercise of eminent domain authority by the United States. This alternative would result in an increase of 320 acres of NPS-owned land within the park. Figure 5 shows the FPL corridor that would be acquired by the NPS under this alternative.

Alternative 2 would result in an increase of 320 acres of NPS-owned land within the authorized boundary of the park. FPL would likely acquire a replacement corridor east of the existing park boundary to meet transmission needs.

Transmission Line Construction Scenario

For the purposes of analysis of impacts in chapter 4, the construction scenario associated with this alternative assumes that FPL would likely acquire a replacement corridor east of the existing park boundary to meet its transmission needs because the NPS alternative selected would leave FPL without a transmission corridor through the park. Figure 4 in chapter 1 shows the FPL and MDLPA West Consensus Corridor, which represents an area of highest potential where FPL would seek to build transmission lines outside the park based on the May 2014 Final Order of Certification. Beginning at a point approximately 6 miles south of Tamiami Trail and looking southward,

there is a 0.35-mile segment of the FPL West Preferred Corridor where this scenario assumes FPL would be able to construct transmission lines on lands within the FPL West Preferred Corridor to the east of the park boundary. In this scenario, FPL would be able to secure all federal, state, and local permits necessary to construct transmission lines, associated fill pads, and access roads on lands FPL would likely acquire somewhere within this area east of the park. FPL would proceed to construct two 500-kV lines and one 230-kV transmission line in this corridor. It is assumed that the characteristics of the transmission infrastructure and construction methods would be as described in the SCA in appendix F. The impact analysis for alternative 2 assumes FPL is able to build entirely outside of the park on lands within the FPL West Consensus and West Preferred Corridors.

ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Alternative 3 would result in a net gain of 60 acres of federally owned park land. FPL would proceed to construct two 500-kV lines and one 230-kV transmission line in the FPL West Preferred Corridor.

This alternative has been revised since release of the draft EIS based on the completion of the site certification process described in chapter 1 and meetings with FPL to refine this alternative further. Under the revised alternative 3, the NPS would acquire fee title to the FPL property (7.4-mile-long corridor containing 320 acres of FPL lands) through an exchange for park property, as authorized by the exchange legislation. NPS land conveyed to FPL would consist of 260 acres along 6.5 miles of the eastern boundary of the EEEA. For the purposes of this alternative, the values of the land involved in the land exchange under consideration are considered equal in accordance with Section 7107(b)(2)(C) of the Omnibus Public Land Management Act of 2009. The NPS would no longer own or have control over the 260-acre exchange corridor; lands currently within Everglades National Park would become FPL property once the land exchange was completed. This alternative would result in a 260-acre decrease in lands within the authorized boundary on the east side of the park, and an increase of 320 acres of federally owned land within the authorized boundary (the former FPL corridor), for a net gain of 60 acres of federally owned park land. The NPS would also convey a 90-foot-wide perpetual nonnative vegetation management easement to FPL adjacent to the entire length of the 6.5-mile exchange corridor. This easement would be for the purposes of removing fire-prone exotics which pose a fire risk to FPL's facilities, including but not limited to melaleuca and Australian pine, in accordance with the FPL's Vegetation Management Program. Figure 5 depicts the proposed exchange corridor and the FPL corridor within the park. Figure 6 is a larger scale depiction of the contiguous nonnative vegetation management easement next to the exchange corridor (land that would be subject to the land exchange with FPL), and the outer boundaries of the entire FPL West Preferred Corridor.

The primary revision in this alternative from the draft EIS to the final EIS is related to updated transmission line siting requirements included in the state site certification process that were not available in time for the draft EIS. As described in chapter 1, in accordance with the final order, FPL must pursue the use of the West Consensus Corridor as the primary corridor in the west for the transmission lines associated with the Turkey Point Power Plant Units 6 and 7 project and avoid siting any transmission lines in the park. The FPL West Preferred Corridor would only be used for placement of FPL western transmission lines in the event that an adequate right-of-way within the FPL West Consensus Corridor cannot be secured in a timely manner and at a reasonable cost. FPL's success in acquiring interests and developing the West Consensus Corridor would minimize or eliminate the amount of property in the exchange corridor required for the western transmission lines. This information was not available in time to inform the draft EIS, and the requirement and commitment by FPL to avoid siting any transmission lines in the park was important in developing a revised fee for fee acquisition alternative.

FIGURE 6: PORTION OF EXCHANGE CORRIDOR SHOWING THE CONTIGUOUS VEGETATION MANAGEMENT EASEMENT

The NPS and FPL still propose to exchange lands as originally described in the draft EIS. However, one of the key changes in this alternative from the draft EIS to final EIS is a commitment that FPL shall reconvey to the NPS any and all acreage in the FPL West Preferred Corridor determined through the execution of the final order and its conditions of certification, to be unneeded by FPL to build transmission lines. In this instance, after completing the process described below, FPL would return to the NPS land in the FPL West Preferred Corridor that it would no longer need to complete the transmission line requirements. Compensation to FPL for the reconveyance of any lands would come as fair market value wetland mitigation credits from the Hole-in-the-Donut wetland mitigation program. The park boundary would be adjusted after the reconveyance is complete to reflect final land ownership between FPL and NPS. This commitment would be identified in a binding exchange agreement between the two parties.

For the purposes of completing development of the western transmission lines, FPL would adhere to the West Consensus Corridor development activities and timelines described in the final order and the terms and conditions of the August 30, 2013, agreement between FPL and the MDLPA regarding the West Consensus Corridor. Through this process, FPL would identify the final transmission line alignment and determine the portions of the exchange corridor or adjacent vegetation management easement (surplus exchange property) not required to support the western transmission lines associated with the Turkey Point Power Plant Units 6 and 7 project and reconvey in fee simple to the United States all of its rights, title, and interest in the surplus exchange property. Any easement property would be automatically extinguished wherever and whenever adjacent lands in the FPL West Preferred Corridor are no longer owned or controlled (under lease) by FPL.

The final order established an expected sequence of events as well as a process to document compliance with the final order for the purposes of pursuing the West Consensus Corridor. The NPS would participate in the review of FPL submittals that demonstrate the good faith that FPL would exercise to fulfill the sequence of events and compliance with state and local regulatory requirements related to the acquisition of interests within the West Consensus Corridor. These submittals to NPS would provide NPS additional opportunities to ensure that the minimum necessary lands within the park are used for the construction and operation of transmission lines within the West Consensus Corridor.

The fee for fee land exchange would be subject to terms and conditions that are to be agreed upon between NPS and FPL and incorporated into a binding exchange agreement. The purpose of the agreement would be to ensure that any electric transmission lines or other utility-related facilities (such as pipelines and communications facilities) that may be built on the property to be conveyed to FPL are designed, constructed, and operated to avoid or minimize impacts on park resources, to the maximum extent practicable, including, but not limited to hydrology, wetlands, flora and fauna (including threatened and endangered species), cultural resources, tree islands, wilderness character, visitor experiences, and viewshed and visual aesthetics. An essential condition for this exchange is that the lands conveyed to FPL would be subject to a perpetual flowage easement. FPL would be required to allow the United States the perpetual right, power, and privilege to flood and submerge the property consistent with hydrologic restoration requirements.

The terms and conditions are an integral component of this alternative and are intended to address NPS requirements and the requirements of the exchange legislation. NPS and DOI staff developed draft terms and conditions in consultation with FPL, South Florida Water Management District (SFWMD), and Miami-Dade County staff on their technical feasibility. They are not intended to alter the conditions and requirements of any other applicable local, state, or federal law or regulation. It is not the intent of the NPS to address or modify the applicable certification or permit requirements of local, state, or other federal agencies. NPS would seek to be consistent with known requirements of other agencies. NPS anticipates that the final terms and conditions would be included in the Record of Decision (ROD) that is

signed concluding the NEPA process for this project. If the final negotiated terms and conditions are significantly different than those included in the ROD, additional NEPA analysis may be required. Updated terms and conditions for alternative 3 are provided in appendix G.

Transmission Line Construction Scenario

For the purposes of analysis of impacts in chapter 4, the construction scenario associated with this alternative assumes that FPL would be able to secure all federal, state, and local permits necessary to construct transmission lines, associated fill pads, and access roads on lands FPL acquired by exchange (in the FPL West Preferred Corridor; see figure 5). In this instance, FPL would be unsuccessful in acquiring adequate right of way within the West Consensus Corridor and would pursue full construction of transmission lines in the FPL West Preferred Corridor as a back-up as described in the final order. FPL would proceed to construct two 500-kV lines and one 230-kV transmission line in this corridor. The characteristics of the transmission infrastructure and construction methods would be as described in the SCA, summarized in appendix F, and associated federal, state, and local permit requirements, and also as stipulated in the fee for fee terms and conditions that include additional requirements developed by the NPS for environmental protection (see appendix G). The construction scenario for alternative 3 assumes transmission line construction on the entire 6.5-mile corridor within the park. The NPS views this transmission line construction scenario as the worst-case impact scenario associated with this alternative.

Since the West Consensus Corridor was certified as the primary corridor for the west transmission lines, FPL will be pursuing the development and property rights interests in this corridor upon receipt of a final non-appealable order. If FPL is successful in pursuing the West Consensus Corridor, it is possible that a large portion of the west transmission line would be built to the east of the park. In that case, some portion within the exchange corridor would be reconveyed to the NPS with no construction of transmission lines occurring on the reconveyed corridor. In areas where the transmission lines are located outside the park, the impacts from construction of transmission lines would likely be less than described under alternative 3 and more similar to the impacts described for alternative 2.

ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Alternative 4 would result in an increase of 320 acres of NPS-owned land within the authorized boundary of the park. Transmission line construction would be the same as alternative 3, except that NPS would retain ownership of the FPL Utility Easement Area.

Under alternative 4, the NPS would acquire fee title to the FPL property (7.4-mile-long corridor containing 320 acres of FPL lands) through an exchange for an easement on NPS property. The NPS would grant an easement to FPL on 260 acres of park land (hereafter called FPL Utility Easement Area for this alternative) along 6.5 miles of the eastern boundary of the EEEA for potential construction of transmission lines, in accordance with the terms and conditions developed for this “easement for fee” exchange. Although the exchange corridor involved in this alternative is the same as that under alternative 3, under this easement for fee exchange, NPS would retain ownership of the corridor and would continue to have control over the 260-acre exchange corridor. This alternative would result in an increase of 320 acres of NPS-owned land within the authorized boundary of the park (the former FPL corridor). The NPS would no longer have the unencumbered use of the FPL Utility Easement Area, which would potentially contain transmission lines, but would retain the right to carry out all other management activities as needed in this area. The NPS would also convey a 90-foot-wide perpetual easement to FPL adjacent to the entire length of the 6.5-mile exchange corridor to conduct nonnative vegetation management. Figure 5 depicts the proposed land exchange corridor and the contiguous nonnative vegetation management easement, as well as the FPL corridor within the park. Figure 6 is a larger scale

depiction of the nonnative vegetation management corridor, the exchange corridor, and the entire FPL West Preferred Corridor.

The easement for fee land exchange would be subject to terms and conditions that are to be agreed upon between NPS and FPL and incorporated into a binding exchange agreement. The purpose of the agreement would be to ensure that any power transmission lines and infrastructure on the FPL Utility Easement Area are designed, constructed, and operated to avoid, or minimize impacts on park resources, to the maximum extent practicable, including but not limited to, hydrology, wetlands, flora and fauna (including threatened and endangered species), cultural resources, tree islands, wilderness character, visitor experiences, and viewshed and visual aesthetics.

Similar to alternative 3, an essential condition for this exchange is that the FPL Utility Easement Area would be subject to a perpetual flowage easement. The United States would retain the perpetual right, power, and privilege to flood and submerge the property consistent with hydrologic restoration requirements.

The proposed terms and conditions are an integral component of this alternative and are intended to address NPS requirements. NPS and DOI staff developed draft terms and conditions in consultation with FPL, SFWMD, and Miami-Dade County staff on their technical feasibility. They are not intended to alter the conditions and requirements of any other applicable local, state, or federal law or regulation. It is not the intent of the NPS to address or modify the applicable certification or permit requirements of local, state, or other federal agencies. The NPS would seek to be consistent with known requirements of other agencies. The NPS anticipates that the final terms and conditions would be negotiated with FPL after the ROD is signed concluding the NEPA process for this project. If the final negotiated terms and conditions are significantly different than those included in the ROD, additional NEPA analysis may be required. The draft terms and conditions for alternative 4 are provided in appendix H.

Transmission Line Construction Scenario

For the purposes of analysis of impacts in chapter 4, the construction scenario associated with this alternative would be the same as the one for alternative 3, except that NPS would retain ownership of the FPL Utility Easement Area. This alternative assumes that FPL would be able to secure all federal, state, and local permits necessary to construct transmission lines, associated fill pads, and access roads on lands FPL acquired by exchange (in the FPL West Preferred Corridor; see figure 5). However, FPL’s long-term use of the area would follow the slightly different easement for fee terms and conditions that include additional requirements developed by the NPS for environmental protection (appendix H).

ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Under this alternative, the NPS would acquire a perpetual flowage easement on FPL's property within the EEEA through purchase, condemnation, or donation by FPL. FPL would retain ownership of its 7.4-mile-long corridor in the park during the term of the easement and could seek to site transmission lines there. The flowage easement would include the entire FPL property from Tamiami Trail to the 8.5-square-mile area, and the flowage allowed under this easement would allow sufficient water flow over this area to support ecosystem restoration projects. The NPS would retain the current goal of acquiring this property over the long term.

Under alternative 5, the NPS would acquire a perpetual flowage easement on FPL's property. FPL would proceed to construct two 500-kV lines and one 230-kV transmission line within the park boundary.

Transmission Line Construction Scenario

For the purposes of analysis of impacts in chapter 4, the construction scenario associated with this alternative would be the same as the one for alternative 1b (FPL construction on its existing land in the park), except that NPS would acquire a long-term, perpetual flowage easement that provides sufficient flowage for completion of Everglades restoration projects. FPL would be able to secure all federal, state, and local permits necessary to construct transmission lines, associated fill pads, and access roads on its existing property within the park (in the FPL West Secondary Corridor; see figure 5). However, the NPS would be able to increase water levels on this property including over the area that is used for construction of the transmission lines to achieve its long-term restoration objectives. Based on FPL's withdrawal of the FPL West Secondary Corridor from its application for site certification and from its application for a Section 404 permit, this scenario is less likely than before; however it is included to provide an assessment of impacts of this potential outcome.

COST

The FPL property located within Everglades National Park is part of the FPL West Secondary Corridor currently under review in the state's site certification process and the USACE dredge and fill permit process described in chapter 1. Because the state and federal permitting processes will not be completed until 2014 or later, estimating the current cost of acquiring FPL's property within the park is difficult and uncertain. A final determination of cost would be obtained once the NPS selects an acquisition alternative in the final EIS and ROD. Costs could vary considerably, depending on the acquisition alternative selected and how the FPL property is valued. Specific to the action alternatives, the following additional cost information is provided:

Alternative 2: NPS Acquisition of FPL Land

If the FPL property were to be directly acquired, the value of the property would depend on many factors. These include current sales of similar property, the appraiser's determination of highest and best use, and the status of the property as determined in the State and Federal permitting processes. The result could range from the value of vacant, undeveloped land to the value of a fully entitled utility corridor. Since the FPL property is part of a larger parcel which consists of the entire 39-mile linear corridor running from the Turkey Point Power Plant on the south to the Levee substation on the north, the estimate for a direct purchase could be based on a diminution in value of the larger corridor, which could result from the severance of the 7.4-mile portion within the EEEA. Because of these uncertainties, it is estimated that the cost of acquisition could approach one hundred million dollars. If FPL and NPS were unable to agree on

just compensation for acquisition, then NPS could pursue initiation of a condemnation action. The value of the FPL property would then be determined in federal court proceedings after the opportunity for a trial on the issue. If the determination of just compensation were to exceed funds available for acquisition, an additional appropriation would have to be obtained.

Alternative 3: Fee for Fee Land Exchange

For the fee for fee exchange, values of each property would be equal or equalized according to the authorizing legislation. See Public Law (P.L.) 111-11. Estimated values would be determined through appraisals which would consider the final conditional requirements contained in an agreement for exchange. In the event that the final appraised value of the FPL lands exceeds the final appraised value of the NPS lands, the values may be equalized by donation, payment using donated or appropriated funds, or the conveyance of additional parcels of land to FPL.

In the event that such final appraisals determine that the value of NPS lands exceeds the value of FPL lands, there will be no equalization payment since such values would be construed as equal in accordance with P.L. 111-11. Given the requirement that FPL shall reconvey to the NPS any and all acreage in the exchange corridor determined through the execution of the final order and its conditions of certification, any lands determined to be unneeded to build transmission lines would be returned to the NPS. Compensation to FPL for the reconveyance of any lands would come as agreed upon wetland mitigation credits from the Hole-in-the-Donut wetland mitigation program.

Alternative 4: Easement for Fee Land Exchange

The cost to the federal government of a fee for easement exchange would be based on whether the appraised value of the FPL lands exceeds the appraised value of the easement to be conveyed to FPL on NPS lands. These values would be determined through appraisals which would consider the final conditional requirements contained in an agreement for exchange.

Alternative 5: Perpetual Flowage Easement on FPL Property

Just compensation for acquisition of a perpetual flowage easement on FPL’s property has not been estimated. NPS anticipates that just compensation for the acquisition of a flowage easement would be less costly than fee-simple acquisition (as described under alternative 2). FPL would retain an ownership interest in its land. FPL would retain the right to seek state and federal permits for transmission lines on its property.

ALTERNATIVES OR ALTERNATIVE ELEMENTS CONSIDERED BUT DISMISSED

Comments received from the public during scoping recommended that the NPS seek to acquire FPL’s property in the expansion area though a donation. The park superintendent subsequently discussed this option with FPL representatives. This alternative was determined to be infeasible because FPL is not willing to donate its property to the NPS.

CONSISTENCY WITH SECTIONS 101 (B) AND 102(1) OF THE NATIONAL ENVIRONMENTAL POLICY ACT

NEPA requires an analysis of how each alternative meets or achieves the purposes of the act (Section 101(b)). Each alternative analyzed in a NEPA document must be assessed as to how it meets the following purposes:

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
4. preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
5. achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources (42 USC 4331).

The following provides a comparative description of how the alternatives, considering both direct and associated indirect impacts, would or would not achieve these purposes.

Purpose 1: Everglades National Park is a unit of the national park system. As the trustee of the land, the NPS would continue to fulfill its obligation as trustee of the area for future generations. Alternatives 1a, 1b, and 5 (perpetual flowage easement) would not support this purpose well, because these alternatives would allow for the continued presence of the FPL-owned corridor in the EEEA, with the possibility of future use by FPL. Alternative 1a assumes for analytical purposes that FPL would not build in the corridor or elsewhere, but that scenario may be unlikely, and in any event NPS's lack of control and uncertainty would not help achieve this purpose. Alternatives 2 through 4 would bring the FPL corridor under NPS protection. However, alternatives 3 and 4 (land exchanges) would result in NPS not owning or having complete control over the corridor at the eastern edge of the EEEA, which would slightly diminish the achievement of this purpose. Under alternative 3, FPL could reconvey a portion of the corridor back to the NPS, allowing NPS to regain ownership of the land. Alternative 2 would best meet this purpose, because it would result in removal of the FPL corridor from the park and there would be no construction on or immediately adjacent to the park. All of the action alternatives would create conditions that would allow the enhancement of the Northeast Shark River Slough (NESRS) and Everglades National Park and increased potential ecological connectivity, but the anticipated increase to environmental protection increases with NPS ownership of all lands currently in its domain and the absence of any connected transmission line impacts in the park.

Purpose 2: The alternatives would meet this purpose similar to the way they meet Purpose 1, based on the difference in NPS ownership of the land in the park and the presence of the transmission lines. For alternatives 1b and 5, the presence of a transmission line corridor in the middle of the EEEA and the park would not contribute to a productive or aesthetically pleasing surrounding. There would also be some concerns about safety since the corridor would not be under NPS control. Alternative 5 would ensure that sufficient flowage was present to proceed with Everglades restoration projects, which contribute to productive and aesthetically pleasing surroundings, but the indirect effects of a transmission line would

detract from those benefits. Alternatives 2 through 4 would allow for the NPS to ensure safe, healthful, productive, and pleasing environment within its boundary by having the NPS gain control over the FPL corridor. The most benefits related to this purpose would arise from acquisition without any land exchange (alternative 2). Although alternatives 4 and 5 would have benefits obtained from the acquisition of the FPL corridor, the indirect effects of transmission line construction in or along the eastern border of the park would decrease the ability to meet this purpose. However, moving the potential for future transmission line construction to the edge of the park, rather than having this indirect effect in the middle of the park, would help to ensure safer and aesthetically pleasing surroundings within the main body of the EEEA and the park.

Purpose 3: Similar to purpose 2, alternatives 1b and 5 would not totally meet this purpose, since an indirect effect could involve the presence of a transmission line in the middle of the EEEA. If the transmission line were developed, this would attain a wide range of beneficial uses (assuming that the transmission of power is considered a beneficial land use as it serves an important purpose), but there would be degradation and some risk to health and safety, and other undesirable consequences. The acquisition alternative (alternative 2) could lead to the construction of transmission lines outside the park, thereby eliminating degradation to park resources and values, and allowing for a wide range of beneficial uses of the environment for power transmission in an area where resources are not as pristine or undisturbed as in the park. All of the action alternatives would result in some environmental degradation (e.g., permanent impacts on soils, wetlands, and habitats of wildlife and special status species). Alternatives 1b and 5 would allow for continued FPL presence in the park and cannot proceed without environmental degradation; alternative 1b would not allow for flowage that is essential for attaining a wide range of beneficial uses in the EEEA. Alternatives 3 and 4 would include a wide range of beneficial uses of the environment, but with environmental degradation due to the construction of the transmission lines. However, these alternatives have terms and conditions that limit or reduce that degradation and other unintended consequences. Under alternative 3, FPL would construct transmission lines outside of the park to the maximum extent possible, limiting the environmental degradation from construction within the park.

Purpose 4: All of the alternatives would provide for protection of cultural and historic aspects of the area because of surveys that would be mandated or that have already been done. The exchange corridor under alternatives 3 and 4 has been surveyed and found not to contain cultural resources of concern, and there are terms and conditions relating to the construction in the exchange corridor that would limit impacts on cultural and natural resources. The indirect effects of alternatives 3, 4, and 5 would involve some level of adverse effects to natural aspects of the park's heritage, such as uninterrupted views across the marshland of the park, and the ability to escape highly urbanized areas without reminders of that landscape, and may limit some individual choices regarding visitor use in the areas of the transmission lines. Regarding individual choice, alternative 1a would allow for preservation of cultural and natural aspects, but would not necessarily allow for a variety of individual choices by all parties involved in this project because it may ultimately lead to the development of transmission lines that are an indirect consequence of the action taken by the NPS. Alternatives 1b and 5 would allow for more choices, but may not preserve all natural aspects of the environment if the indirect effects of transmission lines are adverse. Alternative 2 (the acquisition alternative) would best allow for the preservation of these aspects of the park's heritage both in the FPL corridor area and in the entire EEEA, but would limit individual choice about the location of the transmission lines on the private lands outside the park. The land exchange alternatives (3 and 4) would allow for preservation of these aspects of the park's heritage in the FPL corridor area, but would allow for less preservation at the edge of the EEEA. Under alternative 3, land unused by FPL would be reconveyed back to the park, allowing for continued land preservation.

Purpose 5: Alternative 1b would not lend itself to a balance between population and resource use, because it would allow for a continuing nonconforming use in the park and would not take action to

remedy that. All alternatives for land exchange (alternatives 3 and 4) aim to strike a balance between population and resource use by limiting impacts on park resources while allowing for a use important to the population of southern Florida by moving the construction of the transmission lines to the park boundary. Alternative 1a and the acquisition alternative (alternative 2) would provide protection for the park, but could be said to have limited benefits regarding a balance between population and resource use in the area of possible relocated corridor outside the park. Alternative 5 would strike a balance with its allowance for flowage needed for Everglades restoration projects, but still would include many indirect adverse effects related to the construction of a transmission line in the park.

Purpose 6: None of the alternatives directly addresses the recycling of depletable resources, although the indirect effect of building transmission lines would require fuels that are depletable, with little difference among the alternatives. Alternative 1a would have the least impact of all the alternatives and meet this purpose the best. All action alternatives involving acquisition or exchange would result in enhancing the quality of renewable natural resources in the park by allowing for NPS management and protection of the wetlands and wildlife of the EEEA, but alternative 3 would result in removal of the eastern corridor from NPS control initially, with the potential for FPL to reconvey unused lands back to the park. Alternative 4 would result in the use of the land for transmission lines and would not meet this purpose as well as alternative 2. Alternative 5 would allow for flowage to support the restoration projects and the renewable natural resources of the Everglades, but would have an indirect effect of transmission line construction that would detract from this benefit.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The NPS, in accordance with DOI NEPA Regulations (43 CFR 46) and the Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, defines the environmentally preferable alternative as the alternative "that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources" (43 CFR 46.30). Alternative 2, the direct acquisition alternative, was identified as the environmentally preferable alternative by the NPS. This determination was based on available scientific data compiled for the draft EIS and the comparative analysis of impacts of the various alternatives. An analysis of available data and relative impacts made it clear that alternative 2 best meets the requirements of the environmentally preferable alternative. Even with the reasonably foreseeable construction of transmission lines outside the park to the east associated with alternative 2, this alternative allows for the greatest degree of hydrologic and ecologic restoration of the park and Everglades ecosystem. Alternative 1a would not allow for acquisition of the existing FPL parcel within the EEEA, and therefore would not support the goals of restoring the NESRS and fulfilling the purposes of the Modified Water Deliveries (MWD) project and the Comprehensive Everglades Restoration Plan (CERP). All other alternatives (alternatives 1b, 3, 4, and 5) would result in construction of transmission lines within the EEEA boundary and would disrupt the hydrologic and ecologic restoration efforts within and around the park and/or cause adverse impacts on park resources and values.

NPS PREFERRED ALTERNATIVE

The Council on Environmental Quality (CEQ) regulations for implementing NEPA require that an agency identify its preferred alternative or alternatives in a draft EIS if one exists (1502.14(e)). The preferred alternative is the alternative "which the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical and other factors" (Question 4a of the CEQ's "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" (1981).

Having considered all available information including public comments on the draft EIS, and discussions with the utilities including property rights concerns, the NPS has identified its preferred alternative as alternative 3, the fee-for-fee land exchange alternative as described in this chapter with modifications from the draft EIS. Alternative 3 was identified as the preferred alternative for its ability to allow the park to achieve the majority of its restoration goals identified in the purpose and need of the EIS in a timely manner while considering relative costs to the government.

The identification of alternative 3 as the NPS preferred alternative is contingent on several assumptions, including the FPL's acceptance of mitigation measures identified in a final terms and conditions. In the event that an adequate right-of-way within the FPL West Consensus Corridor can be secured in a timely manner and at a reasonable cost, FPL shall reconvey all lands not necessary for construction of transmission lines in the FPL West Preferred Corridor to the NPS, reducing impacts to park resources and allowing for hydrologic projects in the region to move forward.

TABLE 1: SUMMARY OF THE ALTERNATIVES

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Action Taken by the NPS					
No action would be taken to acquire the FPL property (the 7.5-mile-long corridor) or a flowage easement on it within the boundary of the park.	No action would be taken to acquire the FPL property (the 7.5-mile-long corridor) within the boundary of the park or a flowage easement on it.	The FPL property within the boundary of the park would be acquired in fee.	The FPL property within the boundary of the park would be acquired in fee in exchange for giving FPL fee title ownership of the exchange corridor, and an adjacent 90 foot wide vegetation management easement.	The FPL property within the boundary of the park would be acquired in fee in exchange for giving FPL an easement for potential construction of transmission lines in the exchange corridor, and an adjacent 90 foot wide vegetation management easement.	The NPS would obtain a perpetual flowage easement over the FPL property within the boundary of the park that would allow for sufficient flow to support ecosystem restoration projects.
Terms and Conditions Linked to the Action					
None.	None.	None.	Terms and conditions would be established to protect park resources and values (see appendix G).	Terms and conditions would be established to protect park resources and values (see appendix H). NPS would retain approval rights for a number of FPL's stewardship plans for the FPL Utility Easement Area.	Terms would be incorporated in the perpetual flowage easement to ensure adequate flowage for resource protection.

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Gain or Loss of NPS Property within Everglades National Park					
None.	None.	NPS gain of 320 acres in the former FPL corridor location.	NPS gain of 320 acres in the former FPL corridor location, and a loss of 260 acres in the exchange corridor – net NPS gain of 60 acres. FPL would seek to construct outside of the park boundary as soon as technically feasible and would reconvey unused lands back to NPS, resulting in the potential for additional net acreage gained.	NPS gain of 320 acres in the former FPL corridor location; no loss of property in the exchange corridor, but loss of unencumbered use where transmission lines could be built.	None.
Flowage in the EEEA					
No long-term flowage easement over the FPL property would be executed. Result: no additional flowage would be allowed over the EEEA.	No long-term flowage easement over the FPL property would be executed. Result: no additional flowage would be allowed over the EEEA.	Long-term additional flowage could occur over the EEEA, because the NPS would own the land.	Lands conveyed to FPL would be subject to a perpetual flowage easement as a condition of the exchange. FPL would allow the United States the right to flood and submerge lands conveyed to FPL consistent with hydrologic restoration requirements.	The FPL Utility Easement Area would be subject to a perpetual flowage easement as a condition of the exchange. The United States would retain the right to flood and submerge this area consistent with hydrologic restoration requirements.	Perpetual flowage easement over the FPL property would allow the United States the right to flood and submerge this area consistent with hydrologic restoration requirements.

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Cost					
None.	None.	Uncertain. Cost to acquire could range from the value of vacant, undeveloped land to the value of a fully entitled utility corridor based on final appraisals. Since the FPL property is part of a larger utility corridor, it is estimated that the cost of acquisition could approach one hundred million dollars. If FPL and NPS could not agree on just compensation, a court would determine value.	Uncertain. Values of FPL property and NPS land would be equal or equalized per authorizing legislation (P.L. 111-11). The value of the FPL property could range from the value of vacant, undeveloped land to the value of a fully entitled utility corridor based on final appraisals. This is likely to be the lowest cost alternative.	Uncertain. The cost to the NPS would be based on whether the appraised value of the FPL lands exceeds the appraised value of the easement to be conveyed to FPL on NPS lands. This alternative is likely to cost more than alternative 3 but less than alternative 2.	Uncertain. Just compensation for acquisition of a perpetual flowage easement on FPL's property has not been estimated. NPS anticipates that just compensation for the acquisition of a flowage easement would be less costly than fee-simple acquisition (as described under alternative 2).

TABLE 2: ANALYSIS OF HOW THE ALTERNATIVES MEET PROJECT OBJECTIVES

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Objective: Ensure consistency with the Everglades National Park Protection and Expansion Act of 1989 (Expansion Act) and the 1991 Land Protection Plan (LPP) for the EEEA. This includes the following: • Increasing the level of protection of the outstanding natural values of the park and enhancing and restoring the ecological values, natural hydrologic conditions, and public enjoyment of such areas by adding the area commonly known as the NESRS and the East Everglades to the park (16 USC 410r-5), and • Assuring that the park is managed in a way that maintains the natural abundance, diversity, and ecological integrity of native plants and animals, as well as the behavior of native animals, as part of its ecosystem (16 USC 410r-5).					
Because no acquisition or land exchange would occur, protection of the NESRS and EEEA would not be increased. There would be no perpetual flowage easement, so the ability to complete Everglades restoration projects would be in jeopardy. Although this alternative assumes for analytical purposes that no transmission lines would be built in the park, in the exchange corridor, or in any area outside the park, that scenario appears to be unlikely. Continuation of FPL ownership means that there would be the possibility of a transmission line being built in the corridor, which would have adverse effects on park resources. This alternative does not meet the objective.	Because no acquisition or land exchange would occur, protection of the NESRS and EEEA would not be increased. There would be no perpetual flowage easement, so the ability to complete Everglades restoration projects would be in jeopardy. This alternative assumes that a transmission line would be built in the corridor, which would have adverse effects on park resources. This alternative does not meet the objective.	Acquisition would be consistent with direction provided by the Expansion Act and the 1991 LPP for the East Everglades Addition. It would increase the level of protection of the park's resources and values. This alternative would facilitate Everglades restoration efforts by removing an obstacle that prevents hydrologic restoration in NESRS. Restoration currently planned under the MWD project would result in ecological benefits across 109,000 acres of Everglades National Park. This alternative would also facilitate future restoration efforts including Tamiami Trail Next Steps, Central Everglades Planning Project (CEPP), and CERP, which may result	This alternative reduces potential impacts on NESRS by moving transmission line impacts on an area adjacent to more developed and less pristine areas east of the park. Protection of the NESRS and EEEA would be increased because this alternative provides for NPS ownership of the heart of the NESRS, which allows for flowage and restoration projects to occur. This alternative would facilitate Everglades restoration efforts by removing an obstacle that prevents hydrologic restoration in NESRS. Restoration currently planned under the MWD project would result in ecological benefits across 109,000 acres of Everglades National Park. This alternative would also facilitate future restoration efforts including Tamiami Trail Next Steps, CEPP, and	This alternative would have similar attributes with regard to this objective as alternative 3. With continued park ownership of the exchange corridor, there would be more assurance that that part of the EEEA could be managed in accordance with park goals, and development would be limited to transmission lines (no other utility uses, which are permitted in alternative 3). This alternative partially meets the objective.	Because there would be no acquisition of the FPL corridor within the boundary of the park, there would be no increased protection for the NESRS and EEEA with regard to ownership, but the flowage easement would allow the Everglades restoration projects to be completed. Continuation of FPL ownership with flowage permitted means that there is the possibility of transmission lines being built in the corridor, which would have adverse effects on park resources. Hydrological functions and values would be preserved with the flowage easement; however, if construction were to commence, there would be adverse impacts.

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		in benefits throughout much of the greater Everglades including nearly all of the freshwater wetlands in Everglades National Park, and extending into Florida Bay. This alternative fully meets the objective.	CERP, which may result in benefits throughout much of the greater Everglades including nearly all of the freshwater wetlands in Everglades National Park, and extending into Florida Bay. The land that is exchanged would be removed from park protection and could be used for transmission lines and other utility uses, and these impacts would occur immediately adjacent to the eastern edge of the park, so this alternative does not avoid all adverse impacts on ecological values of the park. Construction and operation of transmission lines, and possibly other utilities, in the exchange corridor would cause major adverse impacts to park resources and values that would be inconsistent with the Expansion Act and LPP, however these impacts would be reduced to the extent that construction could be conducted outside the park boundary. Wetlands of international importance would be filled for access roads and tower pads that would segment the exchange corridor and adjacent SFWMD wetlands from NESRS and disrupt		This alternative partially meets the objective.

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
			sheetflow on those lands. Endangered wood storks could experience a population level decline due to habitat loss or degradation and the risk of mortality from line collisions or electrocutions. The presence of the transmission lines and other utilities would permanently degrade the scenic viewshed and visitor enjoyment of the EEEA. This alternative partially meets the objective.		
Objective: Ensure consistency with the Congressional intent of the Omnibus Public Land Management Act of 2009 such that the Secretary of the Interior consider the land exchange with specified terms and conditions and after appropriate environmental review of the impacts of the exchange.					
The NPS would consider a land exchange under this or any alternative. Since the Omnibus Act conveys discretion to the Secretary of the Interior in effecting a land exchange, this and all alternatives meet this objective by the letter of the act and by the preparation of this EIS.	See alternative 1.	See alternative 1.	See alternative 1.	See alternative 1.	See alternative 1.
Objective: Support and facilitate implementation of the MWD project, the Tamiami Trail Next Steps Project, and the CERP.					
No long-term flowage easement over the FPL property would be executed. The lack of flowage would not support and facilitate any restoration efforts within	No long-term flowage easement over the FPL property would be executed. The lack of flowage would not support and facilitate any restoration efforts within	Current FPL land would be acquired through fee purchase, and this acquisition was directed by Congress to meet the objectives of the MWD project to improve the	The land exchange would support restoration objectives for the EEEA and give the NPS the ability to accommodate enhanced flows associated with restoration projects, thus	Same as alternative 3.	The perpetual flowage easement would allow hydrologic functions to be restored in the EEEA, but would still allow a transmission line to be constructed within the

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
the EEEA and Shark River Slough (SRS). This alternative would not meet the objective.	the EEEA and SRS. This alternative would not meet the objective.	hydrologic conditions of the NESRS. The hydrologic functions of the acquired lands would be restored. The CERP is consistent with the MWD project. This alternative fully meets the objective.	providing ecosystem benefits in to 109,000 acres in NESRS. A perpetual flowage easement would be a condition of the exchange. FPL would grant the United States the right to allow for higher water levels consistent with restoration requirements. The flowage easement would help to meet the objectives of the MWD project to improve the hydrologic conditions of the NESRS. The removal of 260 acres of wetlands from the park and subsequent development of access roads and transmission lines would disconnect this area from NESRS and disrupt sheetflow in the exchange corridor and adjacent SFWMD wetlands. These impacts would impede restoration of hydrologic functions in the exchange corridor and adjacent SFWMD wetlands along the eastern edge of NESRS. These impacts would be inconsistent with the objectives of the MWD, Next Steps, and CERP projects. This alternative partially meets the objective.		EEEA. This alternative meets the objective to a large degree.

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Objective: Support the timely acquisition of existing FPL property within the EEEA, or sufficient interest in this property, to allow for flooding of the area to facilitate restoration efforts within the park.					
The existing FPL property within the EEEA or sufficient interest would not be acquired. This alternative would not meet the objective.	The existing FPL property within the EEEA or sufficient interest would not be acquired. This alternative would not meet the objective.	The FPL property within the EEEA would be acquired, but it may take additional time to acquire the FPL property without an exchange as part of the transaction, because this would put FPL in the position of potentially purchasing land in the West Consensus Corridor. This alternative may fully meet the objective, depending on the timing for completing all related land acquisitions and prerequisites needed to allow higher water stages in the EEEA.	The FPL property within the EEEA would be acquired, and it is expected that this could be accomplished in a timely manner and faster than alternative 2 because of the exchange benefits to FPL. This alternative fully meets the objective.	Same as alternative 3.	Sufficient interest in the FPL property within the EEEA to allow for flooding of the area to facilitate restoration efforts within the park would be acquired. This alternative fully meets the objective.

TABLE 3: SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Hydrology					
NPS action: long-term indirect major adverse impacts because NPS would be unable to increase water levels in the NESRS, preventing restoration on a regional scale and obstructing implementation of regional ecosystem restoration activities. **Transmission lines: no impacts** (no transmission assumed)	**NPS action: long-term indirect major adverse impacts**, same as alternative 1a. **Transmission lines: long-term major adverse impacts**, because of the disruption of sheetflows due to construction of transmission lines and access roads and forcing of water through the culverts, and the likelihood that there would be reduced hydroperiods downstream of the culverts. Also localized **long-term negligible to minor adverse impacts and short-term moderate adverse impacts** related to small to large-scale interrupted hydrologic processes that would occur during construction.	**NPS action: long-term indirect beneficial impacts** because acquisition and change in ownership would provide additional protection to the land and NPS could allow the enhanced flows across the corridor called for in the ecosystem restoration plans. **Transmission lines: short- and long-term negligible to moderate impacts** in the area of possible relocated corridor from construction and temporary blockage of flow across the corridor, and longer-term fragmentation of the hydrologic processes around the new transmission lines. Impacts from transmission line construction inside the park would be avoided.	**NPS action: substantial indirect long-term beneficial impacts** from the ability to increase water levels across the acquired FPL property and implement flow-related ecosystem restoration activities. **Transmission lines: long-term moderate adverse impacts**. The transmission lines would be located adjacent to the L-31N levee, so impacts on hydrology throughout the NESRS would be less than if the lines were built in the existing FPL corridor further west. The hydroperiod would be maintained, but sheetflow patterns would be disrupted by the transmission line platforms. Localized **long-term negligible to minor adverse impacts** at the culverts where water is channelized and scour could occur. **Short-term minor to moderate adverse construction-related impacts** related to small to large-scale interrupted hydrologic processes.	**NPS action: indirect long-term beneficial impacts**, same as alternative 3. **Transmission lines: long-term moderate adverse impacts** similar to alternative 3. Localized **long-term negligible to minor adverse impacts** at the culverts where water is channelized and scour could occur. **Short-term minor to moderate adverse construction-related impacts** related to small to large-scale interrupted hydrologic processes would also occur.	**NPS action: substantial indirect long-term beneficial impacts** from the easement and the ability for the NPS to increase water levels across the FPL property and implement flow-related ecosystem restoration activities. **Transmission lines: long-term minor to major adverse impacts**, similar to alternative 1b with localized **negligible to minor adverse impacts** related to scour around the culverts, and **short-term moderate adverse construction-related impacts** related to small to large-scale interrupted hydrologic processes.

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Water Quality					
NPS action: long-term indirect minor adverse impacts from the absence of a flowage easement that would prevent or delay implementation of flow-dependent ecosystem restoration projects. **Transmission lines: no impacts** (no transmission line construction assumed)	**NPS action: long-term indirect minor adverse impacts**, same as alternative 1a. **Transmission lines: long-term major adverse impacts** because construction of the transmission lines without a flowage easement in the FPL corridor would permanently hinder the implementation and success of ecosystem restoration projects. There would also be **short-term minor to moderate adverse impacts** related to construction activities.	**NPS action: long-term beneficial impacts** because acquisition of the FPL corridor would allow the flow of additional water across the property. **Transmission lines**: similar to, but less intense than those described under alternative 1b with indirect, **long-term negligible to minor adverse, and short-term negligible to minor adverse** for construction activities. Impacts from transmission line construction inside the park would be avoided.	**NPS action: long-term beneficial impacts** as the result of being able to accommodate enhanced restoration flows, and placing a large area of connected land into NPS ownership, allowing for management of park resources, including water quality, consistently with park objectives. **Transmission lines: long-term minor adverse impacts, and short-term minor to moderate adverse impacts**. Impacts would be similar in nature to those discussed under alternatives 1b and 2 related to the construction of transmission lines in the FPL West Preferred Corridor.	**NPS action: long-term beneficial impacts**. Same as alternative 3 except no other utilities could be built in the corridor, which would lessen the risk of additional water quality impacts. **Transmission lines: long-term minor adverse impacts, and short-term minor to moderate adverse impacts**, same as alternative 3.	**NPS action: long-term beneficial impacts** from the flowage easement. **Transmission lines: long-term major adverse impacts, and short-term minor to moderate adverse impacts** related to the construction, similar to alternative 1b, although increased flows would attenuate some of these adverse impacts downstream of the culverts and transmission lines.
Soils					
NPS action: long-term indirect major adverse impacts because of the lack of additional flowage and resultant loss of peat soils. **Transmission lines: no impacts** (no transmission line construction assumed)	**NPS action: long-term indirect major adverse impacts**. Same as alternative 1a. **Transmission lines: long-term major adverse impacts** from a permanent loss of about 182 acres of soils (180 in wetlands) including 89 acres in the park; also **short- and long-term**	**NPS action: long-term indirect beneficial impacts** from the acquisition itself and the ability to increase water levels over the area, which contributes to the development of soils. **Transmission lines: long-term moderate adverse impacts** from transmission line	**NPS action: long-term indirect beneficial impacts** from having all the EEEA under NPS ownership, resulting in the ability to go forward with Everglades ecosystem restoration projects and the enhancement of resource conservation and values of the park, including soil resources. However, these gains would be offset to	**NPS action: long-term indirect beneficial impacts**. Same as alternative 3, but with easement terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance or removal of soils and gain in land and	**NPS action: long-term indirect beneficial impacts** from having a perpetual flowage easement agreement. **Transmission lines: long-term major adverse impacts** from the permanent loss of about 182 acres of soils (180 in wetlands) including 89 acres in the

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	minor to moderate adverse impacts from construction, and negligible impacts from line maintenance.	construction east of the park, which would result in the loss of about 187 acres of soils (149 in wetlands) outside the park. The severity of impacts would depend on where the transmission lines were located within the area of possible relocated corridor, and some soils in this area have been disturbed, drained, or cleared of vegetation. Impacts on soils would be greater along the eastern/ northern portions of the area and reduced along the western/ southern portions. There would also be **minor adverse impacts** on designated unique farmland soils in the southern portion of the route outside the park. Impacts from transmission line construction inside the park would be avoided.	some degree by **long-term indirect moderate adverse impacts** occurring from the removal of 260 acres of soils from the park and associated park management activities. **Transmission lines: major adverse impacts** from the construction of the transmission lines in the FPL West Preferred Corridor with a resulting permanent loss of about 194 acres of soils (181 in wetlands) including 80 acres in the park. There would also be **long-term minor adverse impacts** on unique farmland soils located in an agricultural area south of the park, and **short-term minor to moderate adverse construction-related impacts**.	soils in the park. **Transmission lines: long-term major adverse impacts** same as alternative 3 with impacts on soils within the footprint of towers and roads resulting in a loss of about 194 acres of soils (181 in wetlands) including 80 acres in the park. There would be **long-term minor adverse impacts** on designated unique farmland soils outside the park; and **short-term minor to moderate adverse construction-related impacts**.	park. Also **short- and long-term minor to moderate adverse impacts** from construction and **negligible impacts** from line maintenance.
Vegetation and Wetlands					
NPS action: long-term indirect major adverse impacts because of the retention of ownership of land in the EEEA by FPL and continued habitat degradation	**NPS action: long-term indirect moderate to major adverse impacts** because FPL would retain ownership of land in the EEEA, as described under	**NPS action: substantial indirect long-term beneficial impacts** from the acquisition of FPL property in the EEEA, which would remove a	**NPS action: substantial indirect long-term beneficial impacts** from having a net gain in wetland acreage to the park and having the main body of EEEA wetlands reconnected	**NPS action: indirect long-term beneficial impacts**. Same as alternative 3, but with easement terms and conditions that result in the reduced risk of having	**NPS action: substantial indirect long-term beneficial impacts** from having a perpetual flowage easement agreement.

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from altered hydrology. Habitat restoration and exotic species management within the park would be hindered by the lack of a flowage easement, or sufficient interests in these properties, to increase water levels across the FPL West Secondary Corridor, thereby having a negative impact on vegetation and wetlands. **Transmission lines: no impacts** (no transmission line construction assumed)	alternative 1a. **Transmission lines: localized short and long-term major adverse impacts** from the construction and operation of the transmission lines in the FPL West Secondary These impacts would include a permanent loss of about 180 acres of wetlands, of which 89 acres are within the park boundary.	large area of non-NPS land in the interior of the park, ensuring that no other development would be proposed in this area and that the various Everglades ecosystem restoration projects could occur. **Transmission lines: short- and long-term negligible to moderate adverse impacts** from the construction of the transmission lines in the area of possible relocated corridor. Depending on the location of the lines; impacts could be less due to fewer wetland acres in this area compared to the areas crossed by the other FPL corridors and the relative quality of the wetlands. On hypothetical corridor, would have 149 acres of wetland loss. Impacts from transmission line construction inside the park would be avoided.	in NPS ownership, resulting in the ability to go forward with ecosystem restoration without any potential future obstacles from the FPL parcel. Placing the majority of the EEEA under NPS ownership would enhance the conservation of the resources and values of the park, including vegetation and wetlands. There would be a net gain of 60 acres, but a loss of 260 acres in the exchange corridor, which is a direct **long-term, major adverse impact and negligible to minor adverse impacts** from the loss of the ability to maintain wetlands/vegetation per NPS standards. **Transmission lines: short and long-term major adverse impacts** from the construction of the transmission lines in the FPL West Preferred Corridor (about 181 acres of wetlands lost, including 80 in the park).	additional utility facilities in the exchange corridor and associated disturbance or removal of wetlands. (There would be no major adverse impacts related to the land exchange because the acreage of vegetation would remain the same within the park.) **Transmission lines: short and long term major adverse impacts** same as described under alternative 3, because there are no substantial differences in the terms and conditions under this alternative and no expected differences in how wetlands would be treated under an easement compared to in fee, given the mitigation that FPL included in its SCA and expected conditions in the required resource stewardship plan. The park would have slightly more control over vegetation management in the exchange corridor than under alternative 3.	Transmission lines - short and long-term major adverse impacts (same as alternative 1b).

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Floodplains					
NPS action: long-**term indirect major adverse impacts** related to the lack of a flowage easement and the inability to proceed with flow-dependent ecosystem restoration projects that would prevent moving additional water into the park. **Transmission lines**: **no impacts** (no transmission line construction assumed)	**NPS action**: **long-term indirect major adverse impacts** related to the lack of a flowage easement and the inability to proceed with flow-dependent ecosystem restoration projects that would prevent moving additional water into the park. **Transmission lines**: **long term moderate adverse impacts** on floodplain functions and values related to the construction of the transmission lines without a flowage easement in the FPL corridor.	**NPS action**: **long-term indirect beneficial impacts** from placing ownership of this area solely with the NPS and the ability to continue flow-dependent ecosystem restoration projects. **Transmission lines**: **long-term negligible adverse impacts** related to transmission line construction and presence in an area that has already been segmented hydrologically and disconnected from the natural floodplain. Impacts from transmission line construction inside the park would be avoided.	**NPS action**: **long-term indirect beneficial impacts** of acquiring the FPL land, which would enhance the conservation of the resources and values of the park, including floodplains and their values and functions, and allow for flow-dependent ecosystem restoration projects to proceed. **Transmission lines**: **long-term moderate adverse impacts** from construction and presence of transmission lines in the FPL West Preferred Corridor due to increased compartmentalization and the effects of the disrupted sheetflows on floodplain values, such as habitat.	**NPS action**: **long-term indirect beneficial impacts.** Same as alternative 3, except no other utilities could be built in the corridor, which would lessen the risk of additional floodplain impacts. **Transmission lines**: **long term moderate adverse impacts** -same as described under alternative 3.	**NPS action**: Similar to alternative 2, there would be **long-term indirect beneficial impacts** because the accommodation of enhanced flows would improve floodplain function and values. **Transmission lines**: long-**term moderate adverse impacts** on floodplain functions and values related to the construction of the transmission lines (like alternative 1b except that the flowage easement would allow for enhance flows to accommodate flow-related ecosystem restoration actions).
Soundscapes					
NPS action: no impacts on soundscapes. **Transmission lines: no impacts** (no transmission line construction assumed)	**NPS action: no impacts** on soundscapes. **Transmission lines: short term, moderate, adverse impacts** as a result of construction activities and **long term**, **minor adverse impacts** from corona discharge during wet weather. There would be **short-**	**NPS action: no impacts** on soundscapes. **Transmission lines: short term, moderate, adverse impacts** as a result of construction activities and **long term, negligible to minor, adverse impacts** from corona	**NPS action: no impacts** on soundscapes. **Transmission lines**: same as alternative 2 but in different location - **short term, moderate, adverse impacts** as a result of construction activities and **long term, negligible to minor, adverse impacts** from corona discharge	**NPS action: no impacts** on soundscapes. **Transmission lines: Same as alternative 3** except that no other utilities could be built in the corridor, which would lessen the risk of additional noise-related impacts of construction of these facilities.	**NPS action: no impacts** on soundscapes. **Transmission lines** – **same as alternative 1b.**

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	term moderate adverse construction-related impacts in residential areas and **long-term negligible adverse impacts** from maintenance activities.	discharge during wet weather. There would be **short-term moderate adverse construction-related impacts** in residential areas and **long-term negligible adverse impacts** from maintenance activities. The geographic extent of impacts in the park and in residential areas would vary considerably depending on the exact route alignment.	during wet weather. There would be **short-term moderate adverse construction-related impacts** in residential areas and **long-term negligible adverse impacts** from maintenance activities.		
Wildlife					
NPS action: long-term indirect moderate to major indirect adverse impacts due to continued FPL ownership of land within the park and the lack of a flowage easement. FPL ownership of land within the park and the inability to increase water levels across the FPL West Secondary Corridor is expected to hinder habitat restoration efforts. **Transmission lines: no impacts** (no transmission line construction assumed)	**NPS action: long-term indirect moderate to major indirect adverse impacts** because of the inability to increase water levels across the FPL property, which is expected to hinder habitat restoration efforts. **Transmission lines: Short- to long-term minor to moderate adverse impacts**. Short-term impacts would typically be related to construction or maintenance activities and would generally be minor. **Long-term moderate adverse**	**NPS action: long-term indirect beneficial impacts** due to removal of a large area of non-NPS ownership of land in the interior of the park. This would ensure that no other development would be proposed in this area and that the various Everglades ecosystem restoration projects could occur. **Transmission lines:** short**- and long-term minor to moderate adverse impact**s on species dependent on wetland habitats and impacts on wading birds	**NPS action**: substantial **indirect long-term beneficial impacts** because the exchange would remove a large area of non-NPS ownership of land in the interior of the park, ensuring that no other development would be proposed in the FPL corridor and that the various Everglades restoration projects could be implemented. **Transmission lines: long-term major adverse impact** of removing 260 acres of habitat from the park. Types of impacts on wildlife from transmission line construction under alternative 3 would be	**NPS action: indirect long-term beneficial impacts -** as described under alternative 3 but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance or removal of wildlife habitat. **Transmission lines**: same as alternative 3, impacts on wildlife would be **short- to long-term, minor to moderate adverse**, and impacts on wildlife species may be reduced, especially for avian and bat species,	**NPS action: indirect long-term beneficial impacts** from having a flowage easement that would allow ecosystem restoration projects that benefit park resources to proceed over time, similar to alternative 1b, but with **long-term minor to moderate adverse impacts f**rom the continued inability to manage the corridor as NPS lands. **Transmission lines:** Short **and long-term minor to moderate adverse impacts** (like alternative 1b).

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	impacts would be from permanent habitat loss due to transmission line structure pads and access roads. Avian collisions with transmission lines, guy wires, and structures and electrocution would be additional sources of **long-term moderate adverse impacts**. Certain groups of birds are more susceptible to collision and electrocution due to their behavior or morphology and may be impacted more from the construction and operation of the transmission lines than other groups of birds.	are expected to be less in the West Consensus Corridor compared to construction within the park because of the reduced quality of the wetlands compared to those within the park, but species that utilize habitat outside the park would be adversely affected.	similar to those described for alternative 1b (**Short- to long-term minor to moderate adverse impacts)**. However, impacts on wildlife would be reduced because the FPL West Preferred Corridor is generally less desirable habitat compared to the West Secondary Corridor, due to its proximity to already disturbed upland and wetland areas outside the park. Impacts on wading bird species are also expected to be less than alternative 1b because of the increased distance from the transmission lines to known nesting colonies. NPS acquisition of the FPL West Secondary Corridor would allow for application of NPS policies and procedures in this area. NPS would no longer control the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange would minimize impacts on wildlife to the maximum extent practicable.	due to requirements imposed by the terms and conditions of the land exchange.	
Special-status Species					
NPS action: alternative 1a would result in a **wide range of impacts**	**NPS action**: impacts on special-status species would be **varied as**	**NPS action: long-term beneficial impacts** on special-status species	**NPS action: long-term beneficial impacts** on special-status species since	**NPS action: long-term beneficial impacts** essentially the same as	**NPS action: long-term beneficial impacts** on special-status species

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on special-status species, as described for the individual species in the analysis in chapter 4. Impacts on these species that could potentially occur in the area of analysis are summarized for this and other alternatives in tables 27 and 28 in chapter 4 of the draft EIS. In general, the lack of a flowage easement or sufficient rights to increase water levels over the FPL West Secondary Corridor would have effects on many listed species in the area. Due to the potential degradation and loss of foraging habitat from the lack of hydrologic restoration in the EEEA, alternative 1a would have **moderate to major adverse impacts** on many avian species, especially wood storks and Everglade snail kites – **major adverse impacts** are predicted for these two species. The park would continue to coordinate with the U.S. Fish and Wildlife Service	**noted in the analysis in chapter 4.** The Section 7 determinations for the federally listed species and the impacts on the state-listed species that could potentially occur in the area of analysis are summarized for this and other alternatives in tables 27 and 28. Impacts from the lack of a flowage easement or sufficient rights to increase water levels over the FPL West Secondary Corridor would be the same as described for alternative 1a- **moderate to major adverse impacts** on many avian species, especially wood storks and Everglade snail kite (**major adverse impacts**) - same as alternative 1a. **Transmission lines**: in general, construction and operation of transmission lines in the FPL West Secondary Corridor would have effects on many listed species in the area and have **high risks to avian species, especially wood storks and Everglade snail kites (major adverse**	since this would mean no impediments to water restoration projects could occur from future use of this parcel. Impacts on special-status species would be **varied as noted in the alternative 2 analysis**. The Section 7 determinations for the federally listed species and the impacts on the state-listed species that could potentially occur in the area of analysis are summarized for this and other alternatives in tables 27 and 28 in chapter 4 of the draft EIS. **Transmission lines**: in general, construction and operation of transmission lines in the West Consensus Corridor east of the park would have effects on many listed species in the area. Alternative 2 would have **lower risks to wood storks and Everglade snail kites** than construction on the FPL corridors due to the location of the lines farther away from nesting and foraging locations. Impacts on	this would mean no impediments to water restoration projects could occur from future use of this parcel. Alternative 3 would result in a **wide range of impacts on special-status species, as described for the individual species in the analysis in chapter 4.** The Section 7 determinations for the federally listed species and the impacts on the state-listed species that could potentially occur in the area of analysis are summarized for this and other alternatives in tables 27 and 28 in chapter 4 of the draft EIS. **Transmission lines**: in general, construction and operation of transmission lines in the FPL West Preferred Corridor would have effects on many listed species in the area and has **high risks to wood storks and Everglade snail kites (major adverse impacts for wood stork)** due to proximity of the lines to nesting and foraging locations. The park would continue to coordinate with the USFWS and state resource agencies, to participate in the Turkey Point Power Plant Units 6	described for alternative 3 except that no other utilities could be built in the corridor, which would lessen the risk of additional impacts of these facilities on special status species. A **wide range of impacts would occur on special-status species, as described for the individual species in the analysis for alternative 3**. The Section 7 determinations for the federally listed species and the impacts on the state-listed species that could potentially occur in the area of analysis are summarized for this and other alternatives in tables 27 and 28 in chapter 4 of the draft EIS. **Transmission lines**: in general, construction and operation of transmission lines in the FPL West Preferred Corridor would have effects on many listed species in the area and have **high risks to wood storks and Everglade snail kites (major adverse impacts for wood stork)** due to proximity of the lines to nesting and foraging locations. The park would	since this would mean no impediments to ecosystem restoration projects could occur from future use of this parcel. A **wide range of impacts would occur on special-status species** from transmission line construction, as described for the individual species in the analysis for alternative 1b. The Section 7 determinations for the federally listed species and the impacts on the state-listed species that could potentially occur in the area of analysis are summarized for this and other alternatives in tables 27 and 28 in chapter 4 of the draft EIS. **Transmission lines**: in general, construction and operation of transmission lines in the FPL West Secondary Corridor would have impacts on many listed species in the area and have **high risks to avian species,** especially wood storks and Everglade snail kites (**major adverse impacts**), due to

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(USFWS) and state resource agencies, to participate in the Turkey Point Power Plant Units 6 and 7 project, and work to mitigate adverse impacts on these species. However, some losses may be unavoidable. **Transmission lines: no impacts** (no transmission line construction assumed)	**impacts**), due to proximity of the lines to nesting and foraging locations. The park would continue to coordinate with the USFWS and state resource agencies, to participate in the Turkey Point Power Plant Units 6 and 7 project, and work to mitigate adverse impacts on these species. However, some losses may be unavoidable.	species that are known to inhabit disturbed or open areas would be expected to be higher due to the location of the lines farther away from known nesting and foraging locations. The routing of the corridor east about one mile south of the Tamiami Trail helps to decrease (but not eliminate) the risk to wood stork, snail kite, and wading birds that nest in the northeast corner of the park. The park would continue to coordinate with USFWS and state resource agencies to participate in the Turkey Point Power Plant Units 6 and 7 project, and work to mitigate adverse impacts on these species. However, some losses may be unavoidable.	and 7 project, and work to mitigate adverse impacts on these species. However, some losses may be unavoidable.	continue to coordinate with USFWS and state resource agencies to participate in the Turkey Point Power Plant Units 6 and 7 project, and work to mitigate adverse impacts on these species. However, some losses may be unavoidable.	proximity of the lines to nesting and foraging locations. The park would continue to coordinate with USFWS and state resource agencies to participate in the Turkey Point Power Plant Units 6 and 7 project, and work to mitigate adverse impacts on these species. However, some losses may be unavoidable.

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Viewshed (Visual Resources)					
NPS action: no impacts on viewshed. **Transmission lines: no impacts** (no transmission line construction assumed)	**NPS action: no impacts** on viewshed. **Transmission lines: short term, minor to moderate, adverse impacts** during construction and **long term, ranging from minor to major and adverse** from the introduction of three transmission lines into a wilderness-like setting. The intensity of the adverse impact would vary with the location in the park and be greatest for recreationists such as canoeists near the Tamiami Trail and for others as they approach this area and the transmission lines from trails or on the roadway.	**NPS action: no impacts** on viewshed. **Transmission lines**: impacts range from **negligible to moderate adverse impact**, **depending on where the transmission lines were built i**n the West Consensus Corridor. **Short-term minor to moderate adverse impacts** during construction. Generally, impacts on park visual resources would be greater where the West Consensus Corridor is adjacent to the park boundary and minimal where the corridor turns east away from the park. Impacts on visual resources viewed from residential locations would be greater along portions of the line that occur closer to the West Consensus Corridor. In the park, alternative 2 would contribute **long-term adverse negligible impacts**.	**NPS action: no impacts** on viewshed. **Transmission lines: short-term minor to moderate adverse impacts** during construction and **minor to major adverse impacts** from the introduction of three transmission lines in the current eastern park boundary. The most severe impacts would be where the transmission lines cross the Tamiami Trail and from the L-31N canal.	**NPS action: no impacts** on viewshed. **Transmission lines**: Impacts would be the same as described under alternative 3, with potential for slightly less adverse impacts under this alternative from the restriction to only three transmission lines with no other utility infrastructure within the corridor. Indirect impacts on visual resources would result from the construction of the transmission lines on the eastern edge of the park and would include **short-term minor to moderate adverse impacts** during construction and **minor to major adverse impacts** from the introduction of three transmission lines within the current eastern park boundary. The most severe impacts would be where the transmission lines cross the Tamiami Trail and from the L-31N canal.	**NPS action: no impacts** on viewshed. **Transmission lines**: impacts would be the same as described under alternative 1b and include **short term, minor to moderate, adverse impacts** during construction and **long term, adverse impacts ranging from minor to major** from the introduction of three transmission lines into a wilderness-like setting. The intensity of the adverse impact would vary with the location in the park and be greatest for recreationists such as canoeists near the Tamiami Trail and for others as they approach this area and the transmission lines from trails or on the roadway.

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Wilderness					
NPS action: indirect long-term major adverse impacts because the FPL corridor would remain under FPL ownership, which precludes the area from being managed as part of a designated wilderness area, would result in the inability to restore natural water conditions to the area, preventing the reestablishment of wilderness character, and allows the introduction of disturbances to wilderness quality. **Transmission lines: no impacts** (no transmission assumed)	**NPS action: indirect long-term major adverse impacts** because the FPL corridor would remain under FPL ownership, which precludes the area from being managed as part of a designated wilderness area and allows the introduction of disturbances to wilderness quality. **Transmission lines: short-term moderate adverse impacts** during construction and **long term major adverse impacts** on wilderness characteristics from the presence and operation of the lines.	**NPS action: indirect long-term beneficial impacts** because the acquisition gives the NPS the ability to manage the acquired area consistent with wilderness goals. **Transmission lines: short-term negligible to moderate adverse impacts and long-term negligible to moderate adverse impacts**, depending on the location of the lines in the area and the proximity to the park.	**NPS action: indirect long-term beneficial impacts** because the exchange would result in flow restoration that would benefit wilderness character and the ownership of this area being placed solely with the NPS, who could then manage the corridor as wilderness. **Transmission lines: short-term moderate adverse impacts** on the wilderness character of the EEEA from construction. The continued presence of the transmission lines in the FPL West Preferred Corridor would result in **long-term moderate adverse impacts** on the wilderness character of the EEEA, This could affect the wilderness designation of adjacent lands in the park.	**NPS action: indirect long-term beneficial impacts**; essentially the same as described under alternative 3, with benefits occurring from the land exchange itself, except that no other utilities could be built in the corridor, which would lessen the risk of additional impacts of these facilities on wilderness in this area. **Transmission lines**: same as alternative 3; adverse impacts would include **short- and long-term moderate adverse impacts** on the wilderness character of the EEEA.	**NPS action: indirect beneficial impacts** from having a long-term flowage easement agreement, but with **long-term indirect moderate adverse impacts** would occur as a result of the corridor remaining under FPL ownership, which would preclude the area from being managed as wilderness and overshadow any flowage benefits to wilderness character of the area. **Transmission lines: short-term moderate and long-term major adverse impacts** on wilderness characteristics (like alternative 1b).
Visitor Use and Experience / Recreation Resources					
NPS action: indirect long-term major adverse impact because The lack of a flowage easement on the FPL property would prevent the implementation of ecosystem restoration activities. The resulting degradation of natural	**NPS action: indirect long-term major adverse impacts** would result from the inability to flow higher water levels across the FPL property. **Transmission lines: short-term moderate to major adverse impacts** during construction and	**NPS action: indirect long-term beneficial impacts** because the acquisition would allow ecosystem restoration projects to proceed and visitors to experience an improved ecosystem **Transmission lines: short-term minor to**	**NPS action: indirect long-term beneficial impacts** from the exchange of property which would allow ecosystem restoration projects to proceed and visitors to experience an improved ecosystem. **Transmission lines: short-term minor to moderate**	**NPS action: indirect long-term beneficial impacts** from the fee for easement exchange of property in the EEEA (like alternative 3). **Transmission lines: short-term minor to moderate adverse impacts** during	**NPS action: indirect long-term beneficial impacts** from the acquisition of a flowage easement on the FPL property in the EEEA, allowing ecosystem restoration projects to proceed and visitors to experience an improved

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resources would prevent visitors from experiencing a healthy ecosystem and enhanced wildlife viewing opportunities in the EEEA and the Water Conservation Areas (WCAs) north of Tamiami Trail. **Transmission lines: no impacts** (no transmission line construction assumed)	long-term moderate to **major adverse impacts** from the introduction of three transmission lines into a backcountry setting as well as from noise and visual impacts along the L-29 canal and the lack of a restored ecosystem.	**moderate adverse impacts** during construction and **no impact to long-term moderate adverse impacts** from the introduction of three transmission lines in an area that is somewhat undeveloped and is highly used by recreational users along the western boundary of the West Consensus Corridor.	**adverse impacts** during construction and **long-term minor to moderate adverse impacts** on visitor use and experience and recreation resources from the introduction of three transmission lines along the L-31N canal (**moderate adverse** impacts on users and visitors along the L-31N canal; **minor adverse** impacts on visitors located in the park's interior).	construction and **long-term moderate adverse impacts** from the introduction of three transmission lines along the L-31N canal. Also, no other utilities could be built in the corridor, which would lessen the risk of additional impacts of these facilities on visitor use and experience in this area.	ecosystem. **Transmission lines**: similar to as alternative 1b - **short-term moderate to major adverse impacts** during construction and **long-term minor to moderate adverse impacts** from the introduction of three transmission lines into a wilderness-like setting as well as from noise and visual impacts along the L-29 canal.
Adjacent Land Uses and Policies					
NPS action: indirect long-term major adverse impacts on land use policy at Everglades National Park through the retention of FPL lands within the park. These impacts would result because of the conflict with park's long standing management direction in the Expansion Act and the LPP to acquire private properties in the expansion area and the elimination of incompatible uses from the area. **Transmission lines:**	**NPS action: indirect long-term major adverse impacts** on land use policy at Everglades National Park – same as 1a. **Transmission lines: major adverse impacts** on land use at Everglades National Park from transmission line construction through the park.	**NPS action: indirect long-term beneficial impacts** would occur as a result of fulfillment of the park's long standing management direction to acquire private properties in the expansion area and the elimination of incompatible uses from the area. **Transmission lines: long-term minor to possibly major adverse impacts** on land uses/policies in the area of relocated corridor, depending on the location of the corridor in the area; with	**NPS action: indirect long-term beneficial impacts** would accrue to land use from the change in land ownership from FPL to NPS; however, **major adverse indirect impacts** would also occur from removing 260 acres of land deemed critical to the park per the 1989 Expansion Act. **Transmission lines: Indirect long –term major adverse impacts** on land use would occur as a result of the subsequent construction of transmission lines along the FPL West Preferred Corridor because there are conflicts with County Comprehensive Plan	**NPS action: indirect long-term beneficial impacts** would accrue to land use from the fulfillment of the direction to acquire the FPL parcel in the park. **Transmission lines: indirect long-term major adverse impacts** would occur as a result of land use incompatibility issues following construction of transmission lines along the FPL West Preferred Corridor, although there would be some additional control by way of easement, as the park must approve any FPL	**NPS action: indirect long-term beneficial impacts** would accrue to land use from acquiring the flowage easement but still have not acquired the corridor-**major adverse impact**. **Transmission lines: indirect long-term major adverse impacts** on land use from the introduction of a three transmission lines into a park-like setting and the presence of an incompatible land use within the park and in conflict with the county comprehensive development master

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
no impacts (no transmission line construction assumed).		careful siting and coordinated planning, would expect impacts to be **minor to moderate adverse**.	language regarding transmission lines in the East Everglades Area of Critical Environmental Concern and the lines would be immediately adjacent to the park.	construction in the easement.	plan designation of the area as an area of critical environmental concern.
Tribal Lands Including Indian Trust Resources					
NPS action: no impacts on tribal lands. **Transmission lines: no impacts** (no transmission line construction assumed).	**NPS action: no impacts** on tribal lands. **Transmission lines: long-term moderate adverse impacts** from the construction of transmission lines through the EEEA and WCA 3B management areas.	**NPS action: no impacts** on tribal lands. **Transmission lines: long-term minor adverse impacts** on tribal lands, including Indian trust resources due to the proximity to tribal lands and the change in viewshed from the casino property.	**NPS action: no impacts** on tribal lands. **Transmission lines: long-term moderate to major adverse impacts** on tribal lands, including Indian Trust resources due to the change in viewshed to the west from the Indian Gaming and Resort Facility property and other Indian Trust and tribal lands in that area.	**NPS action: no impacts** on tribal lands. **Transmission lines: long-term moderate to major adverse impacts** on tribal lands, including Indian Trust resources due to the change in viewshed to the west from the Indian Gaming and Resort Facility property and other Indian Trust and tribal lands in that area. Also, no other utilities could be built in the corridor, which would lessen the risk of additional impacts of these facilities on views in this area.	**NPS action: no impacts** on tribal lands. **Transmission lines: long-term minor to moderate adverse impacts** on tribal lands, including Indian Trust resources due to the change in viewshed to the west from the Indian Gaming and Resort Facility property.

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Socioeconomics					
NPS action: no impacts on socioeconomics. **Transmission lines: no impacts** (no transmission line construction assumed).	**NPS action: no impacts** on socioeconomics. **Transmission lines: short-term beneficial impacts** during construction on jobs and income in the region and **short-term negligible impacts** on adjacent residents and property values. There are no expected impacts on electricity rates under alternative 1b.	**NPS action: no impacts** on socioeconomics. **Transmission lines: short-term beneficial impacts** on jobs and income during construction and possible **short-term minor adverse impacts** on adjacent residents and property values. Future FPL electrical generation and transmission development costs combined with the additional right-of-way costs under this alternative could have an adverse impact on electrical infrastructure development costs, although the extent of this effect is uncertain at this time. The impact of these costs on electricity rates is also uncertain.	**NPS action: no impacts** on socioeconomics. **Transmission lines: short-term beneficial impacts** on jobs and income in the region and **short-term minor impacts** on adjacent residents and property values. There are no expected impacts on electricity rates under alternative 3.	**NPS action: no impacts** on socioeconomics. **Transmission lines: short-term beneficial impacts** on jobs and income in the region and **short-term minor impacts** on adjacent residents and property values. There are no expected impacts on electricity rates under alternative 4.	**NPS action: no impacts** on socioeconomics. **Transmission lines: short-term beneficial impacts** on jobs and income in the region and short-term and possibly **long-term negligible impacts** on adjacent residents and property values. There are no expected impacts on electricity rates under alternative 5.

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Park Operations and Management					
NPS action: continued **minor to moderate adverse impacts** from the inability to manage the EEEA as one contiguous parcel. **Transmission lines: no impacts** (no transmission line construction assumed).	**NPS action: long-term minor to moderate adverse impacts** from the FPL retention of property in the EEEA. **Transmission lines: long-term minor to moderate adverse impacts** from the construction of transmission lines in the FPL West Secondary Corridor; also **short- and long-term minor to moderate adverse impacts** both during the construction phase and following the completion of the lines.	**NPS action: long-term beneficial impacts** from the consolidation of ownership in the EEEA as well as **short-term negligible to minor adverse impacts**. **Transmission lines: no impacts** (no transmission line construction on NPS land).	**NPS action:** long-term **beneficial impacts and negligible to minor adverse impacts** as described in alternative 2. **Transmission lines: short-term minor to moderate adverse impacts** during the construction phase and **long-term negligible to minor adverse impacts** following the completion of the lines.	**NPS action:** Impacts would be the same as under alternative 3, with **beneficial impacts** from the land exchange except that this is an easement agreement that may require more staff involvement to monitor use of park property, so **long-term minor adverse impacts**. **Transmission lines: short-term minor to moderate adverse impacts** during the construction phase and **long-term negligible to mostly minor adverse impacts** following the completion of the lines.	**NPS action: same as alternative 1b; and additional long-term minor to moderate impacts f**rom the FPL retention of property in the EEEA and additional oversight and monitoring of easement. **Transmission lines: short- and long-term minor to moderate adverse impacts** both during the construction phase and following the completion of the lines.

CHAPTER 3
Affected Environment

CHAPTER 3: AFFECTED ENVIRONMENT

The "Affected Environment" chapter describes existing conditions for those elements of the natural and cultural environments that would be affected by the implementation of the alternatives considered in this environmental impact statement (EIS). Impacts for each of these topics are analyzed in "Chapter 4: Environmental Consequences."

Many affected environment topics are focused on the potential transmission line routes going into or around the park that are reasonably foreseeable outcomes associated with the proposed action. These resources are described for the project area (see figure 4, chapter 1) and generally include the areas in and around the Florida Power & Light Company (FPL) West Secondary and West Preferred Corridors and the West Consensus Corridor to the east of the park. These descriptions address the resources that would be affected leading from and to the points of nexus for these routes, as shown in figure 4, in what is referred to as the 8.5-square-mile area east of the park and in the Water Conservation Area (WCA) 3B area to the north. The affected environment for birds and socioeconomics has a much broader area described due to the nesting, foraging, and flight patterns of the species and larger economic impacts of the land transfer.

HYDROLOGY

The Everglades once covered nearly 4,000 square miles from Lake Okeechobee to Florida Bay and the Gulf of Mexico. The original Everglades were a flow-way from Lake Okeechobee southward. Shallow water derived from direct rainwater and from overflows from Lake Okeechobee moved southward as sheet flow, rather than as channelized flow as with rivers and streams (NPS 2010c).

The natural hydrologic regime and the ridge and slough landscape that once characterized all of the Everglades are highly degraded in Northeast Shark River Slough (NESRS) (NPS 2010c). This is largely the result of the placement of canals, levees, and other hydrological engineering structures in key areas throughout the greater Everglades ecosystem. Development for urban uses, agriculture, water supply, and flood control are all forces that continue to impact NESRS. In addition, operation of the hydrologic infrastructure to meet existing water supply and flood control demands continues to maintain a drier-than-normal condition in NESRS. Hydrologic features in the project area are shown in figure 7.

HISTORIC HYDROLOGY

The historic Everglades were part of a much larger natural landscape originating in south-central Florida in what is now known as the Upper Chain of Lakes near Kissimmee, Florida. The lake system formed the headwaters of the Kissimmee River, a 100-mile-long, meandering, low gradient river that emptied into Lake Okeechobee. During high water events, the lake, much larger than its present-day surface area of approximately 1,090 square miles, would spill over its southern rim, into the northern part of the Everglades. This area was dominated by vast sawgrass plains. Eventually, the southward movement of water through the sawgrass plains formed the source of water for the ridge and slough landscape. The central feature of the historic Everglades hydrology was a 30-mile-wide expanse of relatively shallow water moving downstream through the low-gradient wetland landscape. The pattern of water flow was remarkable for its regional uniformity across such a broad expanse, and for the absence of any central drainage channel or of any dendritic drainage pattern. Pine flatwoods and pine rocklands formed most of the eastern boundary of this flow, and the western boundary was defined by the Immokalee Rise and the relatively higher wetlands and uplands of what is now the Big Cypress National Preserve. Much of the flow discharged south and west through Shark River Slough (SRS), one of the principal pathways for water to slowly drain southward from Lake Okeechobee. Its original course was southeast from the lake,

gradually curving south and then southwest (through what are now WCAs 2 and 3). It trends southwest inside Everglades National Park (the park) through the mangrove estuaries of the coast, into the Gulf of Mexico. South of and including the New River (Fort Lauderdale), the pine flatwoods were absent and the Atlantic Coastal Ridge became discontinuous, forming a series of islands separated by coastal rivers. These rivers thus resulted in a portion of the flow being discharged eastward into Biscayne Bay and the Atlantic Ocean. The remainder of the flow discharged southward through Taylor Slough into Florida Bay. Because of south Florida's porous geology dominated by limestone overlain by thick peat deposits, the boundaries between surface water and ground water flow were not always distinct (SCT 2003).

CURRENT HYDROLOGY

Hydrology in NESRS, and in the Everglades generally, has been drastically altered over the past century. The placement of canals, levees, and other hydrological engineering structures has a major ongoing effect on regional and local hydrology. Surface flow into NESRS from the north was substantially reduced by the construction of Tamiami Trail in the late 1920s. Levees and canals authorized and constructed from the late 1940s to the 1960s under the Central and Southern Florida (C&SF) project have divided the former Everglades into areas designated for urban and agricultural development, and areas for fish and wildlife benefits, natural system preservation, and water storage (USACE and NPS 2008). The natural areas consist of three WCAs located north of Tamiami Trail (U.S. Highway 41) and Everglades National Park. The WCAs are large areas set aside for water conservation and for Everglades wildlife. Water enters the WCAs from rainfall, from the agricultural area to the north, and from parts of the east coast region. The levees surrounding the WCAs cutoff all surface water flow into NESRS and still function to impound the Everglades. Subsequent modifications to the C&SF project resulted in the ability to move water from the WCAs into NESRS.

Contemporary Alterations to Flows in Northeast Shark River Slough

Hydrologic engineering in the Everglades began in earnest during the late 19th and early 20th centuries. During the 1890s, people drained over 50,000 acres of wetlands, opened the Kissimmee River for navigation, and linked the Caloosahatchee River to Lake Okeechobee. By 1917, four major canals traversed the Everglades from Lake Okeechobee to the Atlantic Ocean, short-circuiting the historic, north-to-south pattern of flow and greatly accelerating the removal of water from the Everglades (SCT 2003).

One of the most significant hydrologic alterations affecting NESRS was the construction of Tamiami Trail, which was completed in 1928. The construction of this roadway created an impediment to natural water flows within the Everglades, slowing and blocking water flow south into the southern Everglades. By impeding natural flows, Tamiami Trail created two separate landscape types, where once there had been a continuous landscape type. The construction of Tamiami Trail impounded and altered SRS, effectively creating a barrier through the Everglades between the northern Everglades and what would eventually become Everglades National Park, for which Tamiami Trail became the northern boundary (SCT 2003). Shortly after the completion of Tamiami Trail, bridges were installed along the road to allow water to flow beneath the roadway. Concrete culverts replaced the bridges in NESRS in 1952 and constituted the only path by which water traveled from the L-29 canal located along the north side of Tamiami Trail into NESRS (NPS 2010c) until 2013. Structure S333, completed in the early 1980s, currently provides the ability to move water from WCA 3A into the L-29 canal from where it can either flow into NESRS or through S334 to the urban area to the east. A 1-mile bridge along the Tamiami Trail was completed in 2013, providing additional conveyance capacity into NESRS from the L-29 canal.

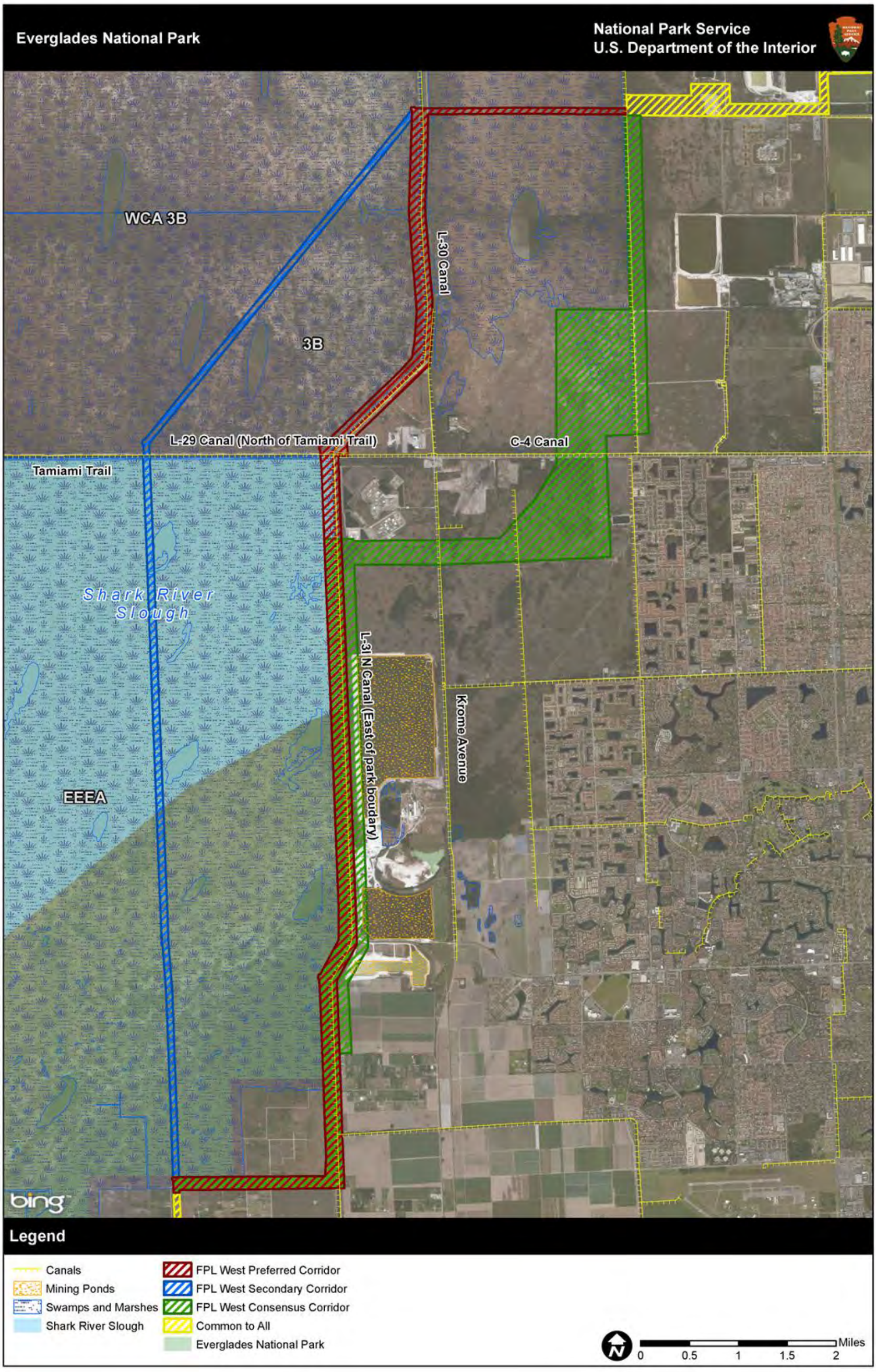


FIGURE 7: HYDROLOGIC FEATURES IN THE PROJECT AREA

Various levees and gated structures authorized under the C&SF project of 1948, combined with the flow-impeding effects of Tamiami Trail, now impose substantial alterations upon the volume, timing, and duration of flows to NESRS. On an annual average, seventy-eight percent of contemporary flows are now directed to the west through the S12 structures, and only 22 percent are directed through NESRS (NPS 2010c). Under natural conditions, the eastern half of SRS would have had approximately 65 percent of annual flows and the western half 35 percent (NPS 2010c). With such an immense alteration in annual flows, hydrology in NESRS does not currently resemble what might be expected under historic conditions.

Contemporary Sources of Flows in Northeast Shark River Slough

NESRS was over-drained for many years. Flows to the L-29 canal were cut off beginning with the completion of the initial C&SF project features in the 1960s until the completion of the S-333 water control structure of the early 1980s. The majority of the surface water now delivered to NESRS originates from surface water runoff, rainfall, and groundwater seepage from the WCAs created under the authority of the C&SF project. Thus, the hydrology of NESRS is ultimately dependent on flows from these WCAs. WCA 3A is the primary source of flows to all of SRS (western and northeast). Water from WCA 3A flows through the S-333 water control structure, into L-29 canal, and then through the concrete culverts and the 1-mile bridge beneath Tamiami Trail into NESRS (NPS 2010c).

Aquifer Recharge and Public Water Supply

The NESRS is part of the recharge area for the Biscayne Aquifer which is the sole source of potable water in Miami-Dade (M-D) and Broward Counties. The aquifer is exposed at the surface of this area or is covered by a thin layer of peat and plant material. Because the health, safety, and welfare of present and future residents of the Miami-Dade County depend upon protecting the hydrology and ecology of this area, the County designated it an Area of Critical Environmental Concern in 1981. This designation is discussed further in the “Adjacent Land Uses and Policies” section.

Hydrology East and Northeast of the Park Boundary

L-31N levee serves as the eastern edge of the park in this area as well as the existing hydrologic edge to the slough. The area to the east of the L-31N levee was once part of the SRS, but the hydrology has been greatly altered through drainage and changes in use. The southeastern portion of this area has been filled and converted to agricultural uses, and there is a large rock mine immediately east of the canal. The northeastern portion of this area, referred to as the Bird Drive basin, still consists of an isolated, degraded wetland cut off from the wetlands to the west and north by the L-31N and Tamiami canals, respectively. However, these areas east of the park boundary are still hydrologically connected to NESRS by groundwater flows in the Biscayne aquifer. The northern portion of the West Consensus Corridor, north of the Tamiami canal, contains the Pennsuco wetlands, but these wetlands have been largely cut off from the regional water circulation as a result of construction of canals and levees (Dade County 1989). However, like the Bird Drive basin, the Pennsuco wetlands are hydrologically connected to the marsh to the west by groundwater flows.

WATER QUALITY

WATER QUALITY WITHIN THE PARK BOUNDARY

Historically, the central and southern Everglades were a phosphorus-limited, oligotrophic system in which ambient levels of phosphorus were less than 10 parts per billion (Lodge 2005; McCormick et al. 1996) within a very slow-flowing system. Phosphorus limitation historically allowed for extreme competition for biologically available phosphorus.

There have been a variety of changes to water quality in the park that have resulted from hydrologic changes in the Everglades and the development that has occurred in south Florida since the late 19th century. Important water quality chemicals and parameters in the Everglades include nutrients, sulfate, mercury, pesticides, major ions and total dissolved solids (TDS), and dissolved organic matter (USACE 2005; NPS 2010c; Aiken et al. 2011; Aiken et al. 2003). Nutrients, specifically phosphorus, can be of particular concern when in excess given the Everglades' naturally phosphorus-limited and oligotrophic character.

Nutrients

NESRS faces a number of water quality problems that are a result of excessive nutrients in the system. All waters in the park were historically phosphorus-limited and, therefore, phosphorus pollution can have a very serious effect upon the biological resources of the park. Total phosphorus is currently a very serious concern throughout the Everglades, including in NESRS (Miller, McPherson, and Haag 1999; NPS 2010c). The ultimate effect of increased total phosphorus levels is eutrophication of the marsh that causes subtle, but important changes in soil chemistry, and a noticeable change in the plant and animal communities over time, with cascading ecological effects (Gaiser et al. 2005; Gaiser et al. 2007). Ultimately, this process can lead to the reduction or loss of a waterbody's value as habitat and/or as a recreational area. The major source of phosphorus pollution in the park is runoff from agricultural areas north and east of the park, and from urban lands (Miller, McPherson, and Haag 1999). Nutrient levels in SRS have been hovering just at the non-compliance point relative to the 1992 Consent Decree that was the result of the 1988 lawsuit by the federal government concerning water quality in the Everglades. In that decree, a phosphorus criterion was set at 10 ppb. The Consent Decree for specific total phosphorus criteria differs by regions within the Everglades Protection Area. For example, for SRS the long-term limit for the flow-weighted mean total phosphorus concentration ranges from < 8 to <13 ppb (NPS 2005).

The U.S. Environmental Protection Agency (EPA) water quality criteria, and Florida's water quality standards for total phosphorus in outstanding waters, such as the Everglades, maintain that total phosphorus is ecologically harmful when it reaches levels in excess of 10 (µg/L) (10 ppb) in this area (Miller, McPherson, and Haag 1999; FDEP 2009). Above this level, total phosphorus can cause an imbalance in levels of Everglades flora and fauna (NPS 2010c). Studies have demonstrated that the biological community structure in NESRS is altered even by very small (5 µg/L, or 5 ppb above ambient conditions) phosphorus inputs to the system due to increased total phosphorus loading (Gaiser et al. 2005; Gaiser et al. 2007). Within a spikerush/periphyton community in central SRS, a phosphorus input of this magnitude caused changes in the periphyton and floc in the Everglades after two months, soils after three years, fish after four years, and macrophytes in the fifth year (Gaiser et al. 2005; Gaiser et al. 2007).

The NESRS has had issues with total phosphorus pollution since the late 1990s. A 1996–1997 U.S. Geological Survey (USGS) water quality survey conducted along Tamiami Trail from the Big Cypress Swamp to the Everglades revealed that there were elevated levels of total phosphorus in the East Everglades Expansion Area (EEEA) (Miller, McPherson, and Haag 1999). Discharges to the park from the Bird Drive basin and Pennsuco Wetlands north and east of Tamiami Trail appear to be contributing

phosphorus to NESRS, which is impacting the composition of the biological community, since even minute contributions of phosphorus can change the biological community once the soils change (Gaiser et al. 2005; Gaiser et al. 2007). Data from 1991–2011 showed the following mean total phosphorus concentrations:

- 0.012 µg/L (12 ppb) at the S-333 monitoring station at the intersection of L-67 and L-29 (a mean total phosphorus concentration)
- 0.013 µg/L (13 ppb) at the SAFARI monitoring station along L-29, several miles to the east of S-333
- 0.013 µg/L (13 ppb) at the eastern-most L-29 monitoring station, TAMBR1 (SFWMD 2013).

Overall, there are multiple indicators that the portion of NESRS downstream of the Tamiami Trail culvert sets is being affected by elevated levels of nutrients, and the biological community of NESRS shows signs of having been affected by increased total phosphorus. Changes include the establishment of cattail plumes, and changes in the periphyton, soils, fish, and macrophytes (NPS 2010c).

Mercury

Mercury pollution is also an issue in the Everglades, both inside and outside the park. Mercury is a pollutant usually found in one of three forms, including the bioavailable form of methylmercury. Methylmercury is extremely toxic to fish, wildlife, and human beings and can cause a variety of growth problems, neurologic and behavioral disorders, and even organism death (Lodge 2010). It is a particularly harmful pollutant because it bioaccumulates and persists in the aquatic environment (Fink, Rumbold, and Rawlik 1999). Of the 21 basins surveyed nationwide in Miller, McPherson, and Haag (1999), the Everglades has the second highest ratio of methylmercury to mercury in sediment. Conversion of other forms of mercury to the bioavailable methylmercury enhances mercury uptake by organisms. The sources for mercury include atmospheric deposition, stormwater runoff, and groundwater deposition, with atmospheric deposition accounting for more than 95 percent of new mercury reaching the Everglades annually (Fink, Rumbold, and Rawlik 1999). Methylation of inorganic mercury occurs in the wetland and aquatic environment, and the Everglades is known to particularly favor the production of methylmercury (USGS 2000). Methylation is a complex process affected by a number of factors, and mercury can be converted among its three forms in the aquatic environment. Mercury can bind to soils and settle to the bottom, or be diffused into the water column and become resuspended, where it can be methylated. Factors such as higher concentrations of sulfate, and higher acidity in the water column or dissolved organic carbon can increase methylation. Methylation in the Everglades sediments is caused primarily by the activity of sulfate reducing bacteria (Gilmour et al. 2004). Methymercury forms largely in anaerobic sediments and then moves through the food chain. Availability of methylmercury and rates of methylation are also increased when soils are rewetted after periods of being dry (Gilmour et al. 2004).

SRS is a methylmercury “hot spot,” as evidenced by annual mercury medians for largemouth bass that exceeded the EPA guidance criterion for all years sampled between 1993 and 2008 (SFWMD 2009; NPS 2010c). Mosquitofish, sunfish, and largemouth bass throughout SRS continue to have very high mercury levels (SFWMD 2009). These findings continue to suggest that animals in the park are exposed to methylmercury levels exceeding the acceptable dose (SFWMD 2009).

Pesticides

Pesticide monitoring within South Florida Water Management District (SFWMD) has been ongoing since 1976, with the routine ambient monitoring program beginning in 1984 (Pfeuffer 2009). Pesticide levels are typical of what could be expected in an area of intensive historic and contemporary agricultural

activity (NPS 2010c).The most frequently detected pesticides in SRS (detected at monitoring sites along the L-29 canal from 2008 through 2011) are atrazine, ametryn, metribuzin, and simazine, hexazinone, norflurazon, and, along with the insecticide/degradate atrazine desethyl in water samples (NPS 2010c). In addition, insecticides and degradates of DDE, DDD, alpha endosulfan, beta endosulfan, and endosulfan sulfate have been found in the sediment samples taken from several locations (NPS 2010c; Pfeuffer 2011). For the most part, these contaminants are not at levels that exceed water quality thresholds. Arsenic has been detected in sediments along the Tamiami Trail during the construction of the 1-mile bridge at levels that exceeded the threshold levels for Miami-Dade County (Castro et al. 2013).

Dissolved Organic Matter

High dissolved organic matter concentrations provide food for bacteria to grow, reduce light penetration in the water, and enhance transport and cycling of hydrophobic compounds such as pesticides and trace elements such as mercury (Aiken et al. 2011; Aiken et al. 2003). Concentrations of dissolved organic matter along Tamiami Trail ranged from 4.8 to 26.9 mg/L. Dissolved organic matter concentrations at this level can affect a number of water chemistry processes in NESRS, including those that affect transport and cycling of pesticides and mercury, availability of nutrients, and influence pH in the aquatic environment (Aiken et al. 2011). There is a high natural production of natural carbon in the peat soils and wetlands of the Everglades, and relatively high carbon content in the shallow groundwater systems that underlie the Everglades (Aiken et al. 2011). There are similar water quality concerns in the wetlands in the area of analysis outside the park.

Water Quality in Waters East and Northeast of the Park

Water quality in WCA 3A north and northeast of the park is monitored by the SFWMD, and has similar water quality issues to the park. Data specific to the waters east of the park were not available, but because of current or past similarity of the waterbody types to NESRS, the same water quality parameters are of interest in the waters east of the park as they are in waters inside the park. However, due to the segmented hydrology east of the park, and the fact that these areas area also more proximate to developed areas (including residential, commercial, and agricultural areas), the water quality concerns are more pronounced, and include concerns about elevated phosphorus, pesticides, sulfate, mercury, and dissolved organic matter.

Everglades National Park as an Outstanding Florida Water

The State of Florida included Everglades National Park as an Outstanding Florida Water under Florida Administrative Code 62-302.700. The Florida Department of Environmental Protection (FDEP) requires that Outstanding Florida Waters receive special consideration in issues related to water quality (FDEP 2009).

SOILS

The soil map units identified by the Natural Resources Conservation Service in the area of analysis for soils are depicted on figure 8. A map unit consists of one or more soils for which the unit is named. Soils that are almost alike, except for differences in the texture of the surface layer or underlying material, make up a soil series. Soil series can be further divided into soil phases on the basis of slope, salinity, wetness, and other factors that influence their use. A description of the soil series found within the area of analysis is included in table 4.

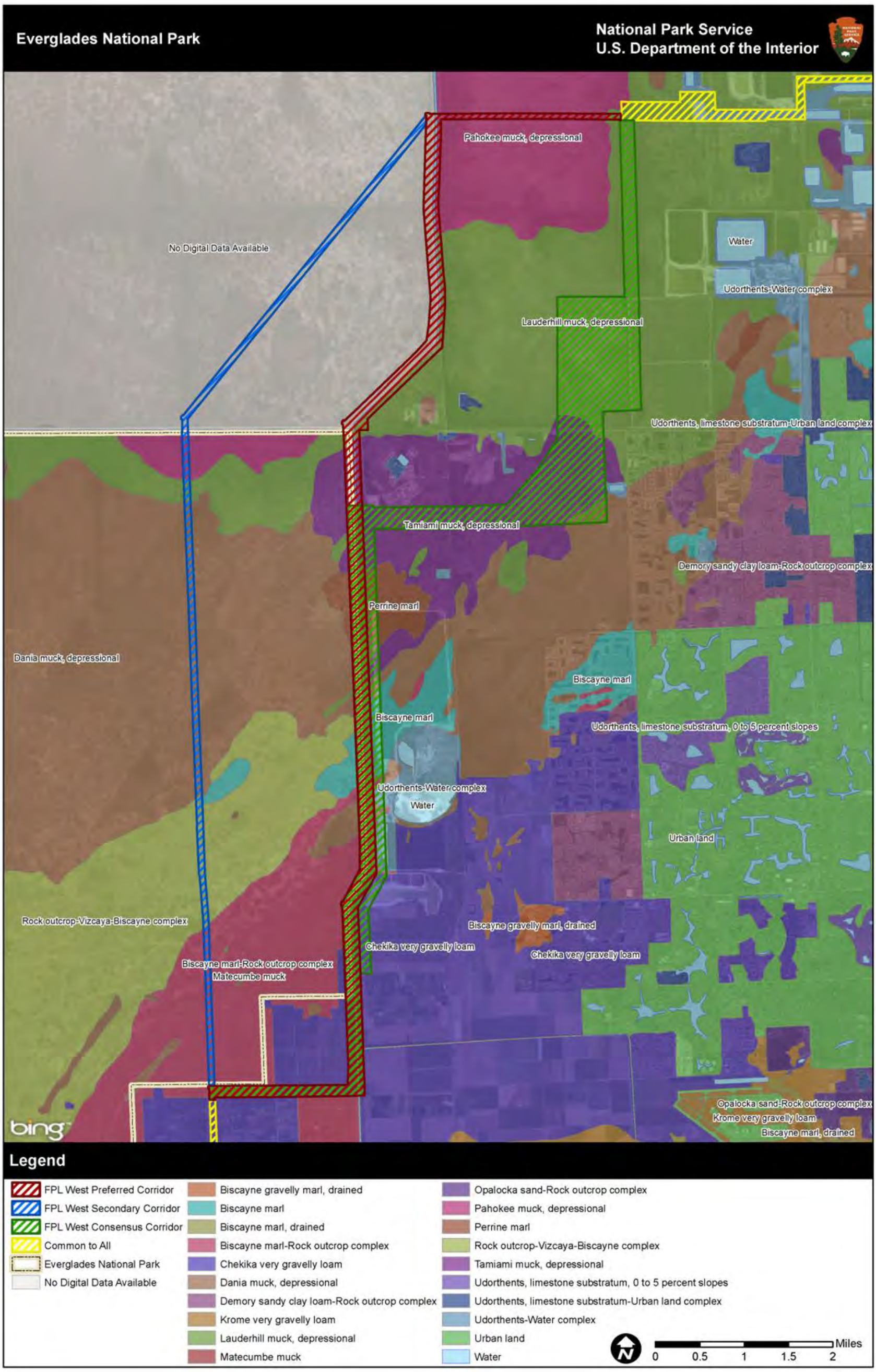


FIGURE 8: SOIL MAP UNITS

TABLE 4: SOIL SERIES DESCRIPTIONS

Soil Series	General Characteristics
Biscayne	The Biscayne series consists of shallow, poorly and very poorly drained, moderately permeable soils over limestone. They formed in recent calcareous deposits of dominantly silt-sized sediments that precipitated from marine or fresh water. Slopes range from 0 to 1 percent.
Perrine	The Perrine series consists of moderately deep, poorly drained soils in lowlands along the Atlantic Coast of Peninsular Florida. They formed in calcareous silty and loamy sediments of marine or freshwater origin over limestone. Slopes are less than 1 percent.
Chekika	The Chekika series consists of very shallow, somewhat poorly drained soils over limestone bedrock adjacent to the Miami Ridge. They were formed by the scarification of oolitic limestone outcrops and subsequent filling of cavities and solution holes by marly sediments. Slopes range from 0 to 2 percent.
Dania	The Dania series consists of shallow, very poorly drained, soils in fresh water marshes or swamps on the fringes of areas of deeper organic soils. They formed in thin deposits of well decomposed, hydrophytic herbaceous plant remains over sandy marine sediments overlying limestone bedrock. Slopes are less than 2 percent.
Lauderhill	The Lauderhill series consists of moderately deep, very poorly drained soils in fresh water marshes. They formed in well decomposed, hydrophytic, herbaceous plant remains overlying limestone bedrock. Slopes are 0 to 1 percent.
Pahokee	The Pahokee series consists of deep, very poorly drained soils in fresh water marshes. They formed in 36 to 51 inches of well decomposed, hydrophytic, herbaceous plant remains overlying limestone bedrock. Slopes are 0 to 1 percent.
Tamiami	The Absarokee series consists of moderately deep, well drained soils that formed in residuum or in colluvium derived from argillaceous sandstone and semiconsolidated shale, or in alluvium over bedrock. These soils are on sedimentary plains and hills. Slopes are 0 to 50 percent. Severe hazard of erosion on roads and trails.
Vizcaya	The Vizcaya series consists of very shallow and shallow, very poorly drained, slowly permeable soils over limestone. They formed in loamy, marine, or fresh water sediments. These soils are in broad, low freshwater marshes of the Everglades in Southern Peninsular Florida. Slopes are 0 to 2 percent

Source: USDA 2009a.

Within the area of analysis inside Everglades National Park, the soils are mainly characterized as muck (peat). Mucks, marls, and gravelly loams are present outside the park in the area of analysis. No digital soil data was available for the Everglades and Francis S. Taylor Wildlife Area, which is located just north of the park on the north side of Tamiami Trail. Soils in the WCAs are expected to be similar to those in NESRS, primarily composed of mucks. The soils present in the area of analysis are described in more detail in the sections below.

Soils in the East Everglades Expansion Area and Surrounding Wetlands

The soils in the EEEA are mainly characterized as peat or marl, although there may be areas of rock outcropping (NPS 2010c; U.S. Department of Agriculture, Natural Resources. 1996). Peat is formed over decades under anaerobic conditions during long periods of inundation, in which the volume of decaying plant material exceeds the ability of microbes to decompose it. The northeastern Everglades and SRS are typified by Loxahatchee peat, a peat type that occurs within the deepest marsh areas that contain remnants of slough vegetation, namely that of white water-lily (*Nymphaea odorata*) (Lodge 2005). Once exposed to air, microbe populations increase and decomposition accelerates, leading to soil loss. Such soil loss and soil subsidence has occurred in sawgrass marsh areas of the Everglades Agricultural Area north of the park as a result of early draining activities. According to Ingebritsen et al. (2005), the initial peat

thickness tapered southward from approximately 12 feet near Lake Okeechobee to about 5 feet near the southern boundary of the Everglades Agricultural Area. Subsidence from 3 to as much as 9 feet has occurred in cultivated areas, and uncultivated areas of similar size have subsided as much as 3 feet.

Marls (muds high in calcium) are formed by precipitation of calcite from large mats of submerged periphyton, a diverse assemblage of various algal groups and other microorganisms. These soils were formed in relatively shallow waters with a shorter period of inundation (50–150 days each year) than peat deposits and therefore have higher rates of microbial activity and decomposition of organic matter. Marls cover the extensive peat deposits of the central Everglades (NPS 2010c) and appear within portions of the EEEA in the area of analysis (see figure 8). Marl soils are typically very low in phosphorus content, take many years to form, and are sensitive to physical disturbance. While soils data is not available for WCA 3B, soils at this location are expected to be similar to those within the EEEA and/or adjacent Pennsuco wetlands.

Alteration of historic hydrology and degraded water quality has led to substantial changes in soil conditions throughout the project area. Degradation of ridge and slough patterning, due at least in part to loss of natural soil elevation differences, has been described in NESRS and WCA 3B (SCT 2003, McVoy et al. 2011). Soil subsidence of 1-2 feet has been suggested in the immediate vicinity of the project area (McVoy et al. 2011(for team reference, see pg 194, Figure 8.8)). Data showing loss of local soil elevation differences has been collected in WCA 3B (SCT 2003). Similar vegetation patterning in the Pennsuco wetlands indicates that soil elevation changes have occurred there as well. Unnatural deposition of suspended sediment resulting from the culverting of Tamiami Trail has also been suggested to have degraded soil conditions in the project area (SCT 2003). Based on the presence of cattail, Carolina willow and other plant species indicative of nutrient enrichment immediately south of Tamiami Trail, soils in the northern part of the project area within the park likely have phosphorus levels in excess of historical conditions. In addition to the changes in soils described above for wetlands in the EEEA, WCA 3B and Pennsuco, soils in the Bird Drive basin and surrounding agricultural lands have undergone greater levels of drainage, are more isolated from surrounding wetlands and have experienced significant physical disturbance from off road vehicles, rock mining and agricultural practices. As a result, soils in and around the Bird Drive basin are considered to be substantially more degraded than those in the EEEA, WCA 3B and Pennsuco wetlands. Future restoration projects, when implemented, have the potential to limit further degradation and may restore natural soil forming processes in the EEEA, WCA 3B and Pennsuco wetlands. Soils in the West Consensus Corridor are generally not anticipated to benefit from those restoration efforts.

Soils play an important role in the uptake of nutrients within nutrient-poor wetland systems such as the Everglades. Soils become phosphorus enriched following the capacity of the biota to uptake phosphorus from the water column or detritus (Gaiser et al. 2005). Marls and peat soils are susceptible to physical disturbances. Community structure has been shown to be altered by even minute phosphorus inputs to the system of as little as 5 µg/L above ambient conditions (to a spike rush/periphyton community in central SRS), which caused changes in soils after three years (Gaiser et al. 2005; Gaiser et al. 2007). Ross et al. (2003) reported tall sawgrass (*Cladium jamaicense*) stands in northern SRS that were associated with thicker soils than throughout the rest of the SRS, but within NESRS soils thin from west to east, becoming highly calcareous in drier eastern areas.

SOILS EAST OF THE PARK BOUNDARY

Portions of the West Consensus Corridor have been developed for industrial (mining), agricultural, residential, or commercial uses, which involved soil disturbance and possibly involved placement of fill material. Soils in the northern two-thirds of the area, through Bird Drive basin and north to the Levee substation, are similar to those described above for the EEEA, being mainly marls and mucks (peats).

Existing disturbances in these northern areas tend to be more industrial in nature, with high-intensity development occurring near the quarry and cement factory. Existing disturbances in the southern portion of the area consist of agricultural use and open fields. Soils in these areas are classified as very gravelly loams (NRCS 2010).

Prime or Unique Farmland Soils

Although the project area does not contain any prime farmland soils (see chapter 1), it does contain a soil type that could be classified as a unique farmland soil. The Natural Resource Conservation Service policy and procedures on unique farmland are published in the Federal Register, Vol. 43, No. 21, January 31, 1978. Unique farmland is land, other than prime farmland, that is used for the production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce economically sustained high quality and/or high yields of a specific crop when treated and managed according to acceptable farming methods. Examples of crops are tree nuts, olives, cranberries, citruses and other fruits, and vegetables (NASS 2013). Unique farmland is not based on national criteria. One soil type that could be classified as a unique farmland soil is the Chekika very gravelly loam that occurs within a small portion of the EEEA and covers a more extensive area south and east of the park boundary (figure 8).

VEGETATION AND WETLANDS

Everglades National Park is the only place in the U.S. jointly designated as an International Biosphere Reserve, a World Heritage Site, and a Wetland of International Importance. These designations are based largely on the unique hydrologic and wetland environment found in the Everglades ecosystem. In 2010, Everglades National Park was relisted as a World Heritage Site in Danger because of serious and continuing degradation of its aquatic ecosystem (UNESCO 2010).

OVERVIEW OF NORTHEAST EVERGLADES VEGETATION/WETLANDS AND ECOLOGICAL FUNCTION

Hydrophyte: a plant that grows only in water or very moist soil.

The majority of the land in the park meets the Cowardin et al. (1979) definition of wetlands. Cowardin et al. (1979) define wetlands as transitional areas between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. Under the Cowardin et al. (1979) classification system, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year. The Everglades wetlands have been reduced in size and context over the last century; nearly 50 percent have been lost to draining for agricultural and other development (SFERTF 2008).

The northeast area of the EEEA, south of Tamiami Trail is part of the area known as the NESRS. As described in the “Hydrology” section, during pre-drainage conditions, NESRS was characterized by wide expanses of open water slough with elevated sawgrass ridges interspersed with tree islands (SCT 2003). The ridges and sloughs were organized in a pattern oriented parallel to the direction of flow. Historically, Everglades slough vegetation communities were characterized by floating, submerged, and some emergent species found in areas with the longest hydroperiods and deepest water that normally did not dry down.

According to the SFWMD land use and land cover data (SFWMD 2011a), which uses the Florida Department of Transportation's Florida Land Use, Cover, and Forms Classification System (FLUCFCS) (FDOT 1999), vegetation communities in the NESRS area now include freshwater marshes (both sawgrass and graminoid-prairie marsh), mixed wetland hardwoods, and mixed wetland shrubs. Hundreds of hardwood hammocks or tree islands, composed of mixed wetland hardwoods and/or mixed wetland shrubs, are found throughout this area. The hammocks range in size from a few square yards to several hundred acres, and support a variety of vegetation species including some state-listed species (NPS 2006b). Compartmentalization of the Everglades has reduced water deliveries, altered distribution, and altered cyclical patterns of water deliveries have reduced downstream sheet flows and suppressed the natural processes and functions within NESRS area. The L-29 canal and levee create a damming effect, severely restricting water deliveries into the park. Stage restrictions within the L-29 canal due to roadbed limitations and operational limitations further contribute to reduced water deliveries. The reduction and changes in water delivery to the park have affected wetland plant communities within NESRS area.

Although the ecosystem has been adversely affected by development and long-term water management activities, the remaining portions of the Everglades ecosystem are still considered to be high-quality wetlands by both the National Park Service (NPS) and the U.S. Army Corps of Engineers (USACE). These wetland communities provide a variety of ecological functions and values to the Everglades ecosystem. The primary functions of the wetlands in the project area include surface and subsurface water storage, support of the biogeochemical processes (nutrient cycling, peat accretion, etc.), support of freshwater marsh plant communities, and habitat for native fish and wildlife. Wetlands provide habitat for numerous wildlife species, including many special-status species. See the "Wildlife" and "Special-status Species" sections for more information on the animals that inhabit and depend on the wetland habitats of the project area.

In addition to wildlife support, the wetlands of the Everglades also provide a number of valuable functions such as surface water filtration and storage, flood abatement, erosion prevention, and natural water quality treatment. Mixed wetland hardwoods, shrubs, and sawgrass marsh provide water storage and support for biogeochemical processes, although the water storage function of the NESRS area has been degraded by the damming effect of the Tamiami Trail and altered sheet flow distribution and timing from the north. Nutrients (nitrogen and phosphorus) flowing into the wetlands are taken up by vegetation in the park and marsh vegetation slows surface water flow that can cause erosion thereby providing water quality benefits to downstream areas. Alterations in the natural hydroperiods and hydropatterns have changed the microtopography within the historic ridge and slough habitat of the NESRS area. Soil loss, as described above, also affects microtopography. These changes are discussed in more detail under the "Water Quality" and "Hydrology" sections.

VEGETATION AND WETLANDS IN THE AREA OF ANALYSIS

Native Vegetation in the EEEA and Surrounding Wetlands

Native plant species abundance, diversity, and community structure vary based on conditions such as topography, hydroperiod, water depth, drydown conditions, alterations in the natural fire regime, and complex intraspecific relationships. The vegetation is primarily composed of the native Everglades wetland species, and the majority of the area represents a relatively intact Everglades wetland plant community. Appendix I lists vegetation found within the FPL West Secondary and FPL West Preferred Corridors within the EEEA of the park. Cattail (*Typha* spp.), a weedy native species, is found immediately downstream of many culverts along Tamiami Trail and along the L-31N levee. An area of mixed wetland hardwoods, including pond apple and willow (*Salix* sp.), that is currently used as roosting and nesting sites for listed bird species also exists downstream, of the culverts along Tamiami Trail and along the L-31N levee.

Nonnative Vegetation in the EEEA

Nonnative vegetation is found within the northern region of the EEEA. Nonnative species such as Brazilian pepper (*Schinus terebinthifolius*), an invasive shrub species, occur in varying densities in disturbed, drier soils adjacent to roads and on tree islands where it grows at the bases of native trees. Melaleuca (*Melaleuca quinquenervia*), Australian pine (*Casuarina equisetifolia*), and old World climbing fern (*Lygodium microphyllum*) also occur in low densities in the forested wetlands. Extensive treatment of primarily Australian pine and melaleuca within the EEEA during the past decade has significantly reduced the amount of these species in the area. Invasive aquatic species including hydrilla (*Hydrilla verticillata*), water lettuce (*Pistia stratiotes*), torpedo grass (*Panicum repens*), and Peruvian primrosewillow (*Ludwigia peruviana*) occur in the deeper water associated with the culvert openings or canals.

Wetlands

The dominant habitat in the NESRS/EEEA is a ridge and slough wetland. The slight southerly gradient throughout the Everglades permits water to move slowly from the north to the south. The wetlands along the eastern boundary of the EEEA are known to have been altered by the hydrological effects of the adjacent canal, levee, and rock mining activities to the east, and other historical impacts on the natural flow in the area; however, wetlands within the park are less degraded than most wetland areas outside the park due to the size of the park and the limited development within the park. Wetlands within the EEEA are considered to be less degraded than wetlands outside the park due to their connectivity to other wetlands, low cover of invasive species and lack of physical disturbance to soils.

The majority of the vegetation cover in the area of analysis is classified as wetlands, including the West Consensus Corridor east of the park. The FLUCFCS land use/land cover data provided through SFWMD (2011a) were used to determine the vegetative cover in these corridors (table 5). Figure 9 depicts the wetlands and vegetative cover of the study area using the FLUCFCS classifications. FLUCFCS classifications are based on interpretation of aerial photography and ground-truthing was not conducted; therefore, some differences may exist between the FLUCFCS data and the current vegetative cover, especially in areas where exotic vegetation has been cleared or those that were incorrectly classified in the development of the map.

As shown in figure 9, the dominant vegetative cover type in the park is sawgrass marsh (FLUCFCS 6411). There are also areas of non-forested freshwater marsh (graminoid prairie-marsh FLUCFCS 6410); wet prairie (FLUCFCS 6430); some wetland hardwood areas (hammocks or tree islands),of mixed shrubs (FLUCFCS 6172) and wet melaleuca (6191), an exotic species; and channelized streams or waterways (FLUCFCS 5120) in the park within the FPL corridors. Areas of agricultural land for field crops (FLUCFCS 2140) can be found within the FPL West Preferred Corridor south of the park. Areas of dry prairie (FLUCFCS 3100) and shrub and brushland (FLUCFCS 3200) can also found in the FPL West Preferred Corridor south the park. Areas of shrub and brushland are found in the study area outside the park boundary in the FPL West Secondary Corridor in the area of analysis. A portion of the FPL West Preferred Corridor south of Tamiami Trail is located outside of the park; this includes the L-31N canal and some land east of the canal. Vegetative cover types in the portion of the FPL West Preferred Corridor outside of the park include channelized waterways and canals, Brazilian pepper, field crops, upland shrub and brushland, mixed shrubs, freshwater marshes (sawgrass), freshwater marshes (graminoid prairie-marsh), mixed wetland hardwoods, wet melaleuca, rock quarries, herbaceous (dry) prairie. North of the park boundary, the FPL West Secondary and FPL West Preferred Corridors traverse the Everglades and Francis S. Taylor Wildlife Management Area(in WCA 3B). In this area, the FPL West Secondary Corridor crosses mainly sawgrass marsh toward its nexus point with the FPL West Preferred Corridor. North of the park, in the Everglades and Francis S. Taylor Wildlife Management Area, the FPL West

Preferred Corridor crosses a mixture of mostly sawgrass marsh and graminoid prairie marsh before turning east and exiting the Everglades and Francis S. Taylor Wildlife Management Area. Between the Everglades and Francis S. Taylor Wildlife Management Area and the Levee Substation, the FPL West Preferred Corridor crosses mostly graminoid prairie marsh and a few areas of wet melaleuca.

TABLE 5: LAND COVER TYPES WITHIN THE CORRIDORS IN THE AREA OF ANALYSIS

Vegetative Cover/Land Use Type	FLUCFCS Code for Land Cover	FPL West Secondary Corridor	FPL West Preferred Corridor	West Consensus Corridor
Wetlands	**6000**			
Freshwater marshes – sawgrass	6411	X	X	X
Freshwater marshes – graminoid prairie-marsh	6410	X	X	X
Wet prairie	6430		X	X
Wet melaleuca	6191	X	X	X
Mixed Wetland Hardwoods	6170		X	X
Mixed shrubs	6172	X	X	X
Non-wetlands				
Urban and Built Up	**1000**			
Commercial and Services	1400			X
Rock Quarries	1630		X	X
Holding Ponds	1660			X
Agriculture	**2000**			
Improved Pasture	2110		X	
Field Crops	2150		X	X
Tree Crops	2220		X	X
Horse Farms	2510		X	X
Rangeland	**3000**			
Herbaceous (dry prairie)	3100	X	X	X
Shrub and Brushland	3200		X	X
Mixed Rangeland	3300			X
Upland Hardwood Forests	**4000**			
Melaleuca	4240			X
Brazilian pepper	4220		X	X
Barren (disturbed land)	7400			X
Roads and Highways	8140			X
Water (channelized streams)	5120	X	X	X

Source: SFWMD 2011a

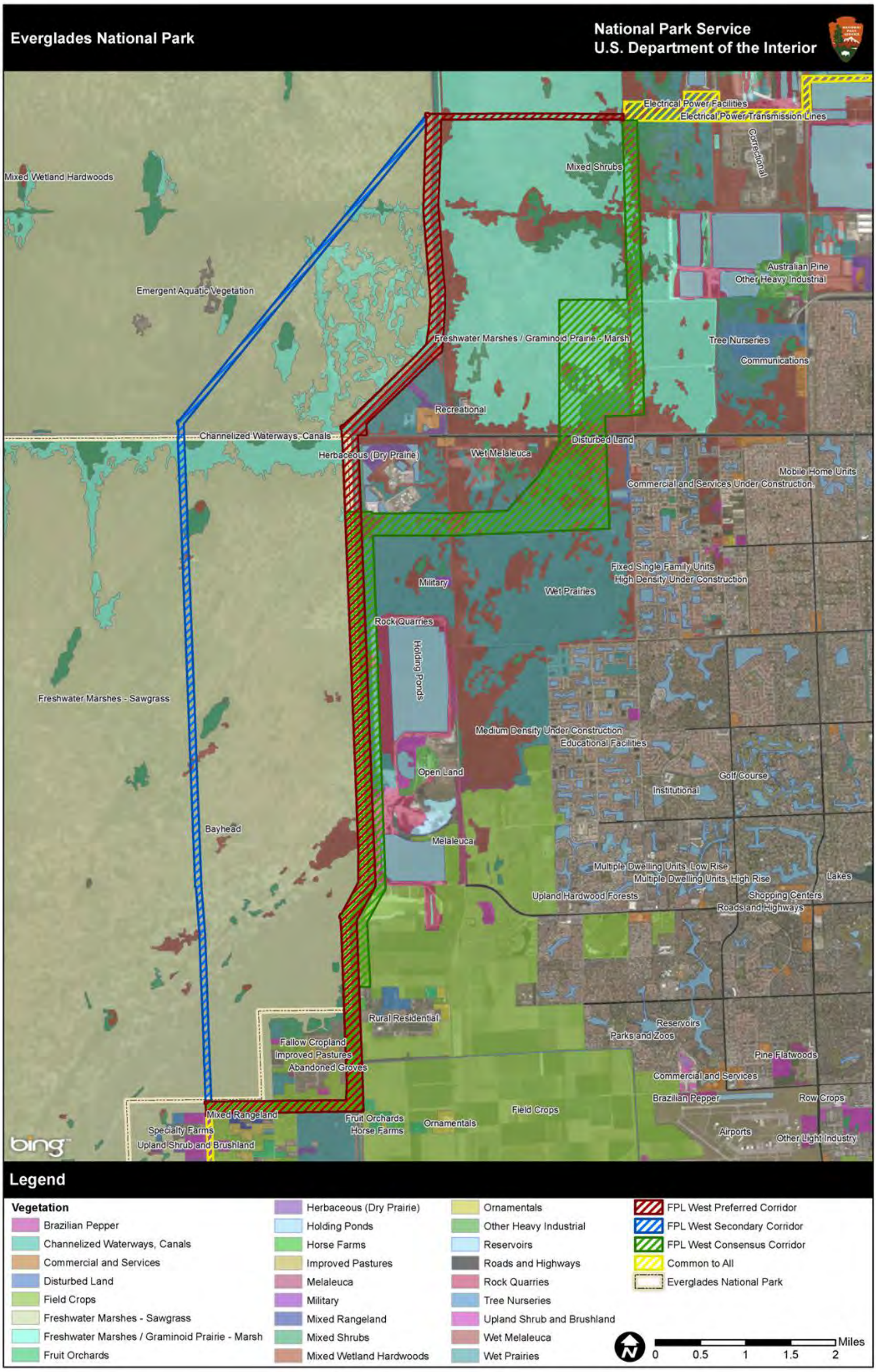


FIGURE 9: WETLANDS AND VEGETATIVE COVER MAP

Vegetation within the West Consensus Corridor

The West Consensus Corridor varies considerably in vegetation cover depending on land use and proximity to highways and developments. Based on the FLUCFCS land cover data and aerial photos of the area (see figure 9), the southern end is primarily agricultural, consisting of field crops (FLUCFCS 2150), tree crops (FLUCFCS 2220), and horse farms (FLUCFCS 2510). Refer to the "Adjacent Land Uses and Policies" section in this chapter for a full description and mapping of land uses. The central portion of the West Consensus Corridor contains rock quarries (FLUCFCS 1630), holding ponds (FLUCFCS 1660), correctional development (FLUCFCS 1760), and commercial development (FLUCFCS 1400). Patches of upland shrub and brushland (FLUCFCS 3200),mixed rangeland (FLUCFCS 3300), Brazilian pepper (FLUCFCS 4220), and melaleuca (FLUCFCS 4240) are evident in and near these disturbed areas. The northeast section of the West Consensus Corridor is less developed, with wet prairie (FLUCFCS 6430), mixed wetland hardwoods (FLUCFCS 6170), mixed shrubs (FLUCFCS 6172), and wet melaleuca (FLUCFCS 6191) prevalent in the Bird Drive basin. The Bird Drive basin wetlands were described in a study done in 1988 (McMahon 1988) and reported in 1989 (DERM 1989). At that time, disturbance from the use of all-terrain vehicles in the area was evident, as well as the colonization by the exotic melaleuca. Both of these conditions were noted in this area during recent field visits (Cunningham pers. comm. 2012). Along Tamiami Trail, there are some areas of disturbed land (FLUCFCS 7400) and commercial and services (FLUCFCS 1400).

The Pennsuco wetlands north of the Tamiami Trail are primarily freshwater graminoid marsh (FLUCFCS 6440) with mixed shrubs, wet melaleuca, and wet prairie. This wetland area is part of the Pennsuco Regional Mitigation Area. In 1995, the SFWMD began using Pennsuco as a regional off-site mitigation area, allowing permit applicants to make mitigation contributions for the acquisition, enhancement, and long-term management of Pennsuco lands as compensation for permitted wetland impacts (SFWMD n.d.). Disturbed lands (FLUCFCS 7400); roads and highways (FLUCFCS 8140); and, channelized streams, canals, or waterways (FLUCFCS 5120) are found throughout the West Consensus Corridor. Vegetative cover types listed in the paragraph above are discussed in more detail in table 6.

TABLE 6: DESCRIPTIONS OF VEGETATIVE COVER TYPES

Vegetative Cover Type	Description
Tree Crops (FLUCFCS 220)	Orchards and groves generally occur in areas with a specific combination of soil qualities and climatology factors. Water bodies, which moderate the effects of short duration temperature fluctuations, often are in close proximity to this type of agriculture.
Improved Pasture (FLUCFCS 2110)	This category in most cases is composed of land which has been cleared, tilled, reseeded with specific grass types, and periodically improved with brush control and fertilizer application.
Field Crops (FLUCFCS 2150)	Field crops are agronomic crops that, due to spacing or growth habit, do not exhibit a pattern of parallel rows on the photography. Examples in Florida are wheat, oats, hay, other grasses, sugar cane, and watermelons. In the SFWMD the primary field crop types are hay, grasses, and sugar cane.
Herbaceous (Dry Prairie) (FLUCFCS 3100)	This category includes upland prairie grasses which occur on non-wetland soils but may be occasionally inundated by water. These grasslands are generally treeless with a variety of vegetation types dominated by grasses, sedges, rushes and other herbs with some saw palmetto (*Sabal palmetto*) present.
Shrub and Brushland (FLUCFCS 3200)	Shrub and Brushland is used for areas that have over 67% shrub cover and less than 33% herbaceous cover. This land cover type usually grades into flatwoods, wet flatwoods, wet prairies (savannahs), marsh, stream swamps or hardwood hammocks along streams and creeks, or upland live oak (*Quercus virginiana*) or cabbage palm (*Sabal palmetto*) hammocks. Common species include gallberry (*Ilex glabra*), wax myrtle (*Myrica cerifera*), saltbush (*Baccharis halimifolia*), blueberries (*Vaccinium* spp.), rusty lyonia (*Lyonia ferruginea*), fetterbush (*L. lucida*) and other shrubs and brush, as well as various types of short herbs and grasses.

Vegetative Cover Type	Description
Mixed Rangeland (FLUCFCS 3330)	When more than one-third intermixture of either grassland or shrub-brushland range species occurs, the area is classified as Mixed Rangeland under FLUCFCS.
Brazilian Pepper (FLUCFCS 4220)	This exotic, pestilent tree species is commonly found on disturbed sites. Communities of these small, shrub-like trees are often established along borrow-pits, levees, dikes and in old disturbed fields.
Melaleuca (FLUCFCS 4240)	This exotic tree species occurs in almost pure stands. It is an aggressive competitor, invading and often taking over a site, forming a dense stand. Melaleuca generally is an indicator of a disturbed site.
Mixed Wetland Hardwoods (FLUCFCS 6170)	This category is for those wetland hardwood communities which are composed of a large variety of hardwood species tolerant of hydric conditions and exhibit an ill-defined mixture of species.
Mixed Shrubs (FLUCFCS 6172)	This class is used for wetland areas that are dominated by woody vegetation less than 20 feet in height. These areas are often associated with areas of transitional hydrology or regenerating swamps and are typically found in shallow depressions and the upper edges of poorly defined drainages (sloughs), rivers, creeks or streams. They also occur in seasonally or temporarily wet situations near man-induced disturbances such as an impoundment, road, railroad, or transmission line/pipeline corridor. This community is comprised of a mixture of various shrubs, most commonly wax myrtle (*Myrica cerifera*), saltbush (*Baccharis halimifolia*), buttonbush, and elderberry (*Sambucus canadensis*) with some aquatic and herbaceous vegetation or primrose willows (*Ludwigia* spp.) intermixed.
Wet Melaleuca (FLUCFCS 6191)	This class includes Melaleuca found growing in wetland environments such as marshes and wet savannahs. It is also found in low areas and can invade cypress swamps. Melaleuca tolerates most subtropical ecosystems, preferring wet to intermittently wet sites and can survive extended flooding, moderate drought, and some salinity.
Freshwater Marsh / Graminoid Prairie Marsh (FLUCFCS 6410)	Freshwater marshes where one or more of the species predominate, but have less than 66 percent coverage: sawgrass, cattail (*Typha domingenis*, *T. latifolia*, or *T. angustifolia*), arrowhead (*Sagittaria* sp.), maidencane (*Panicum hemitomon*), buttonbush (*Cephalanthus occidentalis*), cordgrass (*Spartina bakeri*), giant cutgrass (*Zizaniopsis miliacea*), switchgrass (*Panicum virgatum*), bulrush (*Scirpus americanus*, *S. validus*, or *S. robustus*), needlerush (*Juncus effuses*), common reed (*Phragmites communnis* or *P. australis*), and arrowroot (*Thalia dealbata* or *T. geniuclata*).On these sites, surface water is present for extended periods during the growing season, but is absent by the end of the growing season in most years. Periods of inundation are intermediate between deep marshes and wet prairies; sites are usually covered with water at least two months of the year and undergo prolonged periods of soil saturation.
Sawgrass Marsh (FLUCFCS 6411)	Freshwater marsh dominated by sawgrass (*Cladium jamaicensis*). Sawgrass marsh is widespread in Florida and is the predominant species in the Everglades, accounting for 70% of the landscape. Sawgrass grows equally well in water several feet deep and on moist ground several feet above the water table. Sawgrass may exceed 10 feet in height and form an impenetrable mass. Two categories of sawgrass are recognizable: dense and sparse. The dense type occurs on higher ground, and although it appears monotypic, it may include small areas of other tall emergent plants such as cattail (*Typha* spp.), ferns, and small shrubs. Unlike cattail, sawgrass is seldom found in highly disturbed situations.
Wet Prairie (FLUCFCS 6430)	This classification is composed predominately of grassy vegetation on hydric soils and is usually distinguished from marshes by having less water and shorter herbage. These communities are predominated by one or more of the following species: sawgrass, maidencane, cordgrasses (*Spartina bakeri* and *S. patens*), spike rushes (*Eleocharis* sp.), beak rushes (*Rhynchospora* sp.), St. Johns wort (*Hypericum* sp.), spiderlily (*Hymenocallis palmeri*), swamplily (*Crinum americanum*), yellow-eyed Grass (*Xeric ambigua*), and whitetop sedge (*Dichromena colorata*).

Invasive Plants

Many plant species have been introduced to Florida from countries around the world by past and recent settlers and visitors. These nonnative species spread rapidly, in part, because they have not evolved here and have no natural predators or diseases to keep their growth in check (NPS 2013b). It is estimated that approximately 250,000 acres of the park are infested with exotic species (SFERTF 2008). Exotic plant infestations in the park may be exacerbated by soil disturbance, increased nutrients, and hydrological

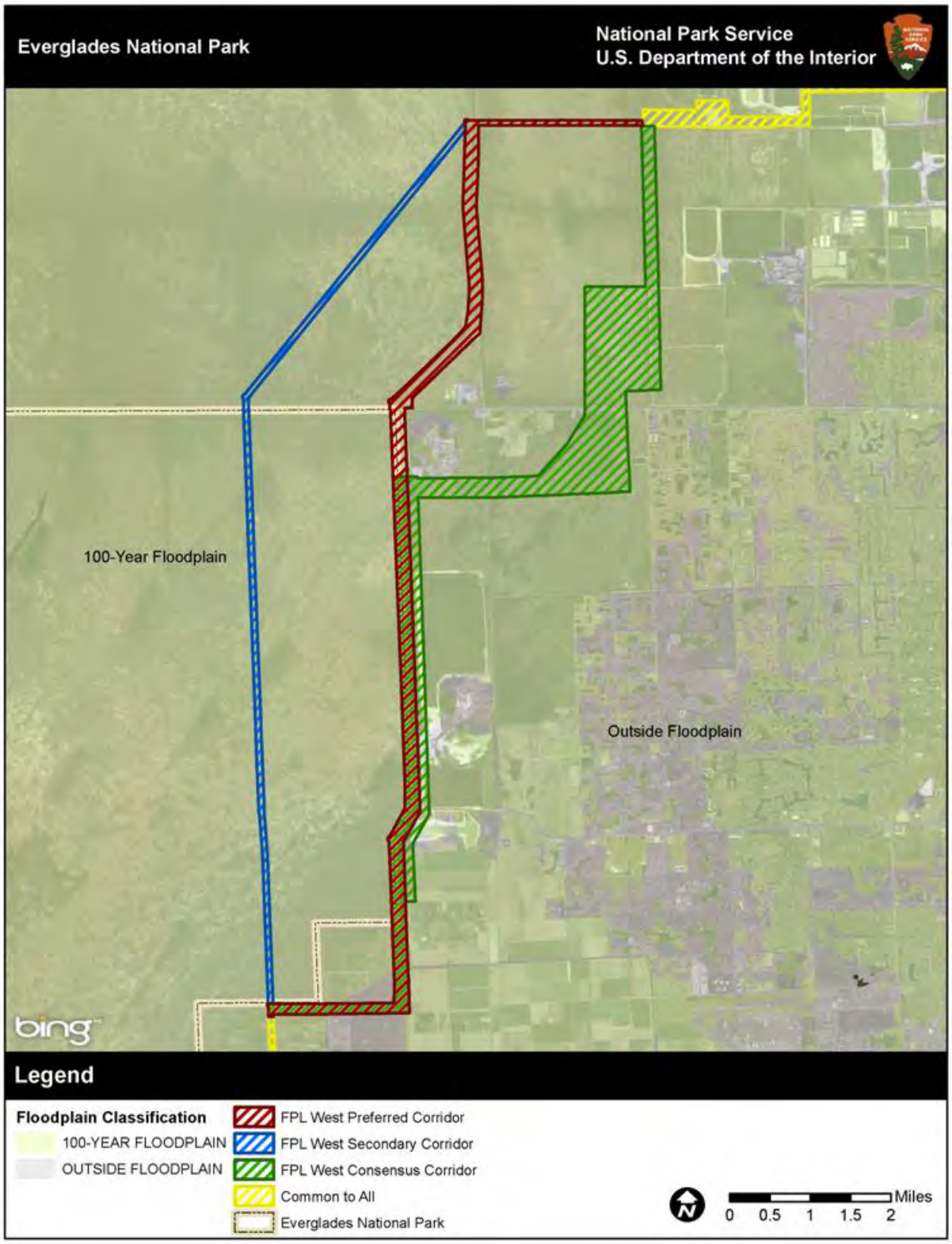
modification. Many exotic species are flourishing in a variety of habitats and are negatively affecting the Everglades ecology.

As noted above, exotic plants are found in and along the corridors within the park and are abundant in disturbed locations in the West Consensus Corridor. Primary exotic plants in the area of analysis include melaleuca and Brazilian pepper, which can occur in pure stands, but some areas of native hardwood wetland have been colonized by a mix of exotic species. According to available land use data, some of the forested wetlands within and adjacent to the boundaries of the FPL West Preferred Corridor were infested with invasive nonnative vegetation, including melaleuca and Brazilian pepper, but the park staff has been treating these and other species since the purchase of the property. Approximately 70 percent of the melaleuca has been treated with positive results, but some untreated areas remain, mainly those areas closest to the eastern boundary (NPS 2006b).

FLOODPLAINS

Floodplains are low-lying areas that are subject to periodic inundation due to heavy precipitation. These areas are generally adjacent to lakes, rivers, and streams. The periodic flooding and drying in these areas creates unique habitat that supports a wide variety of plant and animal species. Floodwaters often carry nutrient-rich sediments that contribute to a fertile environment for vegetation. Floodplains are also beneficial for wildlife by creating a variety of habitats for fish and other animals. In addition, floodplain functions include temporary storage of high flows, slowing flow velocity, providing groundwater recharge, and reducing downstream impacts of high flows such as flooding and erosion. Regulatory floodplains are those areas classified as 100-year floodplains, which have a 1 percent chance of flooding in a single year, 500-year floodplains, which have a 0.2 percent chance of flooding in a single year, and flood zones in high hazard areas, such as coastal areas or areas prone to flash flooding. Most of the land and wetlands in the Everglades National Park, and in the West Consensus Corridor east of the park are in the 100-year floodplain. A floodplain map is provided in figure 10.

Over the last 100 years, the construction of roads, canals, levees, and other structures throughout the Everglades has affected the natural floodplain processes and therefore altered the natural flood control and dynamics critical to floodplain function in the Everglades ecosystem. Regional water management has drained and dried vast stretches of the floodplain/wetland system. Transportation corridors (highway and railways) act as dams trapping flows while canals and levees convey flows against natural drainage patterns (away from Florida Bay to the Atlantic Ocean). Therefore, the existing condition of the floodplain and its associated functions and floodplain values in and within proximity of the project area are degraded from its natural conditions. Flooding flows north of the park are generally currently dammed behind the L-29 levee and Tamiami Trail which are then diverted to the east.



Source: FEMA 2012.

FIGURE 10: FLOODPLAIN MAP

It is NPS policy "to protect, preserve, and restore the natural resources and functions of the floodplains; avoid the long- and short-term environmental effects associated with the occupancy and modification of floodplains; and avoid direct and indirect support of floodplain development and actions that could adversely affect the natural resources and functions of floodplains or increase flood risks" (NPS 2006a). Further, it is the Federal Emergency Management Agency's policy to avoid adverse impacts associated with the occupancy and modification of floodplains (44 CFR 9). Authority for regulating this management is provided under Executive Order 11988, which established procedures to ensure that potential effects of floodplain hazards and floodplain management are considered when taking an action that may cause adverse impacts on floodplains. The NPS is under executive order and policy to reduce or eliminate development in floodplains. Because the majority of the project area is classified as a floodplain, it is not possible to completely avoid floodplains in the project area. However, the impacts on floodplain function and values may be significantly reduced depending on the where those impacts occur. Generally speaking, floodplain function and value increases significantly west of the current Everglades National Park boundary.

FLOODPLAIN WITHIN THE PARK

Within the park, floodplain function and values are in relatively good condition. Floodplain functions and values in the existing FPL property in the park are currently similar to the floodplain in the park property around it. Closer to roads such as the Tamiami Trail, floodplain functions have been disturbed and the disturbances have resulted in changed hydrologic function, vegetation, and other factors related to floodplain value.

FLOODPLAIN EAST OF THE PARK

Floodplain values have been compromised over time in the floodplain outside the park in the West Consensus Corridor; they have been more extensively fragmented by levees, industrial, and urban development, and are more disturbed and established with nonnative or invasive plant species, causing lower floodplain function and values in this area.

SOUNDSCAPES

Pursuant to NPS *Management Policies 2006* and Director's Order 47: Sound Preservation and Noise Management, an important component of the NPS mission is the preservation of natural soundscapes associated with national park units (NPS 2006a). Natural soundscapes exist in the absence of human caused sound. The natural soundscape is the aggregate of all the natural sounds that occur in parks, together with the physical capacity for transmitting natural sounds. Natural sounds are intrinsic elements of the environment and part of "the scenery and the natural and historic objects and the wild life" protected by the NPS Organic Act. They are vital to the visitor experience of many parks and provide valuable indicators of the health of various ecosystems. Noise is a concern because it can impede ecological function and diminish the ability of the NPS to accomplish its resource protection mission.

The preservation of natural soundscapes is also an important management objective for the Everglades because of the 1934 enabling legislation, which emphasized preservation of "unique flora and fauna and the essential primitive natural conditions." Consistent with the enabling legislation, the draft general management plan (GMP) describes the desired condition of natural soundscapes in the park as follows:

> Natural soundscapes, which are important to many vertebrate and invertebrate species, are preserved. (For example, bats and dolphins use reflected sound waves (echolocation) to navigate and to locate prey; frogs, birds, and insects rely on natural sounds to find mates or avoid predators.) Visitors have opportunities in most areas of the park to experience natural sounds.

Natural sounds are necessary for ecological functioning and occur within and beyond the range of sounds that humans can perceive. Many mammals, insects, and birds decipher sounds to find desirable habitat and mates, avoid predators and protect young, establish territories, and to meet other survival needs.

For many visitors, the ability to hear clearly the delicate and quieter intermittent sounds of nature, the ability to experience interludes of extreme quiet for their own sake, and the opportunity to do so for extended periods of time are important reasons for visiting national parks.

NPS policies are focused on soundscape management within national parks and do not address the prevention of noise in residential areas. However, numerous other federal agencies have developed criteria for community noise exposure, including the Federal Highway Administration, Federal Transit Administration, Federal Aviation Administration, and U.S. Department of Housing and Urban Development, among others. Most community noise standards are based on dose-response studies of human annoyance in response to noise and take into account the increased sensitivity of residential areas to noise occurring at night relative to daytime noise.

SOUNDSCAPES TERMINOLOGY

The magnitude of noise is described by its sound pressure. Because the range of sound pressure varies greatly, the logarithmic scale decibel (dB) is used to relate sound pressure. Sound pressures described in decibels are often defined in terms of frequency-weighted scales. A sound level measurement is usually expressed as an A-weighted average energy value over a specified time interval. A-weighting provides a method of summing sound energy across the audible spectrum in a way that approximates human judgments of loudness, in other words, how loud people would perceive a sound to be. Sound levels expressed in A-weighted decibels are indicated with the abbreviation “dBA.” Several examples of sound pressure levels in the dBA scale are listed in table 7.

Because sound is described in a logarithmic scale (i.e., dBA), sound levels cannot be added by ordinary arithmetic. In fact, an increase of 3 dB represents a doubling of sound energy, so two trucks traveling side-by-side would be 3 dB louder than one. Decibels are often related to perceived loudness, and in some frequency bands a 10-dBA increase can result in sounds that seem twice as loud (FHWA 2011).

Key metrics used to quantify soundscapes are described below.

Natural Ambient Sound Level (L_{nat}): The sound level of all natural sounds in a given area, excluding all mechanical, electrical, and other human-caused sounds, is considered the natural ambient sound level.

L_x (Exceedance Percentile): This metric represents the sound pressure level (L), in dBs, exceeded *x* percent of the time for the specified measurement period. For instance, L_{90} is the sound pressure level exceeded 90 percent of the time. L_{50} is the same as the median; the middle value where half the sound levels are above and half below.

TABLE 7: DECIBEL LEVELS OF COMMON SOUND SOURCES

Sound	Noise Level (dBA)	Effect
Shotgun firing, jet takeoff (at 100–200 feet)	130	Painful
Turbo-prop at 200 feet, rock concert	110–140	Threshold of pain begins around 125 dB
Thunderclap (near)	120	Threshold of sensation begins
Stereo (over 100 watts)	110–125	Regular exposure to sound over 100 dB of more than one minute risks permanent hearing loss
Symphony orchestra, chainsaw, jackhammer	110	
Jet flyover (1,000 feet)	103	
Electric furnace, garbage truck, cement mixer	100	No more than 15 minutes of unprotected exposure recommended for sounds between 90–100 dB
Subway, motorcycle (at 25 feet)	88	Very annoying
Lawnmower/nearby thunder	85–90	85 dB is the level at which hearing damage (8 hrs) begins
Recreational vehicles	70–90	
Diesel truck (40 mph at 50 feet)	84	80 dB or higher is annoying, interferes with conversation, constant exposure may cause damage
Dishwasher, washing machine	75–78	70 dB or higher is intrusive, interferes with telephone conversation
Vacuum cleaner	70	
Automobile (45 mph at 100 feet)	60	Comfortable hearing levels are less than 60 dB.
Croaking raven (100 feet), conversation	50–65	
Quiet Office	50–60	
Refrigerator humming	40	Quiet
Daytime natural ambient in Everglades National Park (summer)	36	
Rustling leaves	20	Very quiet
Normal breathing	10	Barely audible
Lowest recorded natural ambient sound level during the winter in Yellowstone National Park backcountry.	0	Approximate threshold of human hearing at 1 kHz

Source: NIDCD n.d.

Energy Equivalent Sound Level (L_{eq}): Because environmental noise fluctuates from moment to moment, it is common practice to condense all of this information into a single number, called the "equivalent" sound level (L_{eq}). L_{eq} can be thought of as the steady sound level (or average sound level) that represents the same sound energy as the varying sound levels over a specified time period (typically 1 hour or 24 hours). The World Health Organization (WHO 1999) recommends "Where there are no clear reasons for using other measures, it is recommended that LA_{eq},T be used to evaluate more-or-less continuous environmental noises."

Day-Night Sound Level (L_{dn}): L_{dn} is the A-weighted L_{eq} for a 24-hour period with an added 10-dB penalty imposed on noise that occurs during the nighttime hours (between 10 p.m. and 7 a.m.). Many surveys have shown that L_{dn} is well correlated with human annoyance, and therefore this descriptor is widely used for environmental noise impact assessment (FTA 2006). American National Standards Institute Standard S12.9 Part 4 recommends using L_{dn} as the preferred descriptor of environmental noise. One limitation of L_{dn} is that people have difficulty relating an aggregate of perceived noise events to an

average noise level, especially when the time interval for averaging extends over long periods. The Federal Interagency Committee on Noise (FICON 1992) noted that criticism of L_{dn} (and other L_{eq} metrics) often stems from "lack of understanding of the basis for the measurement, calculation, and application of that metric."

SOUNDSCAPES IN EVERGLADES NATIONAL PARK AND ADJACENT UNDEVELOPED LAND

Soundscapes monitoring was conducted by NPS at a site considered generally representative of the area of the park within the project area.[3] The Shark Valley Road monitoring site (EVER002) is located approximately 3 miles south of the Shark Valley Visitor Center and 17.6 miles west of Krome Avenue in the Florida Power and Light Company Lands Environmental Impact Statement project area. The EVER002 site was monitored in the summer of 2008 (August 15 through September 8) and winter/spring of 2009 (February 23 and April 16). Detailed technical information on the soundscapes monitoring methodology and subsequent data analysis is provided in the NPS report *Baseline Ambient Sound Levels in Everglades National Park* (NPS 2012d).

In general, human-generated noise in the park is predominantly from vehicle traffic, aircraft overflights, visitor airboat use and administrative activities that involve motorboat, airboat, and/or aircraft use; these sounds usually emanate from developed areas, popular boating (or airboating) areas, campgrounds, and major roads (NPS 2010a). Aircraft overflights occur throughout the park and airboat use can occur in many areas. Natural sounds at the EVER002 site included wind and wind through foliage sounds and insects.

Table 8 summarizes the Shark Valley Road monitoring site characteristics during the daytime and nighttime, for both the summer and winter monitoring periods. The summer natural ambient during the daytime is 33.2 dBA, compared to 49.7 dBA at night. The winter/spring natural ambient was also higher at night compared to during the day. Nighttime natural ambient levels in both summer and spring were higher than during the daytime because of the high sound levels in the night and early morning hours resulting from insect and amphibian activity. The winter natural ambient was lower than the summer natural ambient at 28.4 dBA and 37.4 dBA in the daytime and nighttime, respectively. The higher natural ambient in summer was partially attributable to storms that occurred during monitoring period. Higher ambient sound levels at night due to insect and frog sounds do not imply that the nocturnal environment has a greater capacity to mask transportation and other low frequency noise. Most insect and frog sounds occupy high frequency bands, and sound energy in these bands do not interfere with human perception of low frequency sound.

TABLE 8: SHARK VALLEY (EVER002) SOUNDSCAPES METRICS (DBA)

	Daytime (7 a.m. – 7 p.m.)				Nighttime (7 p.m. – 7 a.m.)			
	L_{eq}	L_{50}	L_{90}	Natural Ambient	L_{eq}	L_{50}	L_{90}	Natural Ambient
Summer	52.2	40.4	30.7	33.2	53.8	51.1	40.2	49.7
Winter/Spring	44.8	36.7	23.8	28.4	46.3	40.1	21.7	37.4

Source: NPS 2012d.

[3] Vegetative cover directly affects how sounds propagate from a source to a receiver and the vegetative cover of the EVER002 monitoring site (emergent wetlands) is the same as the predominate vegetative cover for the areas of the park within the project area.

Wind and wind related sounds were the most dominant natural sound sources at this location, followed by water, birds and insects (NPS 2012d). Existing ambient L_{eq} sound levels including both natural and non-natural sounds were in the range of 45 to 54 dBA at the monitoring site.

On-site observations and off-site review of recorded audio data concluded that human sound sources were common during daytime hours (7 a.m. to 7 p.m.) in the summer season, accounting for 64 percent of the sounds heard at the EVER002 site (56 percent in the winter). Aircraft (general aviation, commercial jet, or military, not air tours) were audible 37 percent of the daytime during the summer; 17 percent during the winter. Sounds from visitors (e.g., motor vehicles, conversation, music, and watercraft use) were audible 27 percent of the daytime during the summer; and 39 percent during the winter (NPS 2012d). The EVER002 site was approximately 20 yards from the Shark Valley Road that includes motorized visitor tours (Shark Valley Tram) and bicycle traffic. Human sources of sound at this site included airboats, aircraft, vehicle sounds, and human voices (NPS 2012d).

The EVER002 monitoring results provide a snapshot of conditions within the interior of the park. Other locations within the park would have similar natural ambient levels (as demonstrated in NPS 2012d), but overall sound levels incorporating human-caused sounds would be different. For example, areas of the park adjacent to Tamiami Trail would experience greater traffic noise. Other undeveloped land outside the park boundary would also have natural ambient levels similar to those monitored in the park, with total sound levels varying based on proximity to noise sources such as roadways.

Overall, the data show the park is a very quiet place the majority of the time, with ambient sound levels (including natural and human caused sounds) less than 55 dBA L_{eq} (similar to quiet office; see table 7). Natural sounds such as wind, insects, amphibians are the dominate sounds. Human-caused sounds are audible most often during the daytime. Because of the low ambient level, the human caused sounds that are present can be detected at low levels over large distances from the sound sources.

SOUNDSCAPES IN TAMIAMI RESIDENTIAL COMMUNITIES

Soundscapes monitoring data for residential communities outside the park was not available. Existing L_{dn} was estimated based on population density. Natural ambient sound levels were not calculated for residential areas as this metric is only applicable to parks where the ability to appreciate natural sounds is expected. Human-caused sounds such as automobiles and lawn mowers are an accepted part of living in suburban areas.

The study area for the existing noise estimate was defined by selecting the 2010 U.S. census blocks comprising the portions of predominately residential neighborhoods closest to the potential transmission line corridors. These census blocks are within 1.5 and 3.5 miles of the West Consensus Corridor (see figure 11).

The study area included a mix of low-density residential areas, high-density residential areas, and large areas of undeveloped land. The study area included 1,149 census blocks and was approximately 46.6 square miles in size. The study area had a 2010 population of 89,394. As a result, the population per square mile was 1,918. Away from major roadways, EPA has determined L_{dn} can be estimated based on the following equation (USEPA 1974):

$$L_{dn} = 22 + 10\log(\text{people per square mile})$$

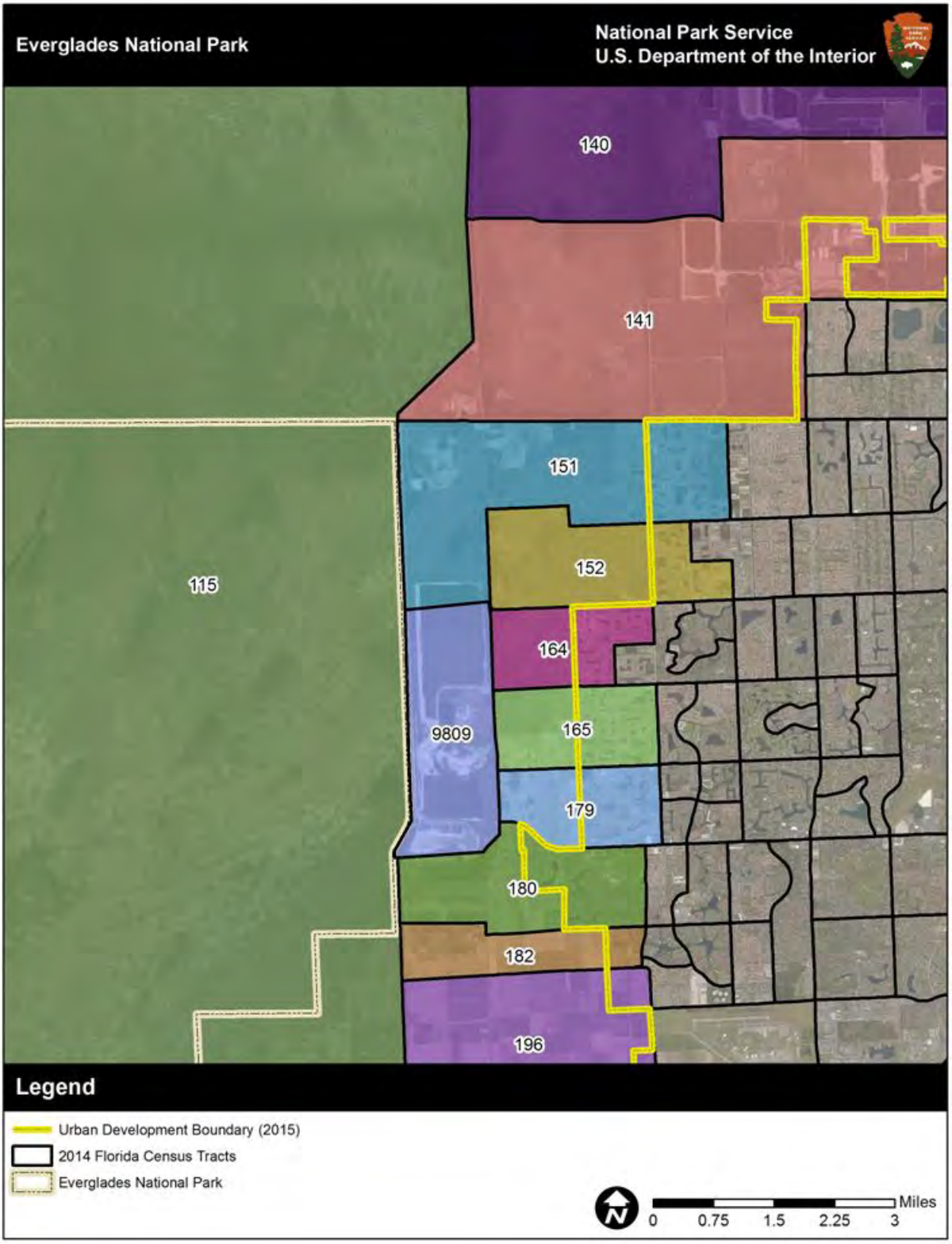


FIGURE 11: STUDY AREA FOR CALCULATION OF EXISTING RESIDENTIAL L_{DN} (2010 U.S. CENSUS BLOCKS)

Therefore, the estimated L_{dn} for the Tamiami residential areas located away from major roadways was 55 dBA. This is within the range of typical noise levels for suburban residential areas and below the 65 dBA L_{dn} noise impact threshold used by agencies such as the Federal Aviation Administration. L_{dn} would be higher for residences located close to major roads (e.g., 65 dBA at 100 feet from a major roadway). While actual L_{dn} would vary within different portions of the study area, the estimated existing L_{dn} (55 dBA) provides a reasonable and conservative (low) basis for assessing potential impacts.

WILDLIFE

The Everglades ecosystem consists of a low, flat plain that supports a variety of distinct and dynamic habitats. These habitats each support their own community of wildlife, including approximately 350 species of birds, more than 40 mammals, over 50 reptiles, and 15 amphibians (NPS 2010c).

Introduction of regional transportation corridors and water management systems fragmented wildlife habitat throughout the Everglades ecosystem. The once vast, naturally connected landscape has been fragmented into a mosaic of various-sized habitat patches. The Tamiami Trail, L-29 canal, and L-31N canal and levee, adjacent to the project area, serve as an effective barrier to wildlife movement, interfering with or preventing life functions of many native wildlife species. Large parcels may be suitable for populations of several species of small-sized animals, but very few remaining habitat patches are large enough to provide spatial needs of far-ranging species such as the Florida panther (*Felis concolor coryi*) (as discussed in the "Special-status Species" section) (USFWS 2008). The habitat within the FPL owned lands and along the L-31N levee are characterized as sawgrass and freshwater marsh. The marshlands serve as habitat for a wide range of wildlife species.

The construction and completion of Tamiami Trail in 1928 had substantial effects on the functions and processes in the marsh prairie habitat. Historically, the area adjacent to the Tamiami Trail was ridge and slough wetland. The altered hydrology has changed the area immediately adjacent to the road to a consistently flooded habitat that now has a mixed composition of native and nonnative vegetation species. Farther south of the Tamiami Trail, drier conditions have caused a shift from ridge and slough wetlands to sawgrass marsh in the EEEA. These changes in habitat have also altered associated wildlife species diversity and composition.

As described in the "Vegetation and Wetlands" section, the West Consensus Corridor east of the park varies considerably in vegetation cover (i.e., habitat) depending on land use and proximity to highways and developed areas. As shown in aerial of figure 7, the southern end of this corridor is primarily agricultural, with many areas planted in field crops. The center of this area crosses the western edge of a mining operation with mostly disturbed land. The north end of this corridor is less developed, with wet prairie and exotic wetland hardwoods prevalent in the Bird Drive basin area and primarily freshwater graminoid marsh in the Pennsuco wetlands north of the Tamiami Trail. The Bird Drive basin area, specifically, functions as a valuable short hydroperiod wetland, which is particularly important to wading birds (Richter 1988). Disturbance from the use of all-terrain vehicles is evident in the Bird Drive basin area (Cunningham pers. comm. 2012).

MAMMALS

Native Mammals

Mammals within the project area have adapted to changing wetland conditions, and in some cases may be distinguished from other North American populations by smaller size or other adaptive characteristics. For example, white-tailed deer (*Odocoileus virginianus*) in the Everglades are distinctive in their small size and adaptation to marsh habitats (Kushlan 1990). The marshlands are habitat for at least 10 mammal

species, including some of the most endangered land mammals in the state, the Florida panther and the Everglades mink, which is rare and generally found in sawgrass habitat but retreats from marshland during the dry season (both are discussed in the "Special-status Species" section) (Humphrey and Zinn 1982).

Other mammals expected to occur in the project area include mice, rodents, transient deer and mesocarnivores such as raccoons (*Procyon lotor*), otters (*Lutra canadensis*), and bobcats (*Lynx rufus*). Marsh rabbits (*Sylvilagus palustris*), short-tailed shrew (*Blarina brevicauda*), least shrew (*Cryptotis parva*), and cotton rat (*Sigmodon hispisus*) may also occur. Cotton mice (*Peromyscus gossypinus*) and rice rats (*Oryzomys palustris*) move between hammock islands, indicating that they would also occur in the freshwater marshes, even if only in transit. The round-tailed muskrat (*Neofiber alleni*), or Florida water rat, also inhabits freshwater marshes within the EEEA.

Nonnative Mammals

A variety of nonnative mammals can be found in the Everglades area of southern Florida including the domestic dog, cat, and goat, as well as feral hogs. Other nonnative species that maybe present in the area include vervet monkeys (*Chlorocebus aethiops*), house mouse (*Mus musculus*), nutria (*Myocastor coypus*), South American coati (*Nasua nasua*), Norway rat (*Rattus norvegicus*), black rat (*R. rattus*), and red fox (*Vulpes vulpes*) (ESCISMA 2009). Occurrences of additional new species are reported frequently.

West Consensus Corridor

Native mammals expected to occur in the West Consensus Corridor east of the park would be similar to those known to occur in habitat within the EEEA, except that species would likely be less abundant, except in the Everglades and Francis S. Taylor Wildlife Area and Pennsuco wetlands north of Tamiami Trail, due to greater disturbance (e.g., all-terrain vehicles, exotic species, agricultural activities, and proximity to development and mining operations). However, domestic cats, dogs, and goats and feral hogs may be more abundant in the West Consensus Corridor due to the proximity to residential areas. Mammals previously observed within the wetland habitat of Bird Drive basin include marsh rabbit, raccoon, river otter, bobcat, and white-tailed deer (Richter 1988).

BIRDS

Native Birds

Over 350 species of birds have been sighted throughout the Everglades (Lodge 2005). There are over 150 species of birds that breed or forage in the park year round, using both land and water habitats (NPS 2010e). Tree islands provide habitat for many resident and migratory birds. Migratory birds are protected under the provisions of the Migratory Bird Treaty Act. The park is located within the Atlantic Flyway, a major migratory route for birds that breed in temperate North America and winter in the Caribbean and South America (NPS 2010e). Some of these neotropical migrants are designated as migratory birds of management concern in the south Florida ecosystem by the U.S. Fish and Wildlife Service (USFWS) (NPS 2010e) and more than 20 of these are anticipated to occur within NESRS (NPS 2010e).

Species that may be found within the freshwater marsh and marl prairies include raptors (including the federally endangered Everglades snail kite, discussed in the "Special-status Species" section), wading birds, song birds, corvids, and ducks. Approximately 18 species of wading birds commonly use marshland habitat (Lodge 2005). The roseate spoonbill (*Platalea ajaja*), white ibis (*Eudocimis albus*), wood stork (*Mycteria americana*), and a few species of egrets (*Ardea alba*, *Bubulcus ibis*) and herons (*Ardea herodias*, *Egretta tricolor*, *Nycticorax nycticorax*) wade in the shallow marsh habitat foraging for

invertebrates and fish. Several of these species are considered state species of special concern and are addressed in the "Special-status Species" section. Wood storks (discussed in the "Special-status Species" section) and a variety of wading birds have rookeries in the Everglades but migrate to north Florida in the summer (Lodge 2005).

The wetland habitats downstream of the Tamiami Trail culverts provide tree canopy, loafing, nesting, roosting, and foraging areas for bird species. Canopy habitat components found at the park are edible forage, insect populations, tree cavities, and winter (dry season) cover. Songbirds such as warblers (*Dendroica* spp.) are common; water birds such as limpkins (*Aramus guarana*), that feed on snails, wade at the water's edge; and several species of egrets and herons, forage in this environment (Ewel 1990). Black vultures (*Coragyps atratus*) and turkey vultures (*Cathartes aura*) are found in the park year round, but are especially abundant in winter.

Nonnative Birds

Nonnative or invasive bird species known to occur in the Everglades area of south Florida include the common myna (*Acridotheres tristis*), Egyptian geese (*Alopochen aegyptiacus*), yellow-chevroned parakeet (*Brotogeris chiriri*), rock dove (*Columba livia*), Muscovy duck (*Cairina moschata*), monk parakeet (*Myiopsitta monachus*), black-hooded parakeet (*Nandayus nenday*), house sparrow (*Passer domesticus*), purple swamphen (*Porphyrio porphyrio*), Eurasian collared dove (*Streptopelia decaocto*), European starling (*Sturnus vulgaris*), and sacred ibis (*Threskiornis aethiopicus*) (ESCISMA 2009).

West Consensus Corridor

Several bird species are expected to utilize habitat in the West Consensus Corridor east of the park, along the L-31N canal and particularly in the wet prairie and exotic wetland hardwoods in the Bird Drive basin area and freshwater marshes in the Pennsuco wetlands north of the Tamiami Trail. As previously described in this section, the Bird Drive basin area, specifically, functions as a valuable short hydroperiod wetland, which is particularly important to wading birds because it provides shallow water and concentrated fish populations at a time when fish are dispersed through deep water in longer hydroperiod wetlands (e.g., SRS) (Richter 1988). Wading birds likely to occur in the West Consensus Corridor include great egret, little blue heron (*Egretta caerulea*), snowy egret (*Egretta thula*), green-backed heron (*Butorides striatus*), white ibis, and tri-colored heron. In the past, several species of raptors have been observed in the Bird Drive basin and are likely to occur in a variety of habitat types east of the park. These species include bald eagle (*Haliaeetus leucocephalus*), American kestrel (*Falco sparverius*), northern harrier (*Circus cyaneus*), osprey (*Pandion haliaetus*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), and sharp-shinned hawk (*Accipiter striatus*) (Richter 1988). Nonnative and invasive bird species are more likely to occur in the West Consensus Corridor due to the higher degree of disturbance in this area and the proximity to residential and industrial development.

AMPHIBIANS AND REPTILES

A variety of amphibians and reptiles are found in the wetlands in and near the project area. The deep-water habitats of the canal outlets are home to Southern leopard frogs (*Rana sphenocephala*), pig frogs (*Rana grylio*), and newts (*Notophthalamus* spp.). Numerous other amphibian species can occur in the area including the green tree frog (*Hyla cinerea*), Florida cricket frog (*Acris gryllus*), oak toad (*Bufo quercicus*), Southern toad (*B. terrestris*), Eastern narrow-mouth toad (*Gastrophryne carolinensis*), squirrel tree frog (*H. squirella*), Florida chorus frog (*Pseudacris nigrata*), little grass frog (*P. ocularis*), Eastern spadefoot toad (*Scaphiophus holbrookii*), two-toed amphiuma (*Amphiuma means*), Everglades siren (*Pseudobranchus axanthus*), and greater siren (*Siren lacertina*) (NPS n.d.a).

More than 50 species of reptiles are known to inhabit the park (NPS n.d.b). Snakes can be locally abundant and include the green water snake (*Nerodia cyclopion*) and the cottonmouth (*Agkistrodon piscivorus*). Other snakes that may be present in the area include the Florida water snake (*N. fasciata*), brown water snake (*N. taxispilota*), Peninsula ribbon snake (*Thamnophis sauritus*), and the Eastern garter snake (*T. sirtalis*) (NPS n.d.b). Lizard and gecko species present in the area include the green anole (*Anolis caroliniensis*), Eastern glass lizard (*Ophisaurus ventralis*), and the Florida reef gecko (*Sphaerodactylus notatus*) (NPS n.d.b). Mud turtles (*Kinosternon baurii*) and red-bellied turtles (*Chrysemys nelsoni*) can also be found in ponded areas.

The American alligator (*Alligator mississippiensis*) is a dominant native predator in the Everglades. Its role in forming "gator holes" is important in maintaining ponded areas during dry periods in the marsh that support a variety of other species (Kushlan 1990). The American alligator is addressed further in the "Special-status Species" section.

Nonnative Amphibians and Reptiles

Nonnative amphibians known from the Everglades region of south Florida include the coqui (*Eleutherodactylus coqui*), greenhouse tree frog (*E. planirostris*), Cuban treefrog (*Osteopilus septentrionalis*), and cane toad (*Rhinella marina*) (ECISMA 2009). Numerous nonnative reptiles are known from the Everglades including, but not limited to, the Burmese python (*Python molurus* spp. *bivittatus*), African rock python (*P. sebae*), Nile monitor (*Varanus niloticus*), brown anole (*Anolis sagrei*), common boa (*Boa constrictor*), caiman (*Caiman* spp.), anacondas (*Eunectes* spp.), and green iguanas (*Iguana iguana*) (ECISMA 2009). Many of these nonnative reptiles are voracious predators that are changing the ecosystem dynamics of the Everglades region.

West Consensus Corridor

Similar species (as those found in the EEEA) of amphibians and reptiles are expected to occur in the wetland and marsh habitats north and east of the park. Amphibians and reptiles strongly associated with wetlands that have been observed in the past in Bird Drive basin area (and are likely to occur in other wet habitat east of the park) include pig frog, leopard frog, snapping turtle (*Chelydra serpentina*), mud turtle, banded water snake (*Nerodia fasciata*), Florida chicken turtle (*Deirochelys reticularia*), and alligator (Richter 1988). Other amphibians and reptiles observed in this area east of the park (not necessarily associated with wetlands) include southern toad (*Bufo terrestris*), Cuban tree frog (*Osteropilus septentrionalis*), Florida box turtle (*Terrapene carolina bauri*), and racer (*Coluber constrictor*) (Richter 1988). Nonnative species may be more numerous in areas outside the park due to higher levels of disturbance and increased proximity to human development.

FISH

Native Fish

At least 28 native fish species are expected to occur in the project area (Loftus 2000). Most Everglades marsh fish are minnow-sized, which provides an advantage in dry periods when water levels and availability are low (Kushlan 1990). Freshwater fish are an important resource in the Everglades food chain (DeAngelis, Trexler, and Loftus 2005). The diet of many animals, such as, the otter, alligator, and wading birds include the assemblage of fish species in the Everglades. Species common to the Everglades marsh habitat include the mosquitofish (*Gambusia holbrooki*), golden topminnow (*Fundulus chrysotus*), sailfin molly (*Poecilia latipinna*), and the least killifish (*Heterandria farmosa*). Small individuals of larger species, such as warmouth (*Lepomis gulosus*) and spotted sunfish (*L. punctatus*) can be found in fluctuating marshes.

In the deep-water habitats, such as canals and culverts, larger fish species can survive and dominate (Kushlan 1990). These fish include Florida gar (*Lepisosteus platyrhincus*) and bullhead catfish (*Ictalurus natalis* and *nebulosus*), which are common along Highway 41, as well as bluegill (*Lepomis macrochirus*) and largemouth bass (*Micropterus salmoides*). Sunfish (*Lepomis* spp.) may also occur, but are affected by fluctuating water levels. These larger species support the recreational fishery in the L-29 canal and culvert pools along the Tamiami Trail.

In 2006, Rehage and Trexler published native and exotic fish data collected in five canals in Everglades National Park—four in WCAs and one in the C-111 canal panhandle. This study revealed that impacts of water management structures on fish populations are multifaceted and impact the ability of species to migrate, local fish densities, and local predation. However, the net effects were limited to the immediate vicinity of the canals and the downstream areas affected by increased phosphorus levels. Canals and other manmade flow control structures generally affect the abundance of aquatic species, but have generally have little effect on community structure at distances greater than 16 feet (5 meters). In their study (Rehage and Trexler 2006), the abundance of all fish groups, including large species, was correlated with increased phosphorus levels. At distances greater than 5 meters from the canal, small fish density was similar to that of interior marshes. However, large fish densities (e.g., Florida gar) increased slightly at distances up to 3, 280 feet (1,000 meters) from the L-29 canal. In addition, culvert holes are known to contain a disproportionately higher number of large fish compared to natural marshes. Large and small fish concentrate in the culvert holes seasonally, where the small fish may be consumed by the large fish. Thus, culvert pools have the potential to disrupt the natural fish community found in these wetlands (Howard, Loftus, and Trexler 1995).

Nonnative Fish

The many canals and WCAs which retain water level throughout the year have allowed several nonnative fish species to enter and persist in the Everglades. More than 50 introduced fish species are found in the Everglades and south Florida (Trexler et al. 2000). Several species of these exotic fish are sought by anglers, such as tilapia (*Tilapia* spp.) and peacock bass (*Cichla ocellaris*). Other species commonly found in the aquarium trade, such as oscars (*Astronotus ocellatus*, a member of the cichlid family) and Mayan cichlids (*Cichlasoma uropthalmus*) are widely dispersed and can be locally abundant, especially in water management structures. Many introduced species prefer habitats that have warmer water temperatures and a longer hydroperiods, such as canals and culvert holes (Trexler et al. 2000).

Canals are preferred habitats for introduced fish species and provide thermal refuge during the cold season and provide water refuge during the dry season when marsh surfaces can become exposed (Trexler et al. 2000). Canals contain larger concentrations of nonnative fish species than wet prairies and alligator ponds distant from canals; this indicates that nonnative fish species may not be able to tolerate cold temperature stress and hydrologic fluctuations more typical of a natural marsh environment (Trexler et al. 2000). Marsh habitats connected to canals tend to have more nonnative fish than marshes not connected by canals (Trexler et al. 2000). Culvert pools provide few microhabitats that would be typical of a natural marsh environment (Howard, Loftus, and Trexler 1995). Exotic fish are known to concentrate in artificial culvert pools as water levels decline during the dry season and leave the culvert pools and enter the natural marsh upon reflooding conditions (Howard, Loftus, and Trexler 1995). Culvert pools are thought to alter the natural predator-prey dynamics because they harbor large, predatory fish species and do not provide an adequate environment for avian predators (Howard, Loftus, and Trexler 1995).

The interaction between native and nonnative species depends on local environmental conditions that can include habitat patches and water temperature. Environmental disturbances, including construction of water control measures, hurricanes, and tropical storms, can elevate water levels in the park and increase distribution of nonnative fish throughout the park (Trexler et al. 2000).

No native fish extinctions or widespread fish community disruptions resulting from the introduction of nonnative fish have been noted. However, it should not be inferred that nonnative fish species have no effect on native communities; over time, it is possible that nonnative fish species could adversely impact native fish community structure. Competitive interactions between native and nonnative species have been observed, and smaller, native species are subject to predation by larger nonnative species (Trexler et al. 2000).

West Consensus Corridor

Both native and exotic fish species are expected to occur in the L-31N canal. As described above, canals are preferred habitat for many introduced fish species. Small fish and tadpoles are common throughout the extensive flooded areas north and east of the park that would be crossed by this corridor, especially the Pennsuco wetlands and Bird Drive basin. Fish species that have been observed in the Bird Drive basin area, and are likely to occur in other wetland/marsh habitat east of the park, include Florida gar, golden shiner (*Notemigonus crysoleucas*), walking catfish (*Clarias batrachus*), flagfish (*Jordanella floridae*), mosquitofish, sailfin molly, warmouth sunfish, redear sunfish (*Lepomis microlophus*), bluegill sunfish (*Lepomis macrochirus*), black acara (*Cichlasoma bimaculatum*), and Mozambique tilapia (*Tilapia mossambica*) (Richter 1988).

INVERTEBRATES

Invertebrates expected to be in the project area include leeches, worms, insects, spiders, crustaceans, and mollusks. Many invertebrates, including the crayfish (*Procambarus alleni*, *P. fallax*), riverine grass shrimp (*Palaemonetes paludosus*), and several species of snails, are considered keystone species because of the dietary importance to many other animals in the Everglades (Lodge 2005). Notably, the Florida apple snail (*Pomacea paludosa*), is an important freshwater mollusk because it is the primary food source of the endangered Everglade snail kite. Inventories of most major taxonomic groups of invertebrates have not been conducted in the project area or the park in general. As a result, the vast majority of invertebrates that occur in the project area are not well known.

Nonnative Applesnails

The nonnative island applesnail (*Pomacea insularum*) has been documented in artificial habitats such as the L-29 canal and in the Old Tamiami Trail canal within the northern boundary of Everglades National Park. Egg masses are thought to disperse to downstream wetlands during high water conditions. The spiketop applesnail (*Pomacea bridgesi*), giant ramshorn snail (*Marisa cornuarietis*), Asian clam (*Corbicula fluminea*), and the red-rimmed melania (*Melanoides tuberculata*) are also known to occur near the project area (Kline pers. comm. 2008). It is thought that these species may be replacing the native applesnail within the Everglades. The native applesnail is the main food source for the endangered Everglade snail kite. The Everglade snail kite beak is designed to feed on the native applesnail and cannot readily feed on the spiketop applesnail because the shape of its shell does not match the kite's beak (Kline pers. comm. 2008). Research conducted thus far within and around the L-29 canal, discharge structures, and the downstream wetland habitats indicates that nonnative applesnails are found in higher abundances adjacent to artificial and disturbed habitats than within less disturbed downstream wetland habitats (Kline pers. comm. 2008).

West Consensus Corridor

Invertebrates expected to occur in the West Consensus Corridor north and east of the park would be similar to those that occur within the EEEA (especially those associated with wetland/marsh habitat).

Species observed in the Bird Drive basin area (and likely occurring in the Pennsuco Wetlands north of the Tamiami Trail), include crawfish, apple snail, and prawn (or riverine grass shrimp) (Richter 1988).

SPECIAL-STATUS SPECIES

Special-status species are defined as any species protected under the Endangered Species Act (ESA) and the Florida Endangered Species Act Chapter 379.2291 or described in Florida Administrative Code (F.A.C.) Chapter 68A-27. The area of analysis for protected species is bounded generally to the west by the western edge of the FPL West Secondary Corridor and to the east by the eastern edge of the West Consensus Corridor. The FPL Levee substation is at the northern border of the area of analysis. The southern boundary of the area of analysis is just south of the park where the various transmission line options diverge.

The area of analysis for selected avian species extends beyond the boundaries described above to account for the large foraging ranges of some species of wading birds. The area of analysis for avian species with large foraging areas extends east and north from the FPL levee substation to the Pennsuco Substation. The western edge of the avian area of analysis extends west from the FPL West Secondary and FPL West Preferred Corridors and includes the EEEA. The Clear Sky Substation is at the same latitude as the southern boundary of the avian area of analysis. The eastern boundary of the avian area of analysis is the eastern coastline of Florida.

The USFWS Information, Planning, and Conservation System and the Florida Natural Areas Inventory (FNAI) Biodiversity Matrix were queried to generate an initial list of species potentially found within the area of analysis. This list was narrowed using professional judgment to a group of species to be analyzed in detail after review of Chapter 9 of the FPL Site Certification Application (SCA) (FPL 2009b), the "FPL Turkey Point 6 & 7 Threatened and Endangered Species Evaluation and Management Plan," several older surveys specific to the Bird Drive basin area, species lists contained in the Institute for Regional Conservation online database, a geographic information system (GIS) layer of species observations in Miami-Dade County in the study area from the FNAI, and discussions with NPS biologists familiar with the park and the area of analysis. These species are discussed below. Those species that were dismissed from further analysis are also discussed, along with the reasons for the dismissal.

FEDERALLY LISTED SPECIES

The ESA prohibits the taking of any species listed by the USFWS as being either threatened or endangered. "Take" is defined under the ESA as, "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." Through a special regulation, the USFWS clarified the definition of harm to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding or sheltering." This section, along with the impacts analysis in chapter 4 of this document, fulfills the NPS obligation under Section 7 to document federally listed species and determine the effects of the proposed NPS action on these species.

Table 9 lists the federal threatened and endangered wildlife species and candidate species that could potentially be found in the area of analysis. These species are discussed below.

TABLE 9: FEDERALLY LISTED ENDANGERED, THREATENED, AND CANDIDATE WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE AREA OF ANALYSIS

Common Name	Scientific Name	Federal Status	State Status
Mammals			
West Indian manatee	*Trichechus manatus*	Endangered	Endangered
Florida panther	*Felis concolor coryi*	Endangered	Endangered
Florida bonneted bat	*Eumops floridanus*	Endangered	Endangered
Birds			
Wood stork	*Mycteria americana*	Threatened	Threatened
Everglades snail kite	*Rostrhamus sociabilis plumbeus*	Endangered	Endangered
Reptiles			
Eastern indigo snake	*Drymarchon corais couperi*	Threatened	Threatened

Animals

Six federally listed animal species have the potential to occur within the area of analysis. These species and their federal status are presented in table 9. The probability of occurrence for each species was ranked as low (not likely to occur), moderate (known to occur within the area of analysis but observations are few and infrequent), or high (known to occur within the area of analysis and observed frequently at least during portions of the year).

West Indian Manatee

The West Indian manatee was first listed as endangered in 1967. This large, herbivorous mammal lives in freshwater, brackish, and marine habitats and eats submerged, emergent, and floating vegetation. They do not use terrestrial habitats during any life stage. In Florida, manatees are commonly found from the Georgia/Florida border south to Biscayne Bay on the east coast and from Wakulla River south to Cape Sable on the west coast; they are also found throughout the waterways in the Everglades and in the Florida Keys (USFWS 1999). For the period of record of over 20 years, there is one record of a manatee using the L-29 canal adjacent to Tamiami Trail (NPS 2009b). This species has not been documented in the culvert pools south of Tamiami Trail (NPS 2009b). The West Indian manatee has a low likelihood of occurrence in the SFWMD canals within the area of analysis.

Florida Panther

In general, the Florida panther appears to prefer large, remote tracts with adequate prey, cover, and reduced levels of disturbance (USFWS 1999). Radio-collar data and ground tracking indicate that panthers use the mosaic of habitats available to them with forested cover types, particularly cypress swamp, pinelands, hardwood swamp, and upland hardwood forests being the habitat types most selected by panthers (USFWS 2008). Dense saw palmetto is preferred for resting and denning. Panther breeding may occur throughout the year, with a peak during the period of winter and spring. Panthers have a gestation period of around 90 to 95 days, litter sizes of one to four kittens, and a breeding cycle of two years for females successfully raising young to dispersal, which occurs around 18 to 24 months (USFWS 1999). The panthers' preferred prey species are the white-tailed deer and feral hogs (USFWS 2008). The puma (*Puma concolor*) is listed as threatened due to its similarity in appearance to the Florida panther.

As shown in figure 12, the area of analysis includes portions of the Florida panther primary zone that supports the sole breeding population of Florida panthers, as well as the secondary zone that includes lands that are contiguous with the primary zone and, although these lands are used to a lesser extent by panthers, they are important to the long-term viability and persistence of the panther in the wild (USFWS 2007a). No critical habitat has been designated for Florida panther under the ESA. Telemetry data indicate that Florida panthers have previously ranged adjacent to the Tamiami Trail (NPS 2009b). Panthers within the park are not currently radio collared. Additionally, panthers have been involved in vehicle collisions along the Tamiami Trail, which further supports their potential presence adjacent to and in the area of analysis (NPS 2009b). It is also possible there could be other uncollared Florida panthers within or adjacent to the area of analysis. Florida panthers observed within the area of analysis likely have home ranges that extend outside the area of analysis. The Florida panther has a moderate probability of occurrence within the area of analysis.

Florida Bonneted (Mastiff) Bat

The Florida bonneted (mastiff) bat was listed as endangered on October 2, 2013 (78 FR 61003–61043). The Florida bonneted bat is the largest bat species in Florida. Its range encompasses southern Florida, including Charlotte, Collier, and Lee counties on the Gulf Coast and Miami-Dade County on the Atlantic Coast (Timm and Arroyo 2008). The Florida Bonneted bat occurs in urban, suburban, and forested areas; it roosts in buildings (e.g., in attics, rock or brick chimneys of fireplaces, and especially under Spanish roof tiles, often in buildings dating from about 1920 to 1930); sometimes in tree hollows (including those made by woodpeckers), occasionally in foliage of palm trees (e.g., shafts of royal palm leaves); and has been found under rocks, in fissures in limestone outcrops, and near excavations (Timm and Arroyo 2008). Very little is known about the life history of Florida bonneted bats. Flying insects are thought to be the primary component of their diet. Loss of habitat, impacts on their prey base from pesticides and natural disasters such as hurricanes are thought to be serious threats to this species given the small size of the population and the low fecundity of the species (FFWCC 2011).

The Florida bonneted bat was recorded by NPS personnel during monitoring efforts in the vicinity of the L-31N canal (Tylan pers. comm. 2012). The Florida bonneted bat has a high probability of occurring within the park in the vicinity of the FPL West Preferred Corridor. There is a moderate probability of the Florida bonneted bat occurring within the park in the vicinity of the FPL West Secondary Corridor. There is also a moderate probability of the Florida bonneted bat occurring within the West Consensus Corridor.

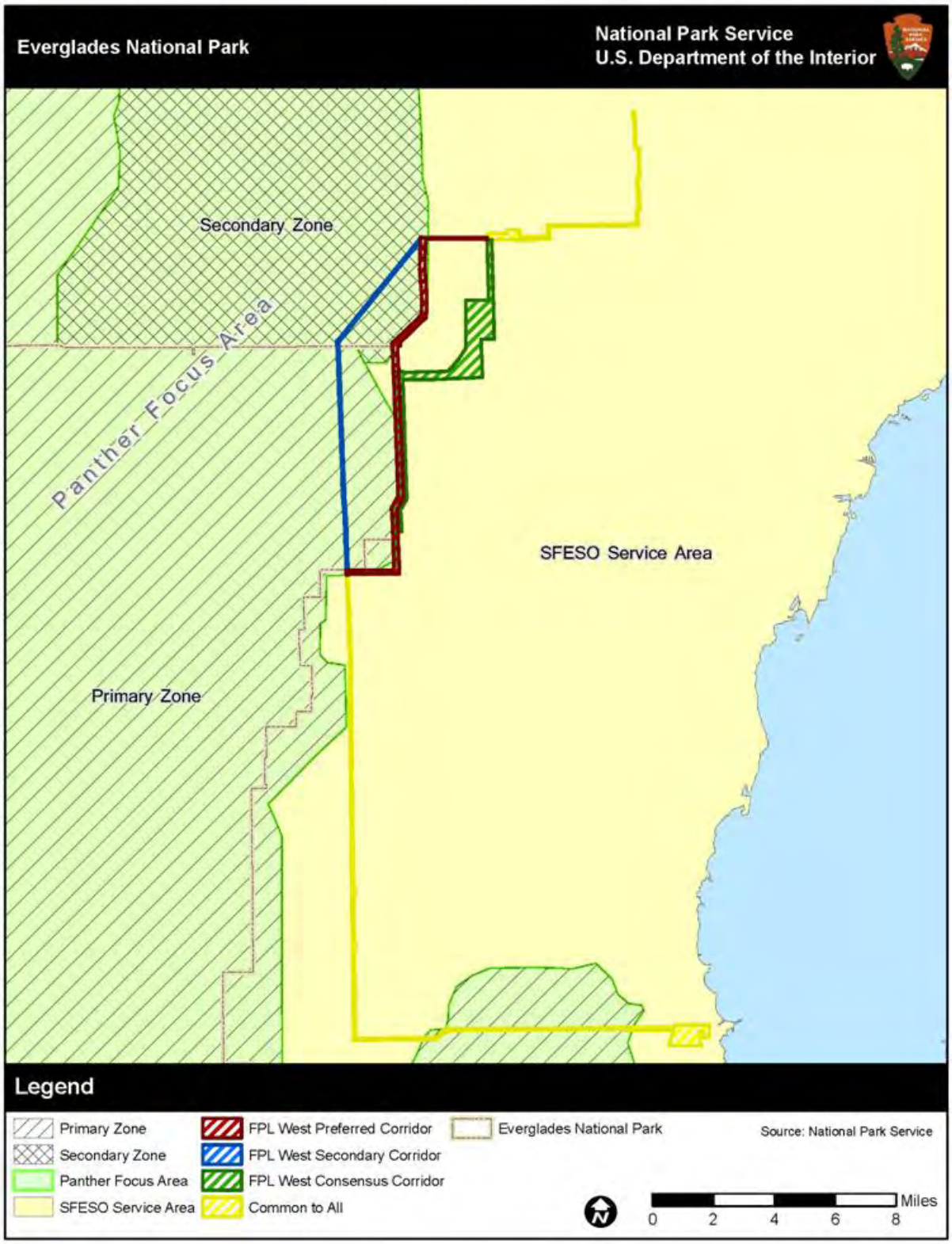


FIGURE 12: FLORIDA PANTHER FOCUS AREA AND ZONES OF IMPORTANCE IN SOUTH FLORIDA

Wood Stork

Wood storks are birds of freshwater and brackish wetlands, primarily nesting in cypress or mangrove swamps. They feed in freshwater marshes, narrow tidal creeks, or flooded tidal pools, primarily on fish between 0.8 and 9.8 inches (2 and 25 centimeters) long (USFWS 1999). Particularly attractive feeding sites are depressions in marshes or swamps where fish become concentrated during periods of falling water levels. The U.S. breeding population of the wood stork declined from an estimated 20,000 pairs in the 1930s to about 10,000 pairs by 1960 then to fewer than 5,000 breeding pairs in the 1970s and 1980s (USFWS 1999). The decline is believed to be due primarily to the loss of suitable feeding habitat, especially in south Florida rookeries, where repeated nesting failures have occurred despite protection of the rookeries. Feeding areas in south Florida have decreased by about 35 percent since 1900 because of human alteration of wetlands (USFWS 1999). Additionally, human-made levees, canals, and floodgates have greatly changed natural water regimes in south Florida (USFWS 1999). The wood stork was listed as endangered under the ESA in 1984. Since listing, breeding pairs have risen to a high of over 11,000 nesting pairs in Florida, Georgia, South Carolina, and North Carolina in 2006 (USFWS 2007b). The wood stork was downlisted from endangered to threatened status on June 30, 2014 (79 FR 37077–37103). Critical habitat for the wood stork has not been designated under the ESA.

Four wood stork rookeries are located within 5 miles of the corridors in the vicinity of Tamiami Trail: Tamiami East 1, Tamiami East 2, Tamiami West (sometimes listed as two locations including the Coopertown rookery), and 3B Mud East (NPS 2010a; Exponent 2013). Figures 13 and 14 depict the locations of these nests in relation to the transmission corridors. Some data sources do not split the Tamiami colonies into 4 distinct groups, which can confound data analysis. These rookeries are considered active because nesting has been recorded in the last 10 years (NPS 2010a). An estimated 30 wood stork colonies are located within 30 miles of the area of analysis and the core foraging area of multiple colonies includes the area of analysis. The core foraging area, as defined by the USFWS for South Florida wood stork colonies, is an 18.6-mile radius around each colony (USFWS n.d.). There is a high probability of wood storks occurring in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors. The Tamiami East 2 colony is approximately 1,136 feet to the east of the FPL West Secondary Corridor, while the 3B Mud East colony is approximately 1,576 feet to the west of the FPL West Preferred Corridor. The nearest wood stork colony to the West Consensus Corridor is approximately 1,237 feet (0.8 miles) to the northwest (Tamiami Trail East 1), and wood storks are expected to occasionally forage in this area. The Tamiami Trail East 1 wood stork colony is 2.99 miles to the west of the hypothetical route along the eastern side of the area of possible relocated corridor, which had been used for analysis purposes in the draft EIS in the avian risk assessment (ARA) conducted as part of this EIS (Exponent 2013). The ARA and an addendum are included as appendix J of this document. Because the West Consensus Corridor was developed after the draft EIS and supporting studies were completed, the ARA does not address that corridor specifically. Based on the proximity of Tamiami East 1 and 2 to the area where the West Consensus Corridor turns due east from the L-31N canal alignment, there is a moderate probability of wood storks foraging in wetlands within the West Consensus Corridor.

Note that the numbers of nesting wood storks at each colony will vary from year to year. Tamiami West is relatively large and consistently used; 3B Mud East is smaller and is not occupied by wood storks every year (NPS 2011b). Data from 2009 through 2011 shows that 3B Mud East had 7 nests, while Tamiami East 1 and 2 had 10–15 and 20–30 bird nests in a year, respectively. Data for the Tamiami West colonies combined indicate a range of 100 to 1,300 nests in one year. Table 10 presents the number of nests at the Tamiami East 1, Tamiami East 2, Tamiami West (Coopertown), and 3B Mud East colonies for the years 1992 through 2011. The highest nest count for Tamiami East 1 during this period was recorded in 2000 with 400 nests, while the high count for Tamiami East-2 was 30 nests in 2010. The highest number of nests recorded at Tamiami West (Coopertown) was 1,400 in 2001. The greatest number of nests observed at 3B Mud East during the period of 1992-2011 was 130 in 2004.

TABLE 10: WOOD STORK COLONY NESTING DATA 1992–2011

Year	Tamiami East 1	Tamiami East 2	Tamiami West (Coopertown)	3B Mud East
1992	20–150	0	30–100	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	150–180	0
1997	0	0	20–220	0
1998	0	0	0	0
1999	50	0	75–1374	0
2000	400	0	0	0
2001	0	0	1400	0
2002	0	0	200–450	0
2003	0	0	20–400	0
2004	0	0	50	130
2005	0	0	5–110	20
2006	0	0	150–400	15
2007	0	0	50–75	0
2008	0	0	0	0
2009	10	20	240–1300	7
2010	15	30	650	0
2011	0	0	100–600	0

Source: NPS 2010e; NPS 2011b.

The wood stork population is listed as endangered, primarily due to loss, fragmentation, and degradation of the wetland habitats that they depend on. Since listing, the wood stork population has shown signs of improvement, and the range has been expanding northward. In 2012, the USFWS proposed downlisting the wood stork from endangered to threatened in recognition of the expansion of the stork's population. However, the recovery plan for the wood stork identifies that to be delisted, improvements in nesting success are needed in the Big Cypress and Everglades regions. Although there have been improvements in wood stork nesting in the Everglades region, the majority of increases in wood stork nesting have been observed further north, outside of the species' historic range in the southeastern United States. In the Everglades, nesting success tends to be irregular, with occasional "big" nesting years interspersed with several poor years, and in the big years, the success of the South Florida colonies is significant. For example, in 2001, the Tamiami West colony supported approximately 25 percent of all wood stork nesting in the United States (NPS 2011b; 77 FR 247). As a result, increases in risk, particularly to adult storks, could substantially reduce productivity and nesting from current rates.

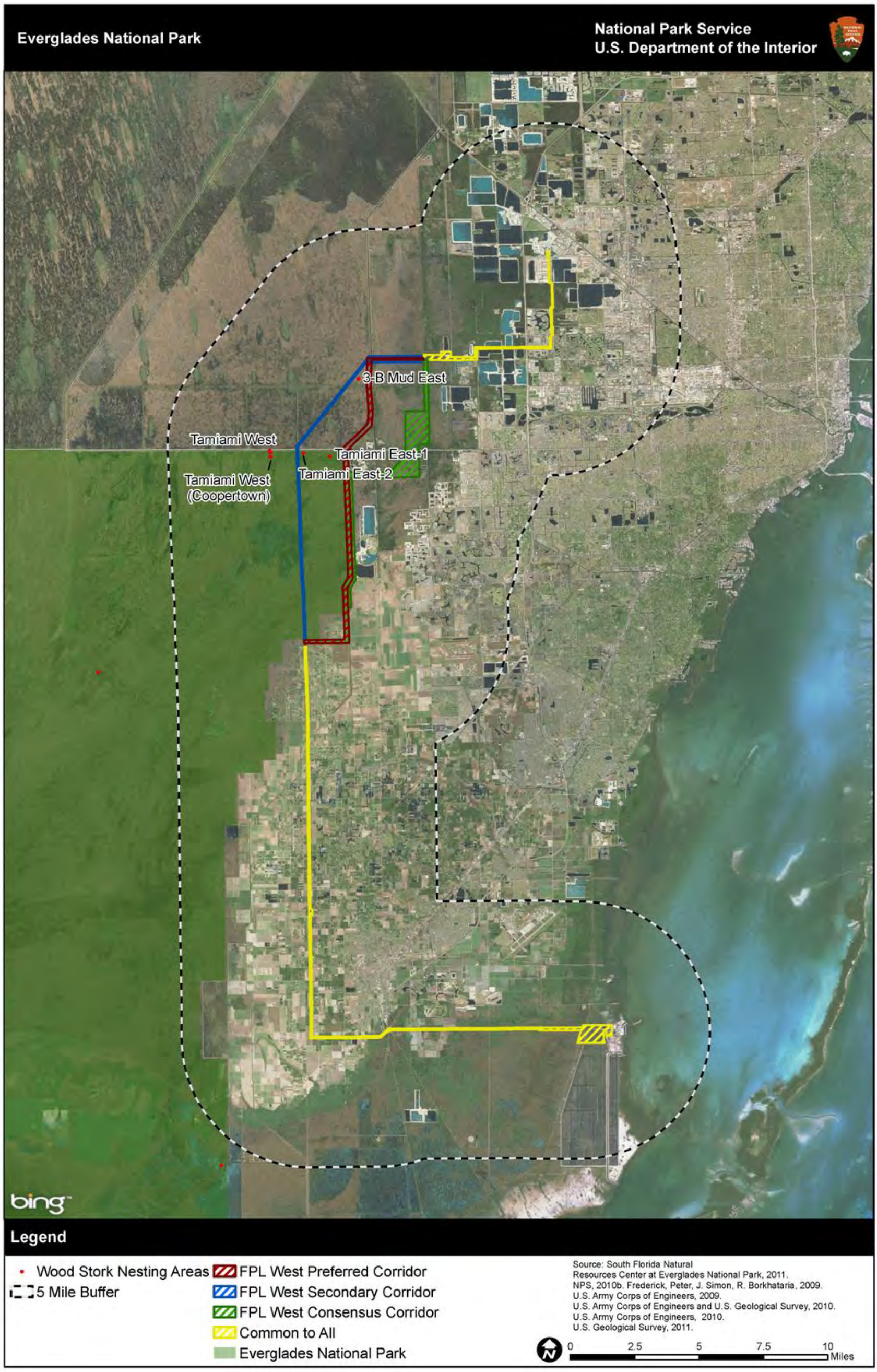


FIGURE 13: WOOD STORK COLONY AND NESTING DATA

FIGURE 14: WOOD STORK NESTING LOCATIONS IN THE VICINITY OF THE FPL WEST PREFERRED CORRIDOR AND WEST CONSENSUS CORRIDOR

Everglade Snail Kite

The Everglade snail kite is an endangered raptor that inhabits the freshwater marshes and marl prairies of the Florida peninsula. Its population is currently estimated at less than 1,000 birds (NPS 2010a). The Everglade snail kite feeds almost exclusively on the applesnail (*Pomacea paludosa*), so the continued existence and availability of this snail primarily decides the fate of the snail kite. The applesnail lives in freshwater wetlands with sparsely distributed emergent vegetation consisting predominantly of grass and sedge species. Managing the hydrology of these marshes is important to the survival of the snails. Multiple Everglade snail kite nest have been observed in or within 1,000 feet of the FPL West Secondary and FPL West Preferred Corridors (NPS 2010a) (figure 15). Figure 16 provides a close-up view of the nests closest to the FPL West Preferred Corridor. The area of analysis falls within the USFWS Everglade Snail Kite Consultation Area, but it is not within ESA designated critical habitat (USFWS 2003). There is a high probability of Everglade snail kite foraging and nesting in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors since there are nest records from within and near these corridors. The closest recorded Everglade snail kite nest to the West Consensus Corridor is within 864 feet (0.16 mile) of the corridor, just northwest of the area where the West Consensus Corridor turns east, away from the alignment along the L-31N canal. Although this routing redirects the corridor away from snail kite nests that are just west of the canal and to the north, there is still a moderate probability of Everglade snail kite foraging within the West Consensus Corridor. Additional information on Everglade snail kites can be found in the ARA (appendix J); however, the analysis in the ARA does not include distances to the West Consensus Corridor.

The Everglade snail kite population in Florida has been in decline throughout its range since approximately 2000. Since that year, the total estimated population has declined by approximately 80 percent, from an estimated 3,400 kites in 2000, to around 700 since 2008. At these low population levels, the species is considered vulnerable to extinction, and survival of adults and young is critically important because nest success is often irregular. For example, in 2011 and 2012, fewer than 20 nests successfully fledged young within the Everglades wetlands. Any factors that may increase mortality of adult kites, decrease nesting success, or reduce the suitability of nesting habitat, could result in population-level effects.

Eastern Indigo Snake

The eastern indigo snake is the longest of the Native North American snakes, with a heavy body and shiny blue-black coloring. This, docile, non-venomous snake has declined in numbers over the last 100 years because of a loss of habitat, pesticide use, and collection for the pet trade. The USFWS has categorized the species as declining with strict enforcement of anti-collection laws needed (USFWS 2008). The eastern indigo snake is known to use many habitat types ranging from wetlands to uplands, and including disturbed areas (USFWS 2012a). In upland (xeric) areas, eastern indigo snakes are strongly associated with gopher tortoise (*Gopherus polyphemus*) burrows (USFWS 2012a). In south Florida, eastern indigo snakes are known to occupy agricultural sites, such as sugar fields, which were created in former wetland areas (USFWS 2012a).

The eastern indigo snake uses the burrows of other animals for denning or to lay eggs. The preferred diet of these snakes is frogs, other snakes, toads, salamanders, small mammals, and birds. In summer, the eastern indigo snake ranges widely (over 125 to 250 acres) in search of prey, but in winter the snake generally stays close to the den (within 25 acres). The USFWS (2004) conducted a year-long road kill survey along Tamiami Trail and found many reptiles and amphibians but had no documented indigo snakes in the survey. There is a low probability of eastern indigo snakes occurring within the area of analysis because of the rarity of the species, the type of wetlands present, and the level of disturbance of the upland areas.

Federally Listed Animal Species Dismissed from Further Analysis

Elkhorn coral (*Acropora palmata*) staghorn coral (*Acropora cervicornis*), smalltooth sawfish (*Pistis pectinata*), green sea turtle (*Chelonia midas*), hawksbill sea turtle (*Eretmochelys imbricata*), and the leatherback sea turtle (*Dermochelys coriacea*) are marine species. Since the area of analysis does not include marine waters, these species were dismissed from further analysis. The gulf sturgeon (*Acipenser oxyrinchus desotoi*), another aquatic species, was dismissed because habitat for this species does not exist within the area of analysis.

The American crocodile (*Crocodylus acutus*) is not found within the area of analysis and was dismissed from further analysis. Since the American alligator (*Alligator mississippiensis*) is listed as threatened due to similarity of appearance to the American crocodile and the crocodile is not found within the area of analysis, the American alligator was dismissed from further analysis.

Bartram's hairstreak butterfly (*Strymon acis bartrami*) and Florida leafwing butterfly (*Anaea troglodyta floridalis*), two species that are candidates for listing under the ESA, were dismissed from further analysis since habitat for these species does not exist within the area of analysis. The Miami blue butterfly (*Cyclargus thomasi bethunebakeri*) and the Schaus swallowtail butterfly (*Heraclides aristodemus ponceanus*) do not occur in the study area and were dismissed from further analysis. The Cassius blue butterfly (*Leptotes cassius theonus*) and the ceraunus blue butterfly (*Hemiargus ceraunus antibubastus*) were listed as threatened due to similarity of appearance to the Miami blue butterfly. These species are dismissed from further analysis since only collecting and possessing these species is prohibited in their listing; take due to other legal activities is not prohibited.

Habitat for the Cape Sable seaside sparrow (*Ammadramus maritimus mirabilis*) does not exist within the area of analysis; therefore, the species was dismissed from further analysis.

Plants

Four federally listed or candidate species have the potential to occur within the area of analysis. These species and their status under the ESA are presented in table 11. The probability of occurrence for each species was ranked as low (not likely to occur due to lack of or disturbed preferred habitat), moderate (known to occur within the area of analysis but observations are few and preferred habitat is disturbed), or high (known to occur within the area of analysis and preferred habitat is present).

TABLE 11: FEDERALLY LISTED ENDANGERED, THREATENED, AND CANDIDATE PLANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE AREA OF ANALYSIS

Common Name	Scientific Name	Federal Status	State Status
Blodgett's silverbush	*Argythamia blodgettii*	Proposed Threatened	Endangered
Garber's spurge	*Chamaesyce garberi*	Threatened	Endangered
Sand flax	*Linum arenicola*	Candidate	Endangered
Tiny polygala	*Polygala smallii*	Endangered	Endangered

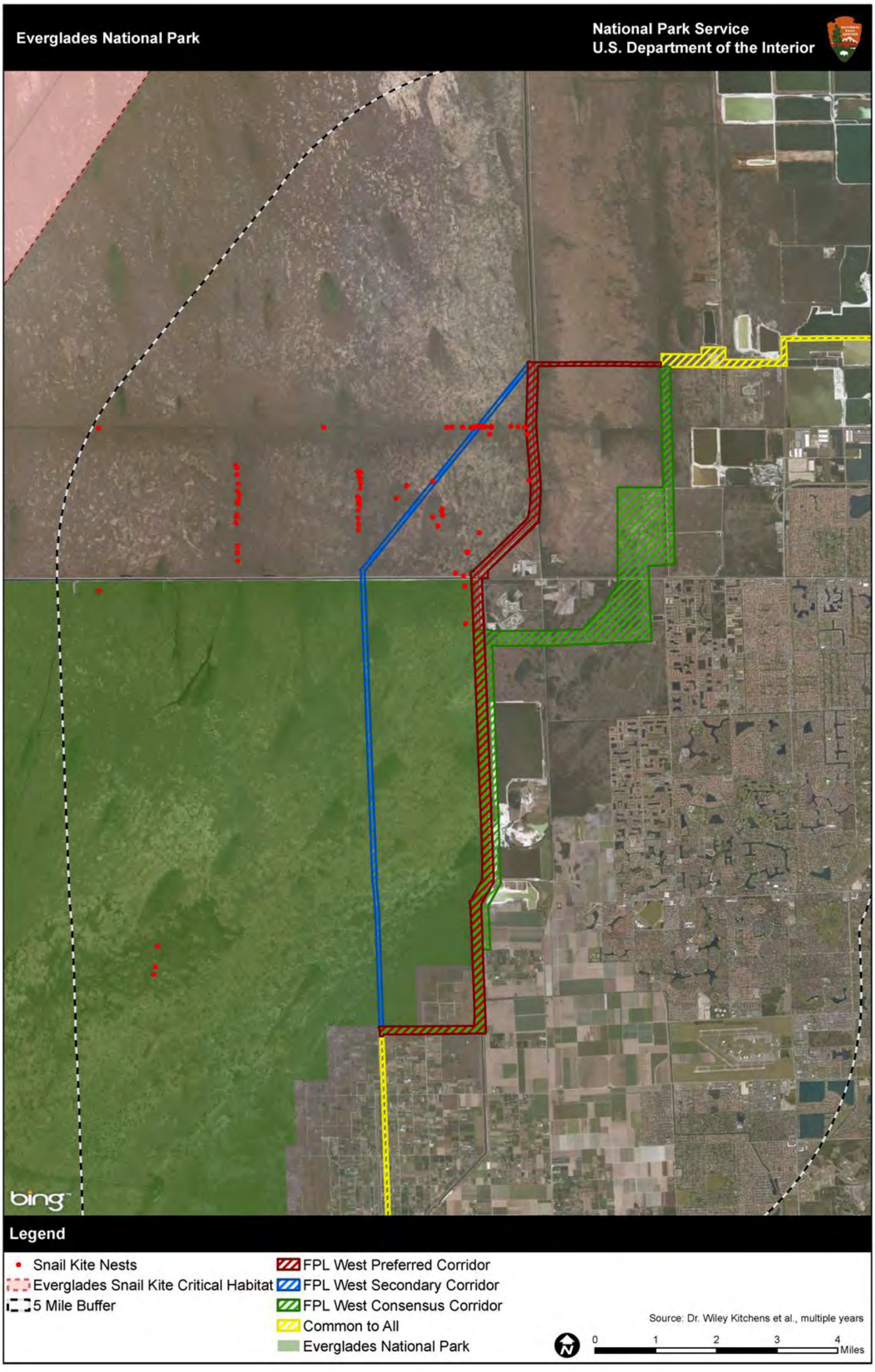


FIGURE 15: SNAIL KITE NESTING LOCATIONS

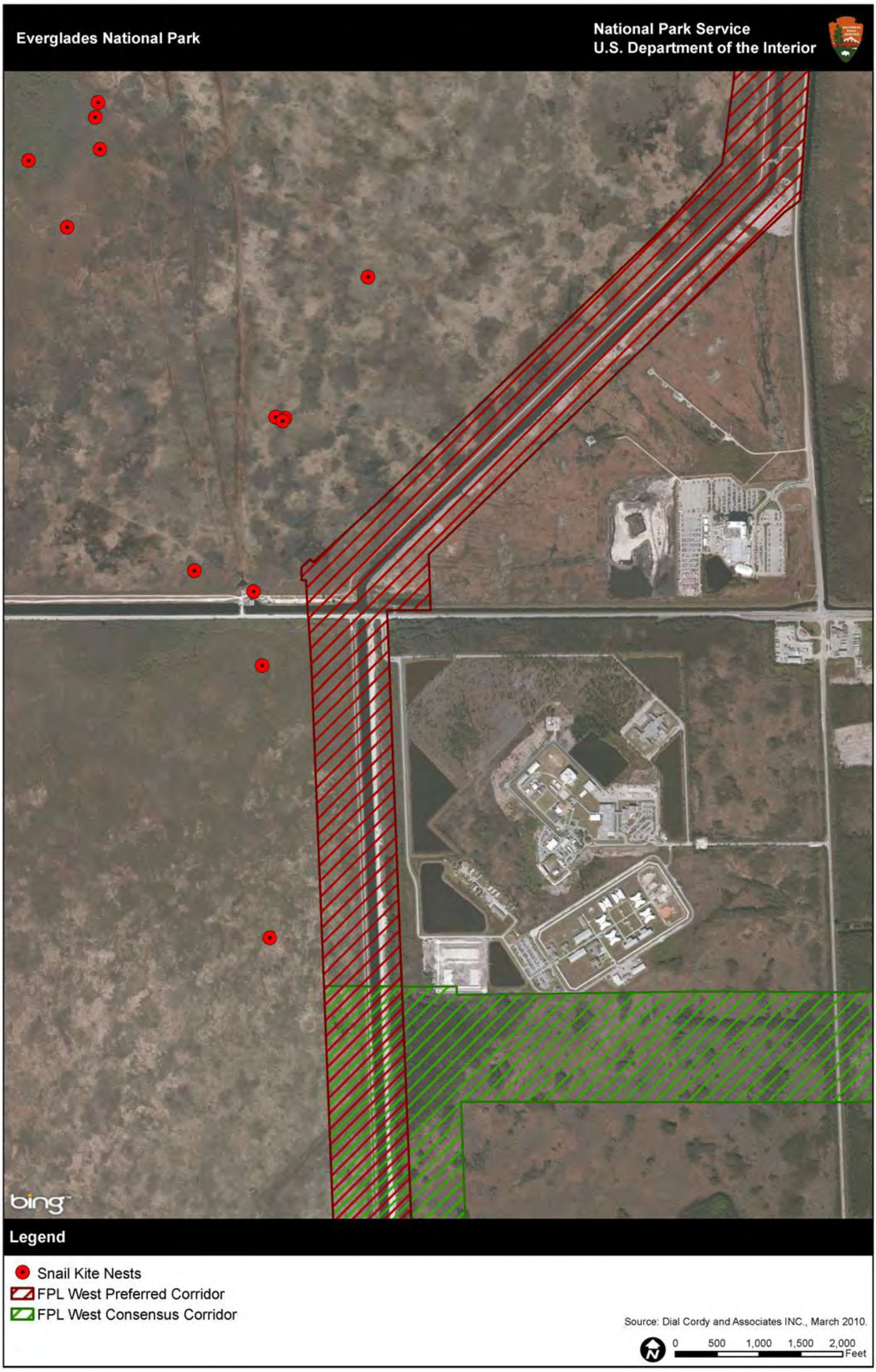


FIGURE 16: SNAIL KITE NESTING LOCATIONS IN THE VICINITY OF THE FPL WEST PREFERRED CORRIDOR AND WEST CONSENSUS CORRIDOR

Blodgett's Silverbush

On September 28, 2015, the USFWS published a proposed rule to list Blodgett's silverbush as threatened under the ESA. Blodgett's silverbush is also a state endangered plant. It is reported from Monroe and Miami-Dade Counties and Everglades National Park in coastal rock barren, disturbed upland, pine rockland, and pine hammock habitats (Gann, Bradley, and Woodmansee 2013). The FNAI has one report from 2005 of Blodgett's silverbush plants in the vicinity of the area of analysis in pineland and pine rockland habitat (figure 17) (FNAI 2012b); however, this location is more than 1 mile from the area of analysis. Blodgett's silverbush is unlikely to occur within the FPL West Secondary and FPL West Preferred Corridors due to lack of habitat. Blodgett's silverbush has a moderate likelihood of occurrence in disturbed uplands in the West Consensus Corridor.

Garber's Spurge

Garber's spurge is a federally threatened and a state endangered species. Garber's spurge is reported from Monroe and Miami-Dade Counties and Everglades National Park in beach dune, coastal rock barren, disturbed upland, and pine rockland habitats (Gann, Bradley, and Woodmansee 2013). Garber's spurge is unlikely to occur within the FPL West Secondary and FPL West Preferred Corridors due to lack of habitat. Garber's spurge has a low likelihood of occurrence in disturbed uplands in the West Consensus Corridor.

Sand Flax

Sand flax is a candidate for listing under the ESA and a state endangered species. It is reported from Monroe and Miami-Dade Counties in disturbed uplands, marl prairie, and pine rocklands (Gann, Bradley, and Woodmansee 2013). Sand flax is unlikely to occur within the FPL West Secondary and FPL West Preferred Corridors due to lack of habitat. Sand flax has a low likelihood of occurrence in disturbed uplands in the West Consensus Corridor.

Tiny Polygala

Tiny polygala is both federally and state endangered. It is reported from Broward, Martin, Miami-Dade, and Palm Beach Counties in disturbed upland, pine rockland, sandhill, scrub, and scrubby flatwoods habitats (Gann, Bradley, and Woodmansee 2013). Tiny polygala is unlikely to occur within the FPL West Secondary and FPL West Preferred Corridors due to lack of habitat. Tiny polygala has a low likelihood of occurrence in disturbed uplands in the West Consensus Corridor.

Federally Listed Plant Species Dismissed from Further Analysis

Florida bristle fern (*Trichomanes punctatum* ssp. *floridanum*), Beach jaquemontia (*Jacquemontia reclinata*), Cape Sable thoroughwort (*Chromolaena frustrata*), Carter's mustard (*Warea carteri*), crenulate lead-plant (*Amorpha crenulata*), deltoid spurge (*Chamaesyce deltoidea* ssp. *deltoidea*), hairy deltoid spurge (*Chamaesyce deltoidea* ssp. *adhaerens*), Everglades bully (*Sideroxylon reclinatum* ssp. *austrofloridense*), Florida pineland crabgrass (*Digitaria pauciflora*), Florida semaphore cactus (*Consolea corallicola*), Florida brickell-bush (*Brickellia mosieri*), Florida prairie-clover (*Dalea carthagenensis* var. *floridana*), pineland sandmat (*Chamaesyce deltoidea* ssp. *pinetorum*), Small's milkpea (*Galactia smallii*), Carter's flax (*Linum carteri* var. *carteri*) and Gulf licaria (*Licaria triandra*) were dismissed from further analysis. Habitat for these species does not occur in the area of analysis and/or the area of analysis is outside the known ranges of these species. Cape Sable thoroughwort, Everglades bully, Carter's flax, and Florida pineland crabgrass are reported from the park (Gann, Bradley, and Woodmansee 2013); however, habitat for these species is not believed to occur within the area of analysis.

There is one report of Okeechobee gourd (*Cucurbita okeechobeensis* ssp. *okeechobeensis*) from a canal bank in Miami-Dade County. However, the area of analysis is outside the primary range of this species and the probability of encountering this species in the area of analysis is very low; therefore, this species was excluded from further analysis. Johnson's sea grass (*Halophila johnsonii*) is a marine species. Since the area of analysis does not marine habitats, Johnson's sea grass was excluded from further analysis.

STATE-LISTED SPECIES

There are a variety of state-listed plant and animal species in Florida. The Florida Fish and Wildlife Conservation Commission (FFWCC) lists 63 animals as state threatened or species of species concern (FFWCC 2012b). The Florida Department of Agriculture lists 421 plant species as state endangered and 113 plant species as state threatened (Coile and Gardner 2003).

Animals

Eleven state-listed animal species are most likely to occur within the affected area. These species, and their state status, and brief descriptions of each species are outlined in the table 12.

TABLE 12: STATE-LISTED ANIMAL SPECIES WITH THE POTENTIAL TO OCCUR IN THE AREA OF ANALYSIS

Common Name	Scientific Name	State Status
Mammals		
Everglades mink	*Mustela vison evergladensis*	Threatened
Birds		
Florida sandhill crane	*Grus canadensis pratensis*	Threatened
White-crowned pigeon	*Patagioenas leucocephala*	Threatened
Limpkin	*Aramus guarauna*	Special Species of Concern
Little blue heron	*Egretta caerulea*	Special Species of Concern
Snowy egret	*Egretta thula*	Special Species of Concern
Tricolored heron	*Egretta tricolor*	Special Species of Concern
White ibis	*Eudocimus albus*	Special Species of Concern
Roseate spoonbill	*Platalea ajaja*	Special Species of Concern
Florida burrowing owl	*Athene cunicularia floridana*	Special Species of Concern
Reptiles		
Gopher tortoise	*Gopherus polyphemus*	Threatened

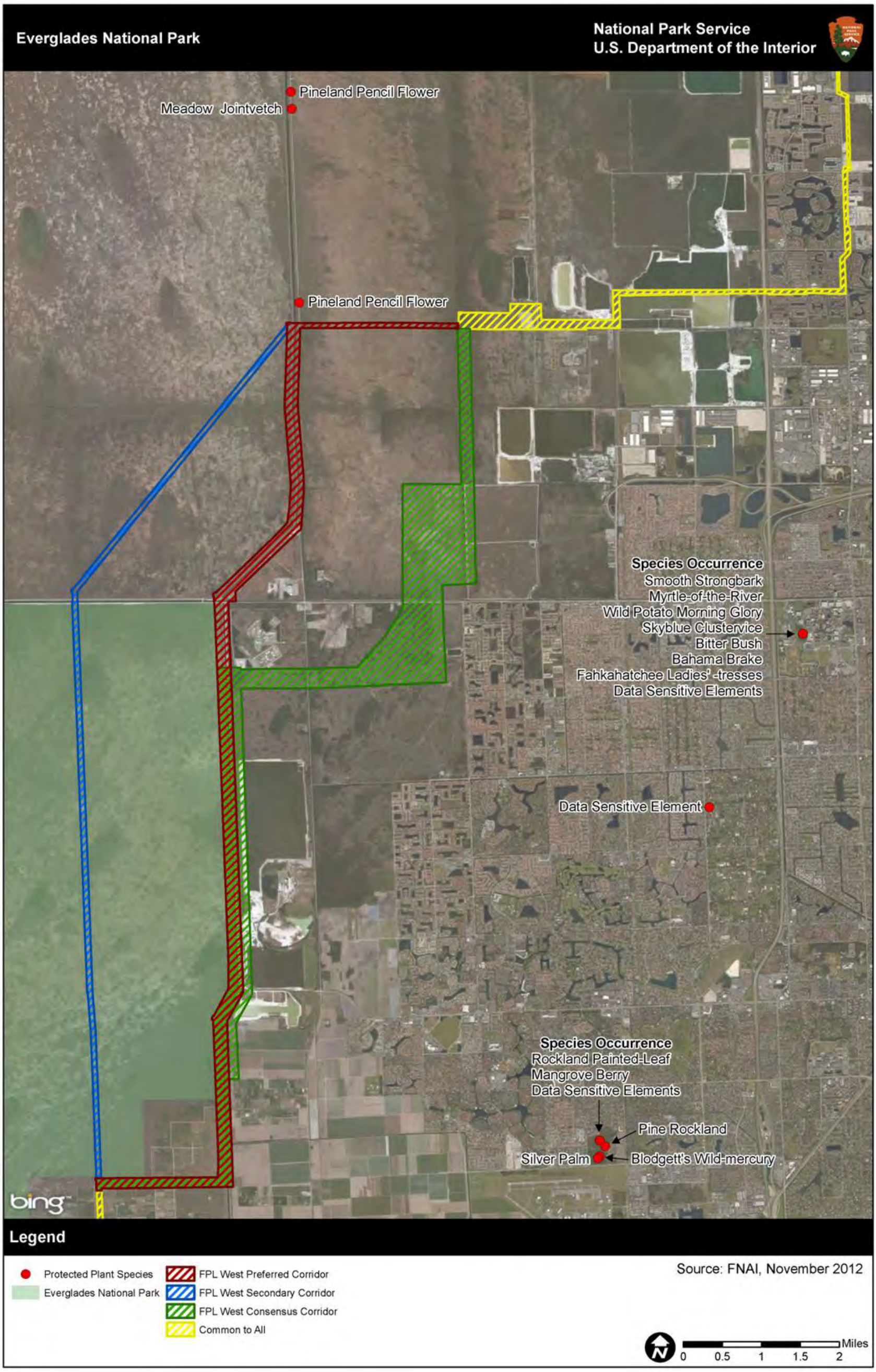


FIGURE 17: FLORIDA NATURAL AREAS INVENTORY REPORTS OF PROTECTED PLANT SPECIES

The **Everglades mink**, state-listed as threatened, is a subspecies of the southeastern mink. It occurs in southern Florida freshwater marshes in the Everglades and Big Cypress Swamp (FFWCC 2011b). The Everglades mink is difficult to detect and population size and extent of occurrence are poorly known (FFWCC 2011b). Its likelihood of occurrence is therefore considered moderate in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors. There is a low likelihood for Everglades mink to occur in wetland areas within the West Consensus Corridor.

The **Florida sandhill crane** is a large bird that is state-listed as threatened by FFWCC. It co-mingles with the greater sandhill crane, which migrates to Florida. Sandhill cranes prefer shallow marshes for nesting and wet prairies and pastures for foraging. Unlike greater sandhill cranes, Florida sandhill cranes are non-migratory. They occur throughout peninsular Florida north to the Okefenokee Swamp in southern Georgia, although they are less common at the northernmost and southernmost portions of this range (FFWCC 2011c). The Florida sandhill crane is moderately likely to forage within the area of analysis.

The state-listed threatened **white-crowned pigeon** forages in fruit-bearing trees in hardwood hammocks in southern Florida. Its breeding range is restricted to Florida Bay, Biscayne Bay, and the Florida Keys, although a few individuals probably nest inland in Monroe and Miami-Dade counties (FFWCC 2011d). Nesting in Florida occurs almost exclusively on mangrove islands with nesting birds flying to islands to forage on fruit-bearing trees (FFWCC 2011d). The white-crowned pigeon is considered not likely to occur in the park in the vicinity of the FPL West Secondary Corridor. The species has a moderate likelihood of occurring in the vicinity of the FPL West Preferred Corridor and the West Consensus Corridor.

The **limpkin** is listed as a species of special concern. In the continental U.S., limpkins occur only in the state of Florida, where they are resident breeders (FFWCC 2011e). They inhabit freshwater wetlands that support an ample supply of their preferred prey, the apple snail (FFWCC 2011e). Limpkins are considered to have a high likelihood of occurrence in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors. They are considered to have a moderate likelihood of occurrence in wetland areas in the West Consensus Corridor.

Little blue heron, listed as a species of special concern by FFWCC, is a wading bird found in wetlands throughout Florida. They are known to nest within the 3B Mud, Tamiami, and Grossman Ridge wood stork colonies (NPS 2010a). Figure 18 shows little blue heron nesting areas within 30 miles of the area of analysis. The little blue heron is considered highly likely to occur in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors. Little blue herons are considered moderately likely to occur in wetland habitats within the West Consensus Corridor. More information on little blue herons is provided in the ARA report (appendix J).

Snowy egrets are listed as a species of special concern by FFWCC. This species is widely distributed in Florida in both fresh and salt-water systems. Snowy egrets are known to nest within the 3B Mud, Tamiami, and Grossman Ridge wood stork colonies (NPS 2010a). Figure 19 shows snowy egret nesting areas within 30 miles of the area of analysis. Snowy egrets are considered highly likely to occur in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors. Snowy egrets are considered moderately likely to occur in wetland habitats within the West Consensus Corridor. More information on snowy egrets is provided in the ARA report (appendix J).

The **tricolored heron** (formerly called Louisiana heron) is a species of special concern as listed by FFWCC. It prefers estuarine habitats but can be found foraging in almost any wetland system. Tricolored herons are also known to nest within the 3B Mud, Tamiami, and Grossman Ridge wood stork colonies (NPS 2010a). Figure 20 shows tricolored heron nesting area within 30 miles of the area of analysis. Tricolored herons are considered highly likely to occur in the park in the vicinity of the FPL West

Secondary and FPL West Preferred Corridors. Tricolored herons are considered moderately likely to occur in wetland habitats within the West Consensus Corridor. More information on tricolored herons is provided in the ARA report (appendix J).

The **white ibis** is one of the most common wading birds in Florida, but is listed as a species of special concern by FFWCC. Large flocks of this bird are often seen foraging in shallow marshes or wet pastures. White ibis are also known to nest within the 3B Mud, Tamiami, and Grossman Ridge wood stork colonies (NPS 2010a). Figure 21 shows white ibis nesting area within 30 miles of the area of analysis. White ibis are considered highly likely to occur in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors. White ibis are considered moderately likely to occur in wetland habitats within the West Consensus Corridor. More information on white ibis is provided in the ARA report (appendix J).

The **roseate spoonbill** is a state-listed species of special concern that forages and nests in estuarine systems of south Florida (FNAI 2001a). Figure 22 shows roseate spoonbill nesting areas within 30 miles of the area of analysis. The roseate spoonbill is considered moderately likely to occur in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors. It has a low likelihood of foraging within wetlands in the West Consensus Corridor.

The small **Florida burrowing owl** is listed as a species of special concern by FFWCC. It lives in burrows in dry sandy soils associated with cattle pastures, prairies, sandhills, and ruderal areas (FNAI 2001b). It has moderate likelihood of occurrence in open, drier habitats along the FPL West Preferred Corridor. The Florida burrowing owl is not likely to occur in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors due to the extensive wetlands in this area. There is a moderate likelihood of Florida burrowing owls occurring within upland areas within the West Consensus Corridor. Florida burrowing owls are known to occur at the Kendall-Tamiami Executive Airport, which south and east of the West Consensus Corridor (Tropical Audubon 2013).

The **gopher tortoise** is a burrowing terrestrial turtle that occurs in parts of all 67 counties in Florida. Gopher tortoises prefer high, dry sandy habitats such as longleaf pine-xeric oak sandhills, but can be found in any dry, sandy habitat. Gopher tortoises are state threatened species and must be surveyed before any land clearing or development takes place. Permits must be obtained from FFWCC prior to relocation. The gopher tortoise has been regulated in Florida since 1972 and has been fully protected since 1988. Despite the afforded protection, many gopher tortoise populations in Florida continue to decline (FFWCC n.d.). The USFWS found on July 27, 2011, that listing of the gopher tortoise was warranted, but precluded (76 FR 45130). The gopher tortoise is not likely to occur in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors due to the extensive wetlands in this area. There is a low likelihood of gopher tortoises occurring within upland areas within the West Consensus Corridor.

State-listed Animals Dismissed from Further Analysis

The rim-rock crowned snake (*Tantilla ooliticus*) was dismissed from further analysis because the species is not known from the area of analysis and it is associated with the Barnacle area-rock ridge of Florida. Habitat for the Cape Sable seaside sparrow (*Ammadramus maritimus mirabilis*) is not present within the area of analysis; therefore, the species was eliminated from further analysis.

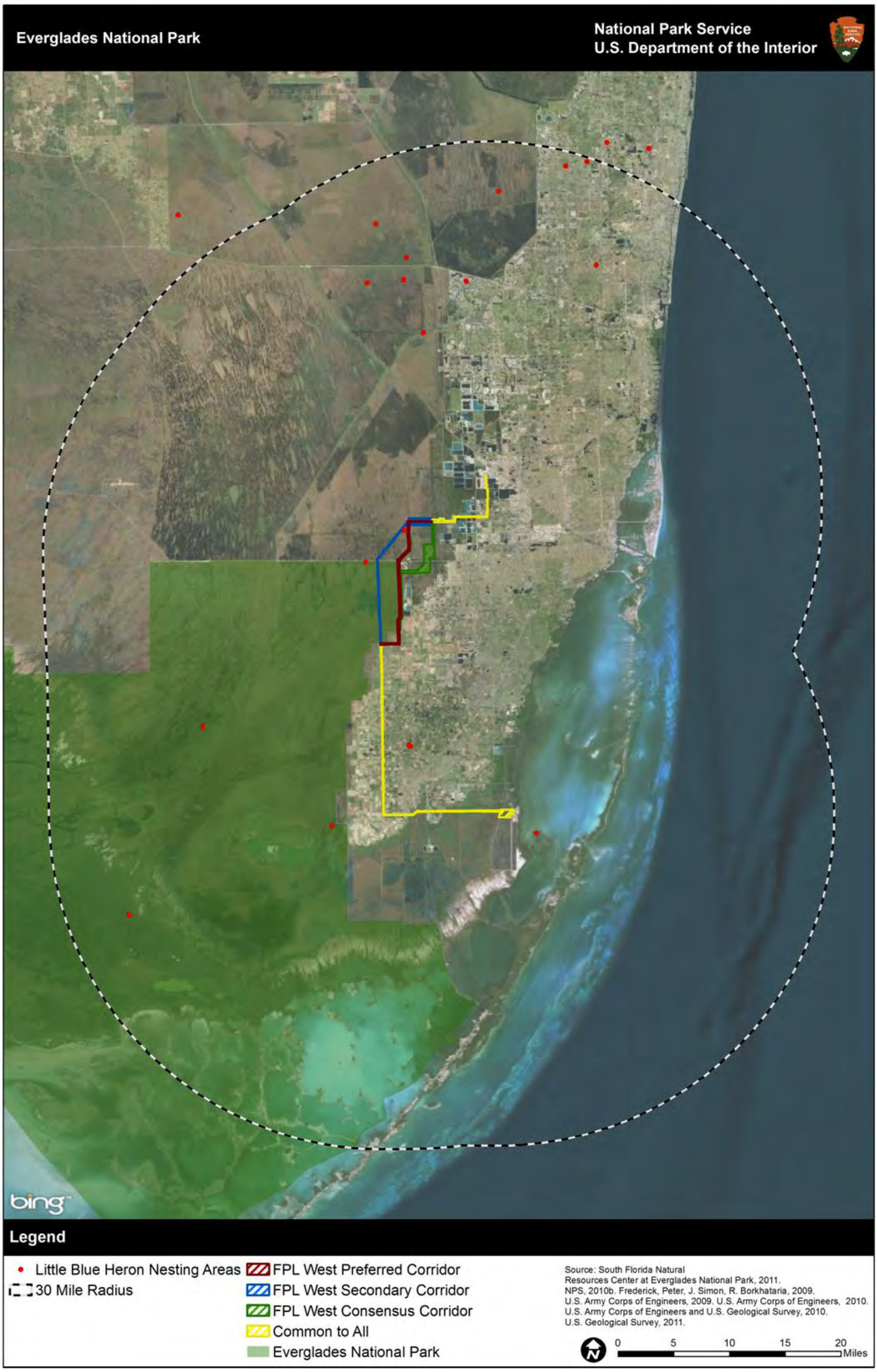


FIGURE 18: LITTLE BLUE HERON NESTING AREAS

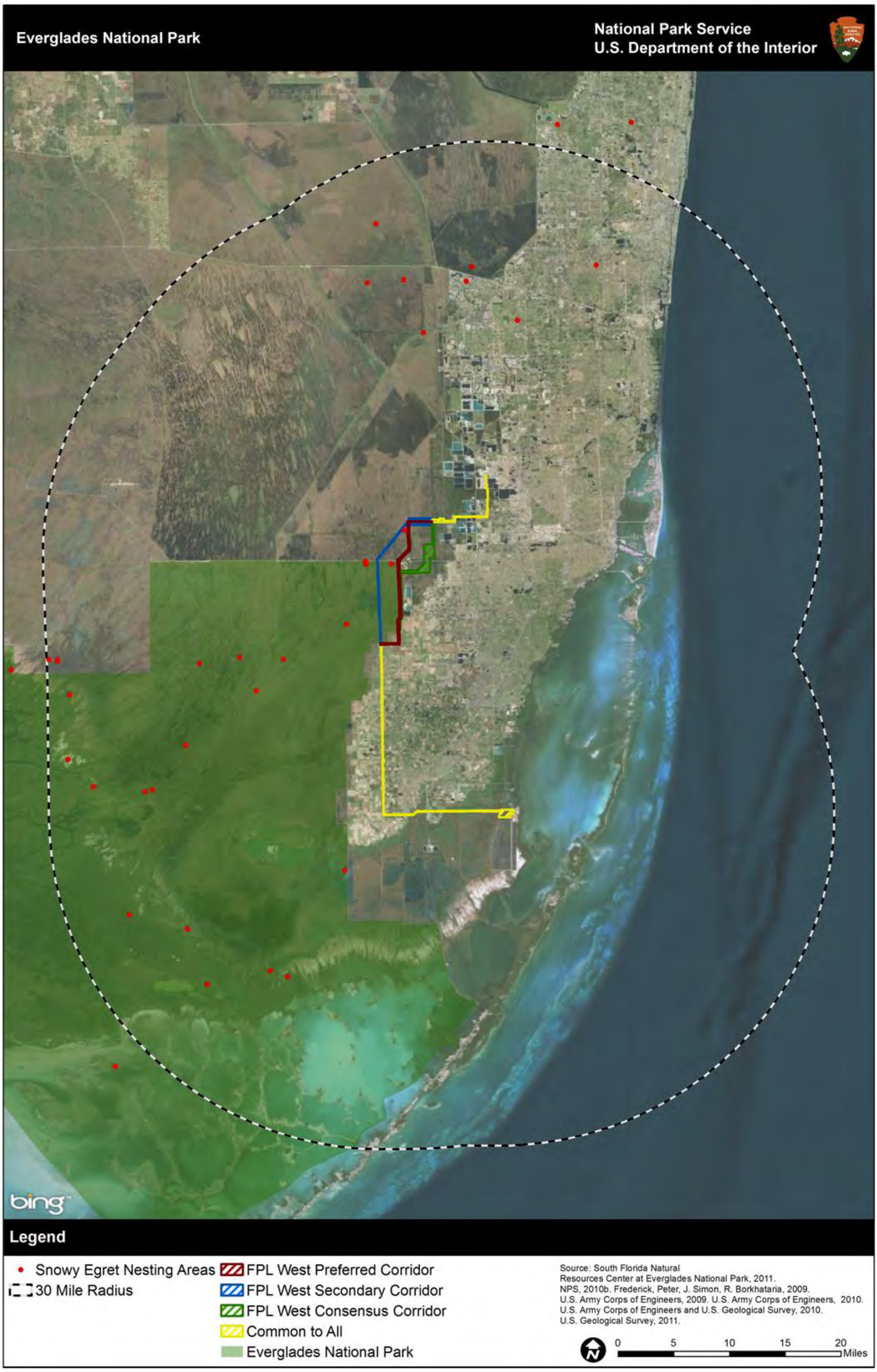


FIGURE 19: SNOWY EGRET NESTING AREAS

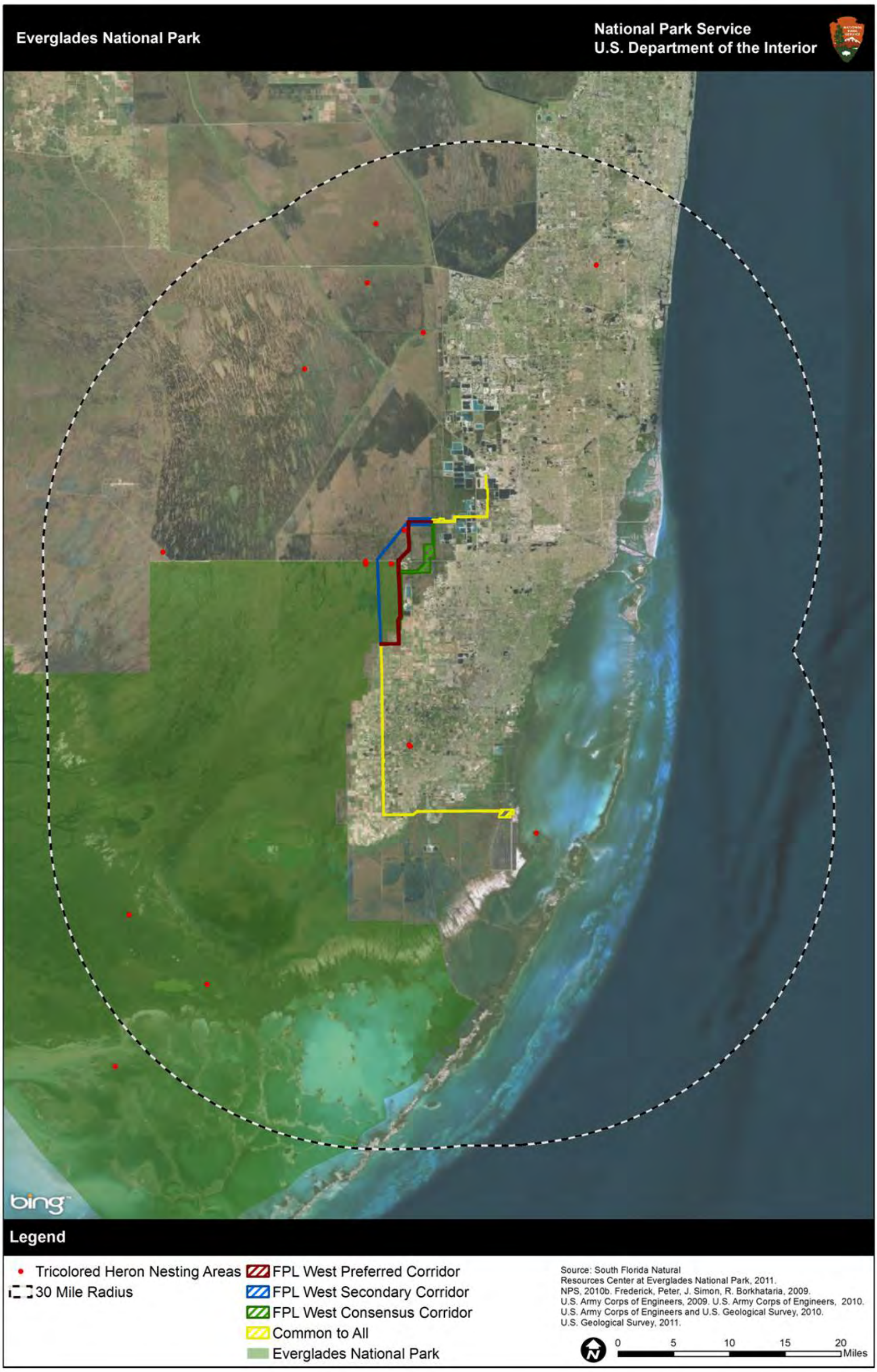


FIGURE 20: TRICOLORED HERON NESTING AREAS

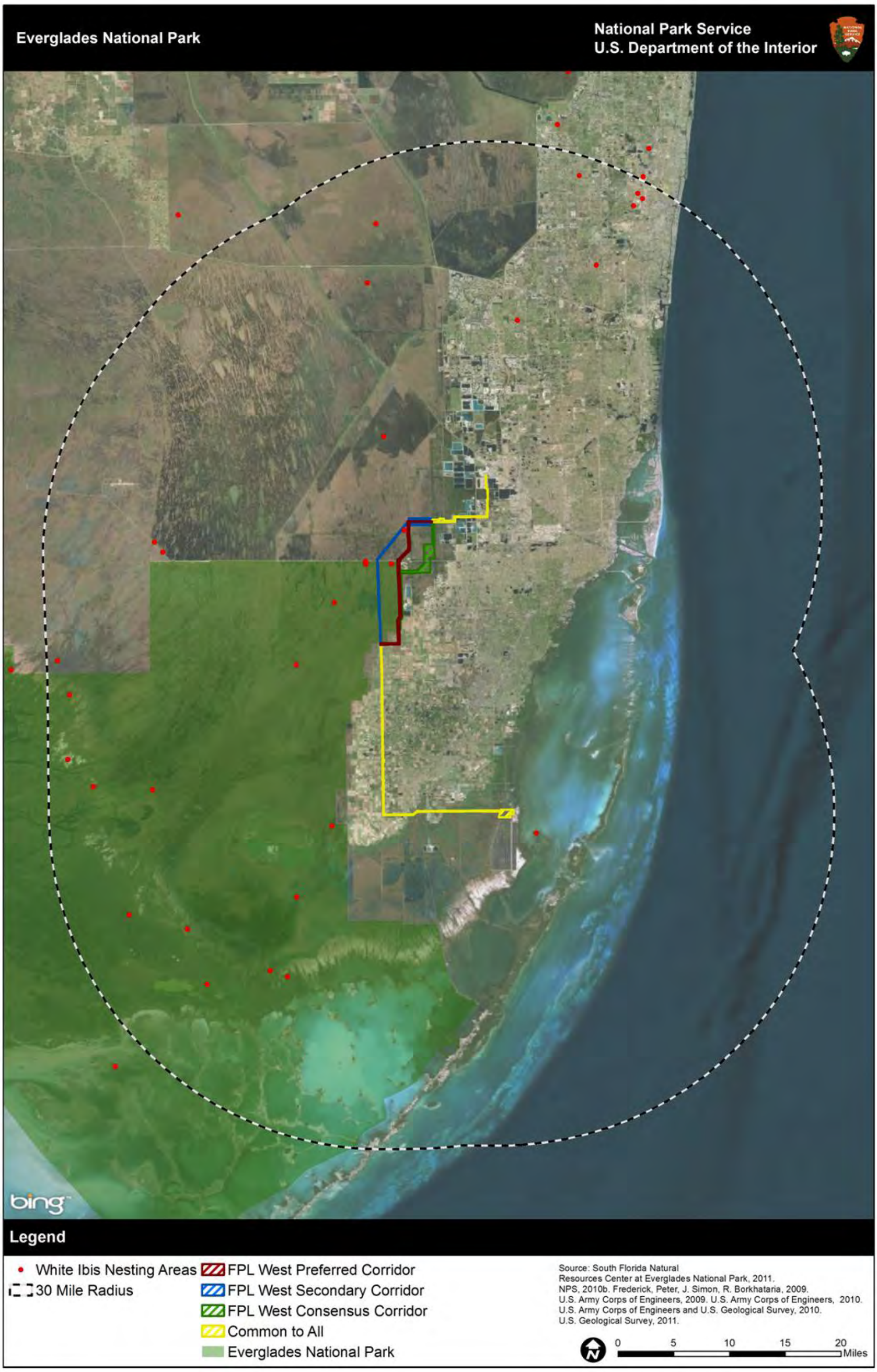


FIGURE 21: WHITE IBIS NESTING AREAS

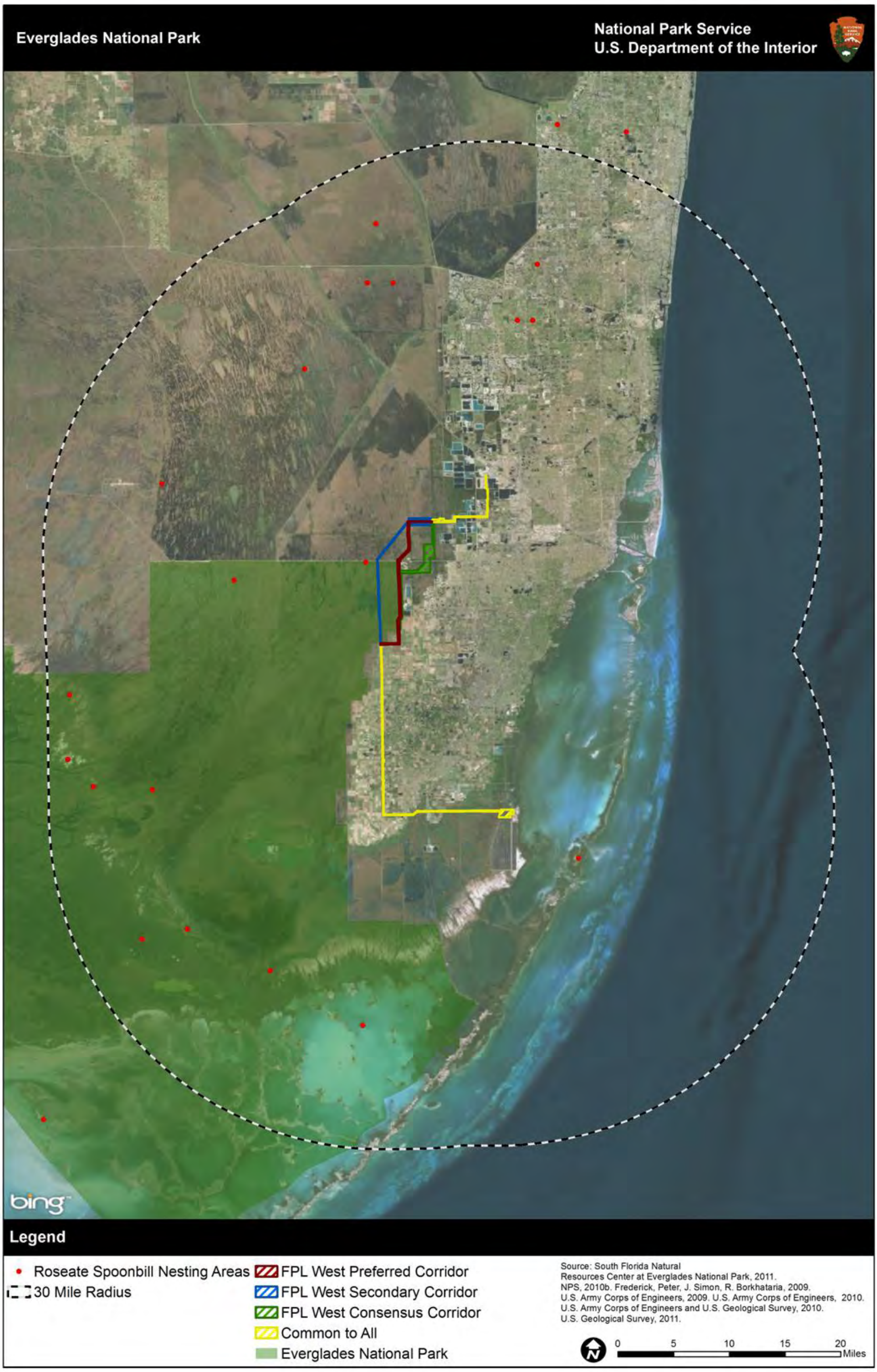


FIGURE 22: ROSEATE SPOONBILL NESTING AREAS

Plants

The state-listed plant species most likely to occur within the area of analysis are listed in table 13.

TABLE 13: STATE THREATENED AND ENDANGERED PLANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE AREA OF ANALYSIS

Common Name	Scientific Name	State Status
Meadow joint-vetch	*Aeschynomene pratensis*	Endangered
Southern frog-fruit	*Phyla stoechadifolia*	Endangered
Bahama ladder brake	*Pteris bahamensis*	Threatened
Pineland Jacquemontia	*Jacquemontia curtissii*	Threatened
Florida royal palm	*Roystnea elata*	Endangered
Eaton's Spikemoss	*Selanginella eatonii*	Endangered
Rockland-Painted Leaf	*Euphorbia pinetorum*	Endangered
Pineland allamanda	*Angadenia berteroi*	Endangered
Everglades (Pinelands) Pencil Flower	*Stylosanthes calcicola*	Endangered
Bahama saschia	*Saschia polycephala*	Threatened
Pineland noseburn	*Tragia saxicola*	Threatened
Small's flax	*Linum carteri* var. *smalli*	Endangered

Meadow joint-vetch is a state endangered plant that is reported from Collier, Miami-Dade, and mainland Monroe County, including Everglades National Park (Gann, Bradley, and Woodmansee 2013). It has been reported from marl prairie and dome swamp habitats (Gann, Bradley, and Woodmansee 2013). Meadow joint vetch has been previously observed within the FPL West Secondary Corridor (see appendix I). There is a is a low probability of occurrence of meadow joint-vetch in wet prairie areas of the FPL West Preferred Corridor and the West Consensus Corridor due to historical drainage and soil disturbance of these types of areas.

Southern frog-fruit is a state endangered plant that is reported from Broward County and Miami-Dade County, including the park and the Everglades and Francis S. Taylor Wildlife Management Area (Gann, Bradley, and Woodmansee 2013). It has been found in disturbed wetlands and uplands, marl prairie, pine rockland, and swales (Gann, Bradley, and Woodmansee 2013). Southern frog-fruit is considered highly likely to occur in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors. This area was surveyed and no plants were observed. There is also a low probability of occurrence in the West Consensus Corridor. However, surveys have not been conducted along this corridor.

Bahama ladder brake is a state threatened plant that is reported from Broward, Collier, Monroe, Palm Beach, and Miami-Dade counties (including Everglades National Park) (Gann, Bradley, and Woodmansee 2013). It has been found in disturbed uplands, marl prairie, pine rockland, rockland hammock, and sinkhole areas (Gann, Bradley, and Woodmansee 2013). FNAI has one report from 2007 of Bahama ladder brake (also known as Bahama brake) in the vicinity of the area of analysis, but the location is more than 1 mile from the area of analysis (figure 17) (FNAI 2012b). Bahama ladder brake was also found in the FPL West Preferred Corridor within Everglades National Park (Dean and Sadle pers. comm. 2012; see appendix I). Bahama ladder brake is considered moderately likely to occur in the FPL West Secondary Corridor and the West Consensus Corridor in disturbed uplands.

Pineland jacquemontia is a state threatened plant that is reported from Collier, Hendry, Martin, Monroe, and Miami-Dade counties (including Everglades National Park) (Gann, Bradley, and Woodmansee 2013). It has been found in disturbed uplands, marl prairie, mesic flatwoods, and pine rockland (Gann, Bradley and Woodmansee 2013). Pineland jacquemontia is not documented in the area of analysis, but there is a low likelihood that the species could occur in the West Consensus Corridor on disturbed uplands such as canal levees. Pineland jacquemontia is not likely to occur in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors.

The **Florida royal palm** is an endangered tree species known from Collier, Martin, Monroe, Palm Beach, and Miami-Dade counties (including Everglades National Park) (Gann, Bradley, and Woodmansee 2013). The Florida royal palm has been found in disturbed wetlands, floodplain forest, rockland hammock, and strand swamp (Gann, Bradley, and Woodmansee 2013). There is a low likelihood for plants that have escaped cultivation to occur within the area of analysis.

Eaton's spikemoss is an endangered plant known from Monroe and Miami-Dade counties, including Everglades National Park (Gann, Bradley, and Woodmansee 2013). The species has been found in marl prairie and pine rockland habitats (Gann, Bradley, and Woodmansee 2013). It has a low likelihood of occurring on canal margins within the area of analysis.

Rockland-painted leaf (also known as **pineland poinsettia**) is state threatened species that is endemic to Monroe and Miami-Dade counties (NatureServe 2012). It is associated with herbaceous wetlands, woodlands, and pine rocklands over limestone (NatureServe 2012). There is a 1995 record of Rockland-painted leaf in the vicinity of the area of analysis, but it is greater than 1 mile away from the area of analysis and the population likely no longer exists due to the extensive residential development in the area (figure 17) (FNAI 2012b). There is a low probability that pineland-painted leaf could occur in disturbed uplands, such as canal margins, within the area of analysis.

Pineland allamanda is a state threatened plant reported from Monroe and Miami-Dade counties, including Everglades National Park (Gann, Bradley, and Woodmansee 2013). It has been found in disturbed uplands, marl prairie, and pine rocklands (Gann, Bradley, and Woodmansee 2013). It has a high likelihood of occurring in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors and has been observed in the FPL West Preferred Corridor within the park (see appendix I). It has a moderate likelihood of occurring within the West Consensus Corridor.

Everglades (or Pinelands) pencil flower is a state endangered species that is reported from Miami-Dade (including the park) and Monroe Counties in disturbed uplands, marl prairie and pine rocklands (Gann, Bradley, and Woodmansee 2013). FNAI has two reports from 2006 of Everglades pencil flower within approximately 2 miles north of where the FPL West Secondary and FPL West Preferred Corridors join in the Everglades and Francis S. Taylor Wildlife Management Areas (figure 17). These locations are reported as being along a roadside right-of-way (FNAI 2012b). Examination of aerial photography indicates that these locations were likely along a dirt access road along a canal. Everglades pencil flower has a low likelihood of occurring in the park in the vicinity of the FPL West Secondary and FPL West Preferred Corridors. It has a moderate likelihood of occurring within the West Consensus Corridor.

Bahama saschia is a state threatened plant that is reported from Monroe County and Miami-Dade County, including Everglades National Park (Gann, Bradley, and Woodmansee 2013). It has been found in disturbed upland and pine rockland (Gann, Bradley, and Woodmansee 2013). There is a moderate likelihood that Bahama saschia could occur in disturbed uplands within the West Consensus Corridor.

Pineland noseburn is a state threatened plant that is reported from Monroe County and Miami-Dade County, including Everglades National Park (Gann, Bradley, and Woodmansee 2013). It has been found in disturbed upland and pine rockland (Gann, Bradley, and Woodmansee 2013). There is a moderate likelihood that pineland noseburn could occur in disturbed uplands within the West Consensus Corridor.

Small's Flax

Small's flax is a state endangered plant that is reported from Collier County, Hendry County, Monroe County, and Miami-Dade County, including Everglades National Park (Gann, Bradley and Woodmansee 2013). It has been found in disturbed upland, disturbed wetland, marl prairie, and pine rockland (Gann, Bradley and Woodmansee 2013). There is a moderate likelihood that Small's flax could occur in disturbed uplands and disturbed wetlands, such as margins of canals, within the West Consensus Corridor.

State-listed Plant Species Dismissed from Further Analysis

Wright's anemia (*Anemia wrightii*), Porter's broad-leaved spurge (*Chamaesyce porteriana*), Cuban snake-bark (*Colubrina cubensis* var. *floridana*), Christmasberry (*Crossopetalum ilicifolium*), modest spleenwort (*Asplenium verecundum*), large-flowered rosemary (*Conradina grandiflora*), sheathing govenia (*Govenia floridana*), and holly vine fern (*Lomariopsis kunzeana*) were dismissed from further analysis because habitat does not exist for these species within the area of analysis and/or the area of analysis is outside the known ranges of these species.

VIEWSHED (VISUAL RESOURCES)

The study area for visual resources includes the area of potential visibility from various key observation points (KOPs) along Tamiami Trail, recreational air boat operations, the Blue Shanty, Shark Valley, and access roads and waterways within the northeastern extent of Everglades National Park. Major recreation and visitor areas (air boating operations, Blue Shanty, Shark Valley, Chekika area, and L-31N levee road) in this portion of the park were determined to be the most visually sensitive resources in the study area and of the highest visual concern. KOPs were determined in conjunction with the Everglades National Park staff. The photograph locations from the identified KOPs and the major recreation and visitor use areas are presented in figure 23. A number of photographs were taken from each of these KOPs and a representative sampling has been incorporated into this section in order to depict the existing visual character of the study area. These photographs and accompanying descriptions are provided below.

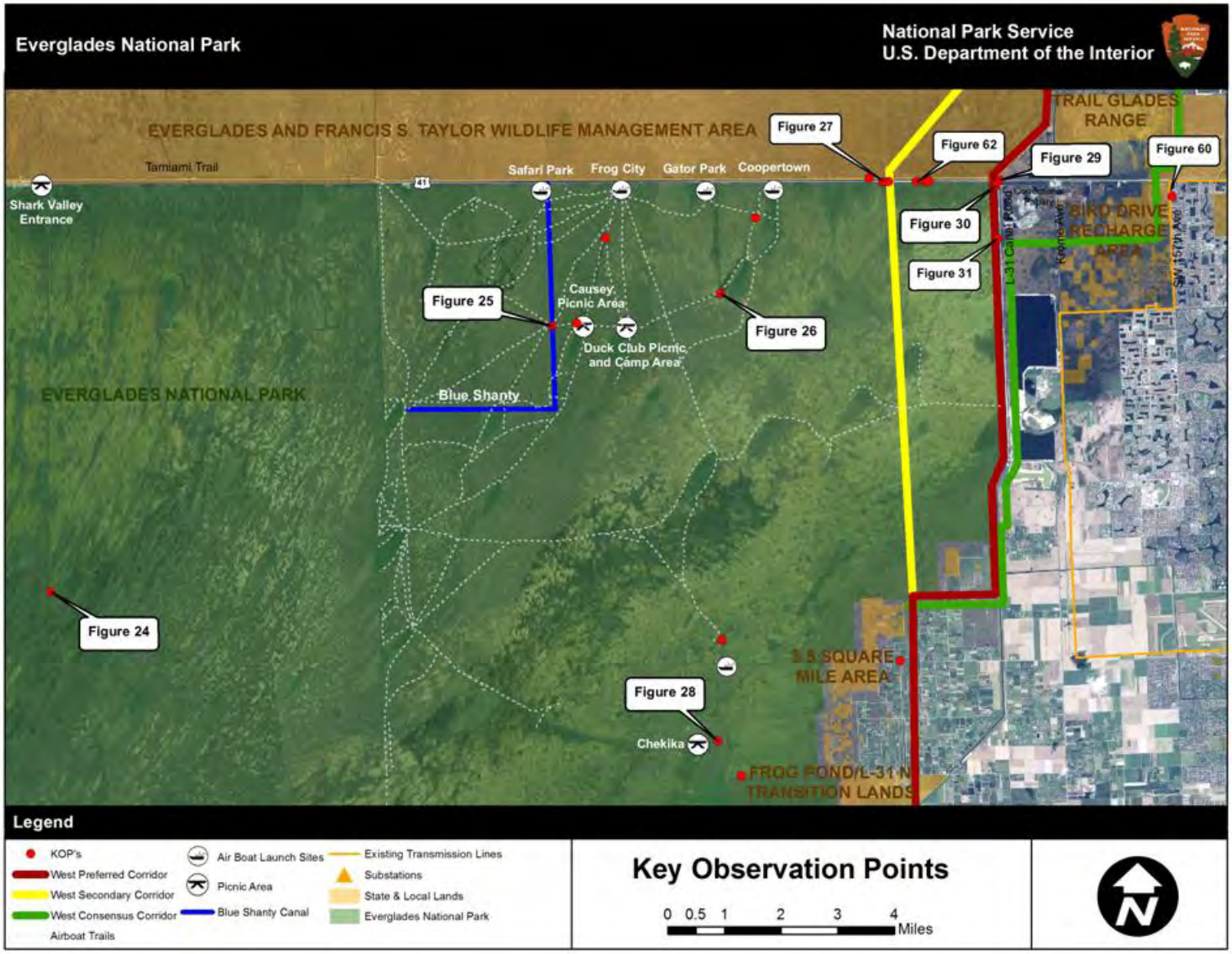


FIGURE 23: STUDY AREA OVERVIEW AND LOCATION OF PHOTOGRAPHS

DESCRIPTION OF LANDSCAPE CHARACTER

Visual character encompasses the patterns of landform (topography), vegetation, land use, and aquatic resources (i.e., lakes, streams, and wetlands). The visual character is influenced both by natural systems, human interactions, and use of land. In natural settings, the visual character attributes are natural elements such as vast open areas or scenic rivers and lakes, whereas rural or pastoral/agricultural settings may include manmade elements such as fences, walls, barns and outbuildings, and occasional residences. In a more developed setting, the visual character may include commercial or industrial buildings, residential neighborhoods, manicured lawns, pavement, and other utility infrastructure. The terrain in the study area is predominantly flat and three general landscapes characters were observed (natural, residential, and industrial). Dense residential development is located east of SW 157th Avenue, while generally open land, dominated by invasive species, is located directly west of SW 157th Avenue. The area between SW 157th Avenue and the eastern boundary of Everglades National Park includes scattered industrial and agricultural development, including major rock mining operations, especially between Krome Avenue and L-31N canal road. Additionally, the Miccosukee Resort is located just north of the Tamiami Trail and west of Krome Avenue. The Everglades National Park is located west of the L-31N canal road and is undeveloped natural lands, with a few recreational areas along the Tamiami Trail, with the exception of the access points to the airboat operations.

Prominent vertical features on the landscape include existing utility lines alongside Tamiami Trail, radio towers and other communications antennas, industrial and commercial facilities along the L-31N canal road and residential development along the eastern border of the study area. Land within the national park and comprised entirely of natural vegetation with marshland features preserved in-situ. Along the northernmost extent of Everglades National Park, low intensity development occurs along Tamiami Trail, which is interspersed with small structures along the roadside, including recreational air boating operations and radio and microwave towers (approximately 250 feet tall).

NATIONAL PARK SERVICE LANDS

The major areas of visual concern within NPS lands are from air boating routes (including the Blue Shanty), Shark Valley, the Chekika area, and the L-31N levee road, adjacent to the east boundary of the EEEA. As mentioned in the “Visitor Use and Experience / Recreation Resources” section, Shark Valley is located over 15 miles west from the project area and includes a tall observation tower. The tower looks out across the Everglades and provides expansive views of the surrounding landscape (figure 24).

FIGURE 24: SHARK VALLEY OBSERVATION TOWER

There are four private airboat tour companies providing naturalist-guided recreational water tours within the park. The visual landscape from the airboats tours is an important asset to the park. A site visit of each airboat routes and picnic areas served as an inventory of existing visual conditions. Views from the Blue Shanty (a major airboat canal), shown on figure 25, were extremely limited due to high vegetation in the immediate foreground and on either side of the canal. A similar scene is found at the entrance and exit of each of the airboat docks along Tamiami Trail. Once out of the initial entrance to each of the airboat operations, views of the landscape begin to open up in all directions (figure 26). In the heart of the Everglades taller vegetation, usually associated with hammocks, are scattered throughout the landscape and have the ability to block views from an airboat, particularly from the Causey and Duck Club picnic areas, which are popular destinations for commercial and individual airboater operators and the occasional canoeist.

FIGURE 25: VIEW FROM THE BLUE SHANTY

Coopertown Airboat is the closest operation (about 4 miles from L-31N canal road) to the potential corridors associated with any alternatives. Figure 26 depicts the east-facing view from the Coopertown Airboat route and within the Everglades National Park. From this observation point, viewers encounter expansive views of the landscape and associated sawgrass marsh continuing toward the horizon. Only very distant views of radio and communication towers (approximately 250 feet tall) and developed lands are available from this viewpoint. On a clear day these structures are more visible and are likely less visible on an overcast or cloudy day. The characteristically flat topography does not allow viewers to access vantage points above normal ground surface elevations and, as a result, distant views are occasionally blocked by vegetation in the immediate foreground or middleground.

FIGURE 26: EXISTING VIEW EASTWARD FROM WATERWAY WITHIN EVERGLADES

The Tamiami Trail is adjacent to, but not located within the park but it is located along the northern border of the park, providing southerly views of the Everglades. Currently, the Tamiami Trail is located at the same elevation as the park with vegetation in the foreground blocking most views of the park; however, the 1-mile bridge was completed and opened to traffic in May 2013, replacing approximately 1 mile of the Tamiami Trail roadway. The FPL corridor in the park bisects the 1-mile bridge about 2/3 of a mile across it traveling west on Tamiami Trail. The bridge offers wide, expansive views into the park. Figure 27 shows the view from the bridge, when it was under construction, looking southeast. The views looking south and southwest are is similar in nature to those in figure 27.

The Chekika area of Everglades National Park is located approximately 11 miles south of Tamiami Trail and described further under Visitor Use and Experience / Recreation Resources. It is identified as a KOP within the study area. Chekika is a large hammock that includes well-established vegetation of mature trees and other hammock vegetation, making the area visually isolated from the surrounding landscape. SW 237 Avenue (an access road in the park) is traveled by bicyclists, runners, fishermen, and walkers. Generally open vistas, in all directions, are possible from this roadway. Again, given the flat topography and vegetation, long vistas are often blocked by vegetation or building in the foreground and middle ground. Figure 28 was taken from the access road to Chekika looking east.

PRIVATE AND STATE LANDS

Private Lands

The majority of private lands are located between L-31N canal road and SW 157th Avenue. Private lands in this area are interspersed with state lands, with a higher concentration of state lands closer to SW 157th Avenue. Additionally, the Miccosukee Resort and the Everglades Correctional Institute are located on private lands and off of the Tamiami Trail and the L-31N canal road. The correctional institute itself is jointly owned by the USACE, the State of Florida, and Miami-Dade County, according to parcel data.

State Lands

The FFWCC administers the Francis S. Taylor Wildlife Management Area (land is owned by SFWMD), which is located on the north side of Tamiami Trail. The Florida State Department of Environmental Protection owns various conservation lands between Krome Avenue and 157th Avenue. These are illustrated in figure 23. Figure 29 shows views near the northwestern corner of Tamiami Trail and L-31N canal road. From this observation point, distant views are available for a northern portion of the park and southern portions of lands owned by the FFWCC. FFWCC lands are located north of Tamiami Trail in WCA 3A and 3B. NPS lands are located south of Tamiami Trail. The landscape topography is flat. The area currently includes industrial components within a larger natural landscape due to the existing quarry operation south of the highway. Immediately visible in the foreground are various components of existing utility infrastructure, including a communications tower, telephone lines and transmission lines.

Figures 30 and 31 depict the public viewpoint from the L-31N canal road at the eastern-most edge of Everglades National Park. From this observation point, close views of Everglades National Park are available to the west, and FFWCC lands can be seen in the distance north of Tamiami Trail. Manmade structures are readily visible on the landscape and include a communication tower and utility lines along Tamiami Trail. The topography is flat, and there are few other buildings on the landscape. Low growing trees and shrubs in the foreground have the ability to shield views to some extent.

FIGURE 27: EXISTING VIEW FROM 1-MILE BRIDGE (TAMIAMI TRAIL) LOOKING SOUTHEAST

FIGURE 28: EXISTING VIEW FROM CHEKIKA AREA LOOKING EAST

FIGURE 29: EXISTING VIEW WESTWARD FROM TAMIAMI TRAIL AT WESTERN EDGE OF STATE LANDS

FIGURE 30: EXISTING VIEW NORTHWARD ON L-31N CANAL AVENUE AT EASTERN EDGE OF NPS LAND

FIGURE 31: EXISTING VIEW WESTWARD ON L-31N CANAL AVENUE AT EASTERN EDGE OF NPS LAND

WILDERNESS

In 1978, Congress designated approximately 93 percent of area within the park at the time as the "Everglades Wilderness." The area was renamed the "Marjory Stoneman Douglas Wilderness Area" in 1997 (PL 105-82) in honor of the famous Everglades activist. The wilderness contains 1,296,500 acres (524,686 hectares) of the park's total 1,509,000 acres (610,671 hectares) and is the largest wilderness area east of the Rockies. These lands are now shielded from development encroachment and are managed to protect the flora and fauna of the Everglades ecosystem. The wilderness includes most of the park's undeveloped lands and inland waters, and extends out into Florida Bay as submerged wilderness.

At the same time that wilderness was originally designated within Everglades National Park, 81,900 acres (33,144 hectares) in several parcels were designated "Potential Wilderness," meaning they would be converted to wilderness if or when nonconforming uses end. In the interim, these lands are managed to protect their wilderness character. Existing wilderness and potential wilderness areas are managed under the Wilderness Act of 1964, the park's 1979 Master Plan, NPS *Management Policies 2006*, and the Everglades National Park Backcountry Management Plan (NPS 1981). Figure 32 outlines the park's designated and potential wilderness areas. A wilderness eligibility assessment for the EEEA is currently underway as part of the park's General Management Plan / East Everglades Wilderness Study project. The final document was released to the public in August 2015. The Record of Decision (ROD) is expected in the Fall of 2015. A discussion on wilderness in that specific location as well as a figure displaying potentially eligible wilderness are provided separately within the "Wilderness" discussion.

The Wilderness Act, passed on September 3, 1964, established a national wilderness preservation system, "administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness" (16 USC § 1131). Management will include the protection of these areas, the preservation of their wilderness character, and the gathering and dissemination of information regarding their use and enjoyment as wilderness (NPS 2006a, sec. 6.1). NPS management policies apply to eligible, study, proposed, recommended, and designated wilderness, regardless of category (NPS 2006a, sec. 6.3.1).

WILDERNESS CHARACTER

Wilderness character is ideally described as the unique combination of (1) natural environments that are relatively free from modern human manipulation and impacts; (2) opportunities for personal experiences in environments that are relatively free from the encumbrances and signs of modern society; and (3) symbolic meanings of humility, restraint, and interdependence in how individuals and society view their relationship to nature (Landres et al. 2008). Using the definition of wilderness from Section 2(c) of the Wilderness Act of 1964, four qualities of wilderness make its idealized character relevant, as follows (Landres et al. 2008):

- **Untrammeled**—Wilderness is essentially unhindered and free from the actions of modern human control or manipulation.
- **Natural**—Wilderness ecological systems are substantially free from the effects of modern civilization.
- **Undeveloped**—Wilderness retains its primeval character and influence, and is essentially without permanent improvement or modern human occupation.
- **Solitude or Primitive and Unconfined Recreation**—Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreation (Landres et al. 2008).

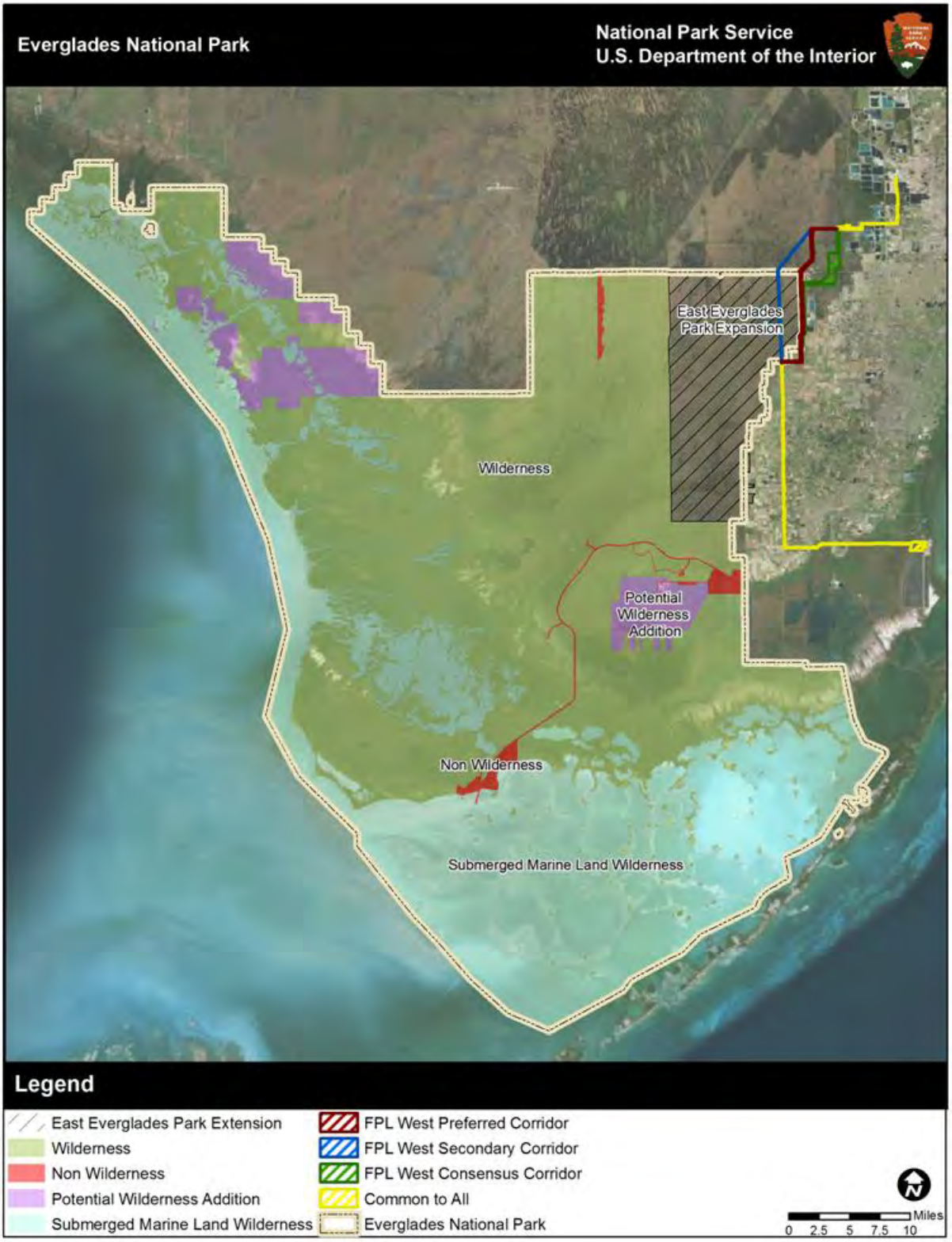


FIGURE 32: DESIGNATED WILDERNESS IN EVERGLADES NATIONAL PARK

The area may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Untrammeled

Historically, the larger Everglades area has been heavily manipulated with an intricate series of canals, levees, and drainage systems in an attempt to drain the watery landscape. Expanded dredging efforts between 1905 and 1910 transformed large tracts from wetland to agricultural land. As the South Florida region grew, developers cut more canals, built new roads, and removed mangroves from the shorelines and replaced them with palm trees. Canals, roads, and buildings gradually displaced native habitats. After the designation of the park in 1947, much of the dredging inside the park stopped, but the Central and South Florida project—to build an elaborate system of roads, canals, levees, and water-control structures stretching throughout South Florida—ensured continued outside alterations that still impact the park (NPS 2009b). Today, human intervention is required to undo or mitigate many hydrologic changes that have altered the natural hydrologic regime. Human intervention is also required to control the invasive nonnative plant and animal species that have taken hold in the Everglades.

The manipulation of ecological systems in the park infringes upon the untrammeled qualities of its wilderness areas, and Everglades National Park has multiple plans to restore natural conditions to the park, including the following:

- Fire management plan
- Exotic vegetation management plan
- Comprehensive Everglades Restoration Plan (CERP)
- Modified Water Deliveries to the Everglades National Park (MWD) project.

Although these plans may increase or replace other forms of trammeling, it is also anticipated that the improvements to natural character will outweigh the negative impacts of continued trammeling and ultimately improve overall wilderness character.

The fire management plan and exotic vegetation management plan deal directly with manipulation of the park's ecological systems with the aim of restoring natural conditions. The CERP and the MWD project involve work beyond the park boundary that have the potential to greatly impact the conditions within the park.

Natural

Natural systems existing within the wilderness area include natural floral and faunal populations supported by hydrologic flow and fire regimes that maintain equilibrium conditions within the park. Much of the park's designated wilderness maintains its natural quality. The interior of the park, in particular, far from the influence of roads or development along Tamiami Trail or the Main Park Road, can be described as natural. However, while the integrity of these natural systems remains intact for interior areas of the park, disturbances to these equilibrium conditions have occurred as a result of development at the edges of the park unit and at the larger watershed level. For the purposes of agricultural productivity, flood control, and water supply, the larger watershed encompassing the park has been dramatically re-engineered from its natural state. The construction of canals and flood control structures, and the large-scale drainage of wetlands, has altered the natural hydrological conditions. While these alterations of the natural hydrology have made it possible to support large urban centers and highly productive agricultural areas, direct effects have included disruptions to or elimination of overland sheet

flows, changes in the location and timing of flows, and permanent flooding in some areas and permanent drainage of others. Indirect effects have included land subsidence, abnormal fire patterns, and widespread changes in vegetation and animal communities. Portions of the park now flood more deeply during the rainy season and are drier during the winter. As a result, although natural fires are typical in slash pine and cypress communities, periodic droughts exacerbated by alteration to park hydrology may increase the risk of fire. Canals can also serve as habitats and movement corridors for invasive nonnative plants (e.g., hydrilla and water hyacinth) and animals (e.g., cichlids and sailfin catfish) that impact Everglades ecosystems (NPS 2013a). For instance, the natural faunal system of the park has been dramatically affected by the Burmese python and other exotic snakes. A recent study suggested that small mammal populations have greatly declined due to snake predation.

Undeveloped

Much of the park's designated wilderness is largely undeveloped. The wilderness waterway traverses large spans of the park that are relatively free from development and remain in their natural state.

In the park, wilderness areas may include facilities such as marked trails, campsites, toilets, and signs. Such structures are as compatible as possible with their surroundings and are typically removed when no longer needed. Due to the history of human occupation and development in the region, wilderness areas in the park may include remnant structures or evidence from before designation, such as canals, levees, or agricultural areas.

There are approximately 250 "structures" (relatively small pieces of equipment, some enclosed in a metal box and some accessed by a small boardwalk or platform in hard-to-access locations) within the park's wilderness areas. There are also many research plots that are marked with stakes, posts, tags, etc. This equipment is used for research and monitoring primarily in freshwater and marine environments for a wide range of scientific and resource management purposes (e.g., to investigate water quality or monitor threatened and endangered species, vegetation, or habitat).

The study "Airboat/ORV Trail Inventory for the East Everglades Addition Lands" (University of Georgia 2006) mapped, classified, and inventoried airboat and off-road vehicle trails in the East Everglades Addition from 1999 aerial imagery. The study documented evidence of substantial airboat activity in the northern half of the Addition. It also compared airboat trails that were evident in the 1999 aerial photos with trails evident in aerial photos taken in 1994 and 2003, and determined that airboat trails are declining over time.

Airboat use for administrative and research purposes occurs on some of the airboat routes within the East Everglades and on a limited number of other routes in other areas of the park to support operational, scientific, and resource management needs. Additional motorized equipment use in the EEEA includes helicopters, all-terrain vehicles (ATVs), 4×4 vehicles, and swamp buggies.

Outstanding Opportunities for Solitude or Primitive, Unconfined Recreation

Primitive (nonmotorized) forms of recreation are allowed in wilderness. At Everglades National Park, these include hiking, canoeing, and kayaking. Marked water trails are provided for nonmotorized boaters. The 99-mile long wilderness waterway provides extensive opportunities for solitude and primitive recreation even though consistent with the park's submerged marine wilderness designation, motor boat use is allowed. Additionally, there are numerous opportunities for backcountry camping at isolated and primitive sites, primarily in the southern and western portions of the park.

Human-caused sound can be an unwanted intrusion into the solitude of the park. These sounds are usually confined to developed areas, popular airboating (in the East Everglades) and boating areas, campgrounds, and along major roads. Sound levels vary according to the season, relating to the number of park visitors. From October 2008 through April 2009, there were more than 16,500 backcountry visitors, combined, in the Flamingo and Gulf Coast districts (NPS 2013a). Human-made sounds also occur as a result of helicopter and fixed-wing overflights undertaken by park personnel for the purpose of checking and servicing research installations, monitoring wildlife, and conducting fire management. Airboats are also used for these purposes. Noise produced from these administrative and research activities is not confined to the major visitor use areas, but occurs in the wilderness itself, affecting opportunities for solitude within the national park. In 2009 the park recorded more than 3,000 helicopters landings in the park's designated or potential wilderness areas (NPS 2013a). Nonetheless, opportunities for solitude abound with nearly 1.3 million acres of wilderness in the park.

East Everglades Wilderness Eligibility Assessment

The Wilderness Act, regulations in the Code of Federal Regulations (CFR) (Title 42 Public Lands: Interior, Part 19 Wilderness Preservation), Secretarial Order 2920, and NPS *Management Policies 2006* require that NPS review roadless and undeveloped areas, including new areas or expanded boundaries, within the national park system to determine whether they are suitable or not suitable for preserving as wilderness (NPS 2006a).

To satisfy these requirements, the park has prepared an East Everglades Wilderness Eligibility Assessment in conjunction with its new General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement, which is currently in preparation (NPS 2013a). Based on the Wilderness Act Section 2(c) eligibility criteria and NPS *Management Policies 2006*, approximately 102,100 acres in the EEEA have been found eligible for possible designation as wilderness. Areas determined not to be eligible for wilderness designation include developed areas along the Tamiami Trail, the Chekika developed area, and road corridors within the EEEA. The draft General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement proposes that certain lands within the EEEA be designated as wilderness. Should the final General Management Plan /East Everglades Wilderness Study/ Environmental Impact Statement include a wilderness proposal for the EEEA, that proposal will be forwarded to the Secretary of the Interior and eventually to Congress for possible legislative action. Only Congress can designate wilderness (NPS 2010a). Figure 33 depicts the area assessed in the wilderness eligibility assessment and the findings of the assessment.

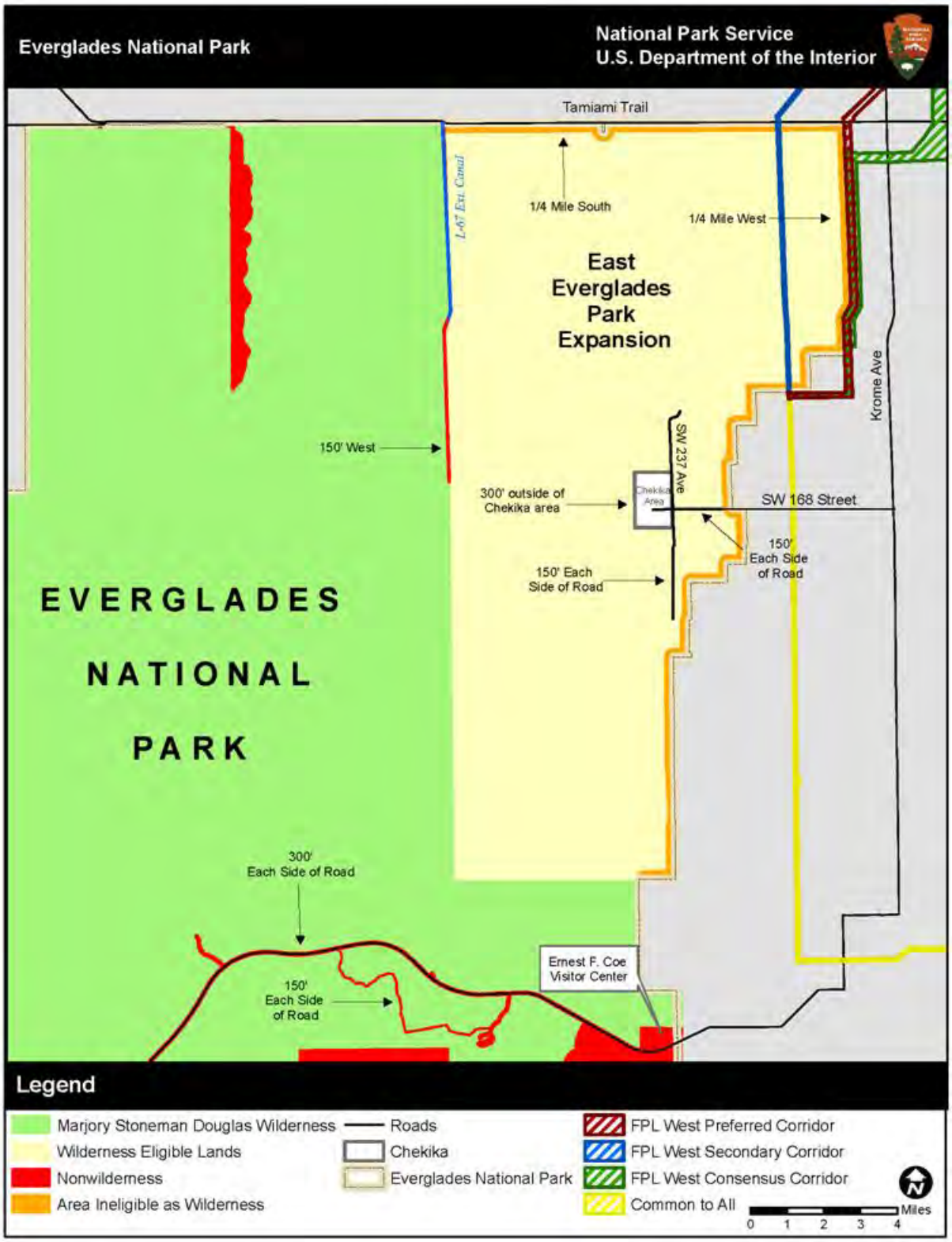


FIGURE 33: WILDERNESS ELIGIBILITY IN THE EEEA

VISITOR USE AND EXPERIENCE / RECREATION RESOURCES

Visitation to Everglades National Park has remained relatively constant at nearly 1 million visitors per year since 1988, with 934,531 visitors in 2011 (NPS 2012a). Recreational opportunities include biking, boating, fishing, hiking, camping, and wildlife viewing. Visitation to the Everglades is highly seasonal with a high season from December to April when the park receives just over half of its annual visitation. This period also coincides with the dry season when falling water levels result in abundant wildlife viewing opportunities, migrating and wintering birds congregate in the park, humidity levels and temperatures drop, and there are fewer mosquitoes. Visitation is lowest during the summer, with the least visits in June, July, August, and September. This coincides with the wet season characterized by dispersed wildlife, humidity, high temperatures, and abundant mosquitoes.

VISITOR USE IN THE PARK

The Everglades National Park EEEA has few facilities and currently receives limited visitor use, with the exception of those that visit the park through commercial airboat tours and those that launch private airboats from the Airboat Association of Florida site along Tamiami Trail. Fishing also takes place in the culverts on the south side of Tamiami Trail, within the park. Additional visitor use opportunities occur mostly in the Chekika area, and on and near the L-67 extension and L-31N canals and levees where wildlife viewing, hiking, bicycling, canoeing, and fishing are the primary recreation activities.

Four air boat ramps launch on the south side of Tamiami Trail. Three public ramps include a ramp immediately east of Coopertown Airboat (culvert 53), an undeveloped area east of the L-67 Extension, a launch site on SW 237th Avenue about 1 mile north of the Chekika entrance, and a private access ramp offered at the Airboat Association of Florida (culvert 47) property west of Gator Park (culvert 49). These commercial operators receive about 300,000 visitors each year. The commercial airboat operators offer guided tours into the East Everglades and provide the “river of grass” experience for visitors. The Everglades National Park Protection and Expansion Act of 1989 (Expansion Act) allows those noncommercial airboat operators who were using the expansion area as of January 1, 1989 to continue to operate airboats inside the Everglades Expansion Area for their individual lifetimes (NPS 1989).

Chekika is a small, developed area in a former state park in the NESRS, approximately 6 miles west of Krome Avenue. Historically, local residents used the site for picnicking, swimming, wildlife viewing, and camping. It is now a seasonal day use area within the park, and future development and use will be defined by the current GMP effort. Current visitor amenities include picnicking, a short hiking trail, and paved roads for biking (NPS 2012b).

Additional visitor experiences within the EEEA including wildlife viewing, boating, education focused on the unique natural and cultural heritage of the park, including diverse ecosystems and wildlife, historical water flows, and human history,

Approximately 15 miles west of the project area is the Shark Valley area—one of the major destinations in the park. Shark Valley is not within the EEEA. Within Shark Valley is the Shark Valley Visitor Contract Station which offers a park video, educational displays, an underwater camera, and informational brochures. A new, modern visitor center and concessions facility opened in 2014. Shark Valley also offers a 15-mile round-trip tram road (not open to private motorized vehicles) that extends into the marsh, one of the best opportunities for viewing the Everglades environment and the resources of the SRS. A two-hour narrated tram ride, provided by Shark Valley Tram Tours, Inc., provides an overview of the freshwater Everglades and bicycles are available to rent (NPS 2012c). Shark Valley is a favorite destination for local and out-of-town bicyclists. An observation tower is located at the end of the tour road and there are two short walking trails located near the main tram loop. The Shark Valley area

offers excellent opportunities for wildlife viewing and there are ranger-led bike tours and nature walks through the area.

The south portion of the EEEA is predominantly open, undeveloped wet prairie with few signs of human presence, providing a wilderness-like experience. Manmade features that intrude upon the natural landscape are present; however, visible features within the park are found primarily at the periphery of the park within a quarter mile of the northern and eastern boundary, and include radio towers and related operations buildings. Eight radio towers approximately 250 feet tall are visible to visitors on the Tamiami Trail and portions of airboat tours within the park (NPS 2010c). The Shark Valley observation tower is 7.4 miles south of the Tamiami Trail and is approximately 70 feet tall (NPS 2012c). The observation tower is visible only to visitors on the Shark Valley tram road and occasional paddlers in this remote area of sawgrass.

Numerous structures outside of the park are also visible to park visitors and intrude upon the natural scene and remote visitor experience. These include existing power transmission lines, radio towers, the Miccosukee Resort Hotel, the Krome Detention Center water tower, and structures associated with rock mining and cement manufacture. A full description of the existing viewshed is provided in the "Viewsheds (Visual Resources)" section in this chapter.

RECREATIONAL RESOURCES OUTSIDE OF THE PARK

The South Florida region provides substantial opportunities for outdoor resource-based recreation. Among the numerous activities available are diving, snorkeling, camping, hiking, bicycling, boating, and hunting.

The Francis S. Taylor Wildlife Management Area, which includes WCA 3B, is managed by FFWCC. This area is managed for both consumptive (hunting, frogging, and fishing) and non-consumptive (wildlife viewing, camping, boating, airboating, etc.) recreational use and environmental purposes. WCA 3B is accessed by crossing the L-29 canal at either the S-333 or S-334 water control structures and launching at the boat and airboat ramps (NPS 2010c).

The edge between the L-29 canal and the L-29 levee is used for passage along the canal, picnicking, or launching boats into the L-29 canal. A road atop the L-29 levee allows panoramic views to the north into WCA 3B and south into the park (NPS 2010c).

Primary access to boat ramps on the north side of the L-29 canal is at S-333 and S-334. Roads across these structures lead to several boat ramps and to bank fishing on the north bank of the L-29 canal. S-334 provides access to a boat ramp (Boat Ramp 153) 3 miles to the west that allows boat launching into the L-29 canal. At S-334 there is also an airboat ramp that provides access to WCA 3B. A picnic area is associated with the boat ramp. Control structure S-333 provides access across the L-29 canal to one airboat ramp and two boat ramps. There is a boat ramp on the L-67A canal and another on the L-67C canal. Both ramps are heavily used by boat fishermen. The airboat ramps provide access for deer and waterfowl hunters, as well as for recreational airboaters. Approximately 10.5 miles of the north bank of the L-29 canal are available for bank fishing (NPS 2010c).

Bank fishing is also popular from the shoulders of the Tamiami Trail and L-67 extension levee. Anglers frequent the 10.7 miles of the south bank of the L-29 canal (north shoulder of the highway). The only places for bank fishing on the south side of the highway are where the culvert sets discharge water to the south. FFWCC personnel conducted angler counts along the Tamiami Trail from December 1998 to May 1999. The mean number of anglers per mile for weekdays and weekend days, respectively, was 0.95 and 2.28. Ninety-four percent were bank anglers (NPS 2010c).

These numbers translate into an estimated ten anglers per weekday and 23 per weekend day, totaling approximately 5,000 person-days of fishing per year within the 10.7-mile angler count study area. Personal observation revealed 25 bank anglers and two boats with two anglers in the angler count study segment at approximately 10:00 a.m. on a Saturday in September 2000. Almost all the bank anglers were fishing on either side of the Tamiami Trail right of way, with only a few on the north bank of the L-29 canal (NPS 2010c). Fishing is also common along the L-31N canal, which borders the EEEA along its eastern border. All fishing occurs along the west bank of the canal. It should be noted that at least some of the fishing is subsistence, not recreational.

According to the Miami-Dade County Park and Recreation Department, the L-31N levee is an active biking route in addition to being a fishing and wildlife viewing area. The Everglades Trail is part of the Miami-Dade County Park and Recreation Department Greenway Network which includes the L-31N canal and levee as part of their 24-mile long trail through rural and urban areas of Miami-Dade County (NPS 2010c).

To the north of the EEEA is the Tamiami Trail, which borders both Everglades National Park as well as the WCA 3A and B. Tamiami Trail serves as a gateway not only to visitor recreational opportunities within these adjacent areas but also to the vast recreational opportunities in the South Florida region.

The State Comprehensive Outdoor Recreation Plan is the best source of information on recreation demand and supply at the state and regional level. It disaggregates the state into 5 regions based on geography. The Southeast Florida region (Region 5) stretches from Fort Pierce to Key West and includes 24 state parks (FDEP 2011).This region includes the Everglades and the Florida Keys, areas with significant natural beauty and recreational value. The region also encompasses Biscayne Bay, and nearly 300 miles of Atlantic Ocean Beach. Recreational activities within the entire region include wildlife viewing, canoeing, birding in addition to fishing, hiking, and biking mentioned above. There are no specific recreation areas within the West Consensus Corridor beyond those described above.

ADJACENT LAND USES AND POLICIES

The area of analysis for adjacent land uses and policies includes the EEEA, the 8.5-square-mile area east of the park, WCA 3B and the Pennsuco wetlands north of the park, and lands extending to the urban development boundary to the east of the park (see “Figure 4: General Project Area,” in chapter 1). The primary focus is on the transmission line corridors in and around the park in the general study area, and areas within about 1/2 mile on either side of the proposed corridors where indirect impacts related to the construction or presence of the transmission lines could adversely affect adjacent land uses or landowners’ policies.

Major land uses in the area of analysis that could constrain the development of a transmission line corridor include Everglades National Park, tribal lands, conservation areas, developed recreational areas and residential development. The Miami-Dade County urban development boundary also restricts development in the vicinity; however, the project area is entirely outside of that boundary. As illustrated in figure 34, land ownership in the area of analysis is a mix of private, governmental, and tribal ownership. Major land owners include the United States of America (Everglades National Park), the SFWMD, the State of Florida, Rinker Materials Corporation, Kendall Properties and Investments, Inc. and other private entities. Lands owned by tribes or managed by the Bureau of Indian Affairs are discussed in the “Tribal Lands Including Indian Trust Resources” section of this chapter. The presence and locations of these various land uses and land ownership within the area of analysis and surrounding vicinity are provided in figures 34 and 35.

NATIONAL PARK SERVICE LANDS

Everglades National Park was established in order to conserve the ecological and biological function of the Everglades ecosystem and the natural landscape. It is set aside as a permanent wilderness, preserving essential primitive conditions including the natural abundance, diversity, behavior, and ecological integrity of the unique flora and fauna. It is the first national park dedicated for its biologic diversity. Figure 36 displays NPS lands in this vicinity.

The NPS *Management Policies 2006* regarding land use refer specifically to safeguarding against adverse impacts on park resources from adjacent incompatible land uses. As stated in the NPS *Management Policies 2006*, "External threats may originate with proposed uses outside a park that may adversely impact park resources or values. Superintendents will therefore be aware of and monitor land use proposals and changes to adjacent lands and their potential impacts. They will also seek to encourage compatible adjacent land uses to avoid or to mitigate potential adverse effects" (NPS 2006a).

PRIVATE LANDS

Private lands within area of analysis include residential, commercial, industrial/extractive and agricultural uses. Residential land uses are generally located to the east of the area of the West Consensus Corridor where several residential neighborhoods span along the eastern edge of the area of analysis. Homes within the area are primarily single-family dwellings situated within a suburban context. In this portion of the area of analysis, commercial land uses are located primarily along roadways and include hotels, tour companies, restaurants, and various other businesses operating along Tamiami Trail.

Industrial/extractive land uses include, most notably, the industrial complex located at North Kendall Drive and Krome Avenue. This complex is located to the northwest of the residential landscape and includes the Conrad Yelvington distribution center and Krome quarry, a cement/limestone quarry and cement plant owned by the CEMEX building materials company (see figure 37). The facility lies immediately adjacent to the FPL West Preferred Corridor and is in the area of analysis of the West Consensus Corridor.

Agricultural land uses are also present in the area of analysis in the southern portion of the West Consensus Corridor before it heads north and parallels the western edge of the mining operation. Crops are actively cultivated in many of these areas (USDA NASS 2012). Figure 38 provides a representative view of the agricultural land uses within the area of analysis. For a detailed description of specific vegetative cover types, refer to the "Vegetation and Wetlands" section of this chapter.

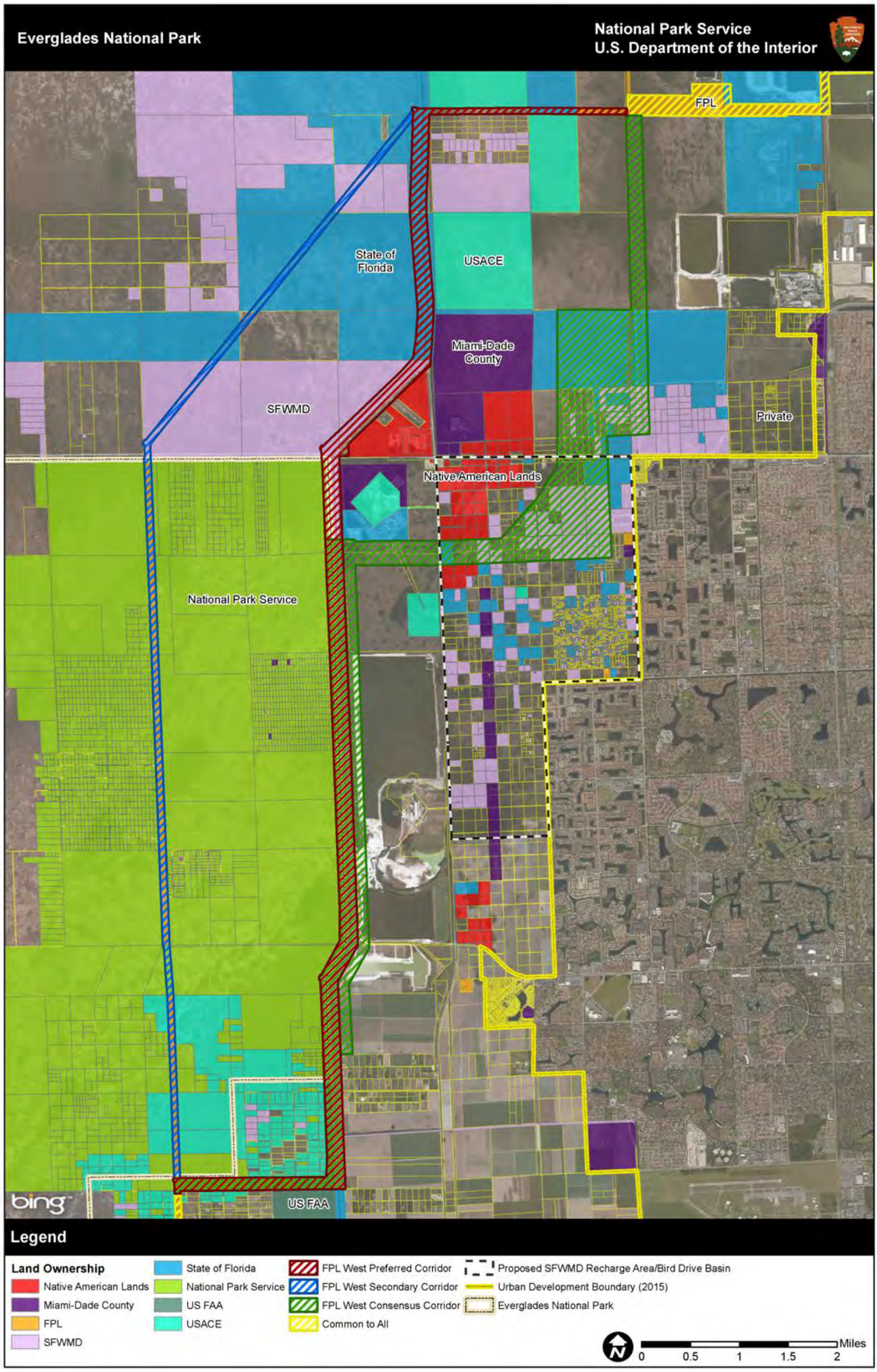


FIGURE 34: LAND OWNERSHIP WITHIN THE AREA OF ANALYSIS AND SURROUNDING VICINITY

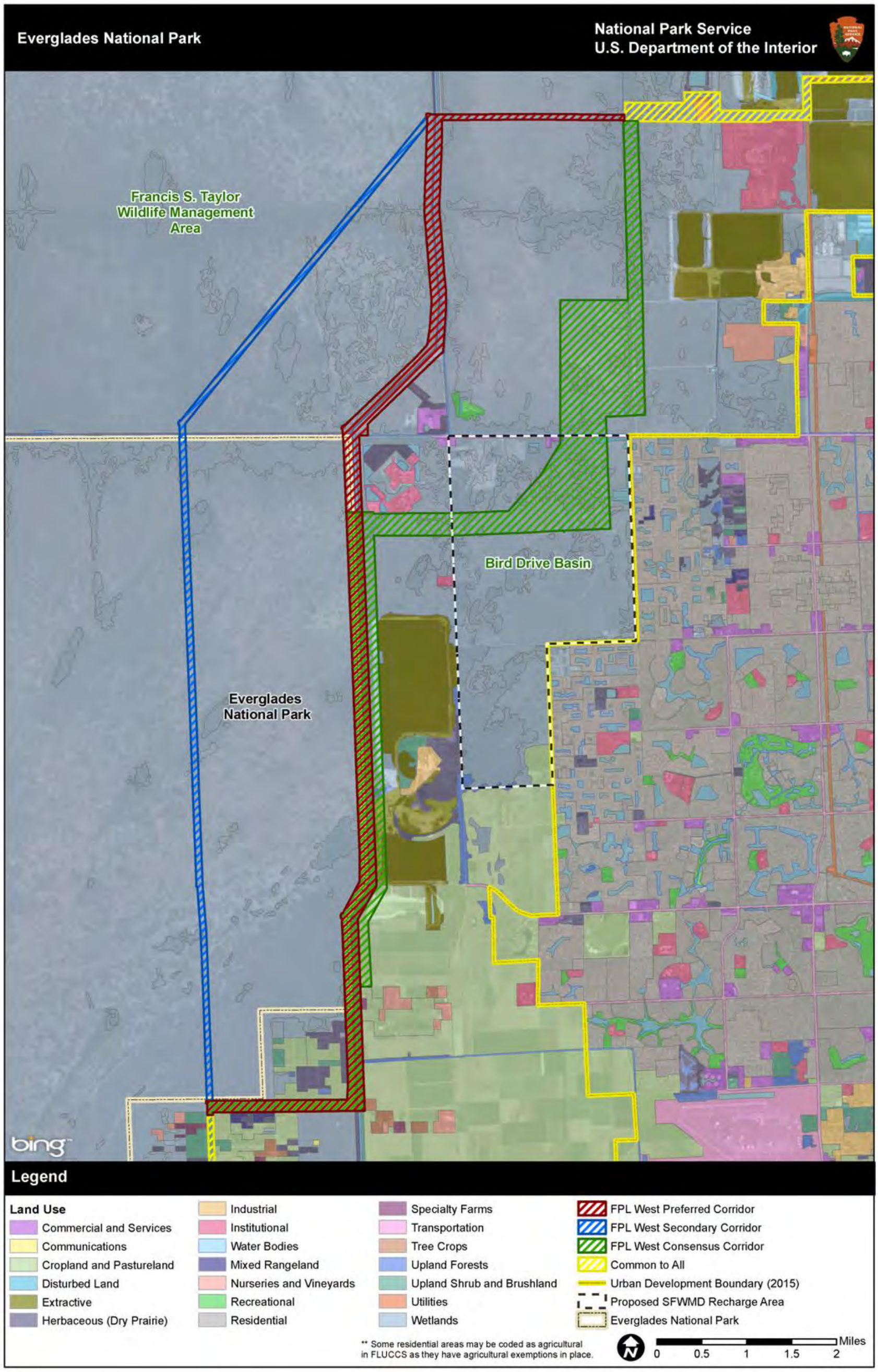


FIGURE 35: LAND USE WITHIN THE AREA OF ANALYSIS AND SURROUNDING VICINITY

FIGURE 36: EEEA OF EVERGLADES NATIONAL PARK

FIGURE 37: CEMEX PLANT, KROME QUARRY, AND DISTRIBUTION CENTER

FIGURE 38: AGRICULTURAL LAND LOCATED AT N. KENDALL DRIVE BETWEEN KROME AND SW 167TH AVENUES

STATE GOVERNMENT LANDS

South Florida Water Management District

SFWMD is a regional governmental agency supervised by the FDEP, and is responsible for water quality, flood control, water supply and restoration of the environment in 16 counties in C&SF. It is the largest water management district in the state, managing water needs for 7 million residents of South Florida (SFWMD 2012a). The Pennsuco wetlands are an area of wetlands north of the Tamiami Trail in the Pennsuco Regional Mitigation Area. In 1995, the SFWMD began using Pennsuco as a regional off-site mitigation area, allowing permit applicants to make mitigation contributions for the acquisition, enhancement, and long-term management of Pennsuco lands as compensation for permitted wetland impacts. As described in the "Vegetation and Wetlands" section, portions of the West Consensus Corridor near the Pennsuco wetlands are characterized by developed land uses such as roadways and channelized waterways. Figure 39 displays the Pennsuco wetlands area.

FIGURE 39: PENNSUCO WETLANDS

Bird Drive Basin

Bird Drive Basin is located within the area of analysis for the West Consensus Corridor. It lies between Krome Avenue and SW 157th Avenue, and is bounded generally by Tamiami Trail on the north and SW 72nd Street to the south (see figure 35). While Bird Drive Basin is located outside of the urban development boundary, a patchwork of land ownership is evident in this area. Land parcels include those under tribal, state, county, and private ownership. The area was originally identified in the CERP as a site designated for the Bird Drive Basin Recharge Area, but the project has since been dropped from the CERP plans. The purpose of the recharge area would have been to recharge groundwater and reduce seepage from Everglades National Park buffer areas by increasing water table elevations east of Krome Avenue. The project would have also provided for flood attenuation and water supply deliveries to the south Dade conveyance system and the NESRS (SFWMD 2012b). At present, SFWMD is assessing alternative sites. Current land uses at the site under tribal, state, county, and private ownership are anticipated to persist under their current status for the foreseeable future (Lawrence pers. comm. 2013). Figure 40 provides a representative view of the Bird Drive basin area.

FIGURE 40: BIRD DRIVE BASIN

Florida Fish and Wildlife Conservation Commission

The FFWCC manages Florida’s Wildlife Management Area system in order to sustain the widest possible range of native wildlife in their natural habitats. This system includes more than 5.8 million acres of land established as Wildlife Management Areas or Wildlife and Environmental Areas. On the majority of these lands (about 4.4 million acres), FFWCC is a cooperating manager working with other governmental or private landowners to conserve wildlife and provide public use opportunities. On the remaining lands, called “Lead Areas” (about 1.4 million acres), FFWCC is the landowner or "lead" managing agency responsible for land stewardship and providing quality wildlife conservation and recreation opportunities including hunting, fishing, wildlife viewing, hiking, biking, horseback riding, paddling, scenic driving, and camping.

Everglades and Francis S. Taylor Wildlife Management Area

In the Everglades and Francis S. Taylor Wildlife Management Area, the FFWCC is the lead agency for managing this area, and the properties, which are owned by SFWMD, represent a part of what remains of the largest freshwater marsh ecosystem in the U.S. Once water covered for at least part of each year, this ecosystem encompasses nearly all of south Florida from the custard apple and cypress swamps bordering Lake Okeechobee through flat expanses of gray-green sawgrass veined with sloughs and tree islands to the mangrove forests along Florida Bay. Today the 671,831-acre Everglades and Francis S. Taylor Wildlife Management Area is the northern and central core of the Everglades, separating Everglades National Park and Big Cypress National Preserve from extensive agricultural fields to the north and residential development to the east. Although airboats and tracked vehicles are necessary to reach the interior, the extensive network of levees and canals constructed for flood control and water supply afford ample opportunities for fishing, frogging, hiking, biking, and wildlife viewing (FFWCC 2012a).

The Everglades and Francis S. Taylor Wildlife Management Area is located north of the park on the north side of the Tamiami Trail (see figure 35). This area is also known as WCA 3 (WCA 3B), and is cooperatively managed by FFWCC and SFWMD. Figure 41 provides an aerial view of WCA 3A and 3B.

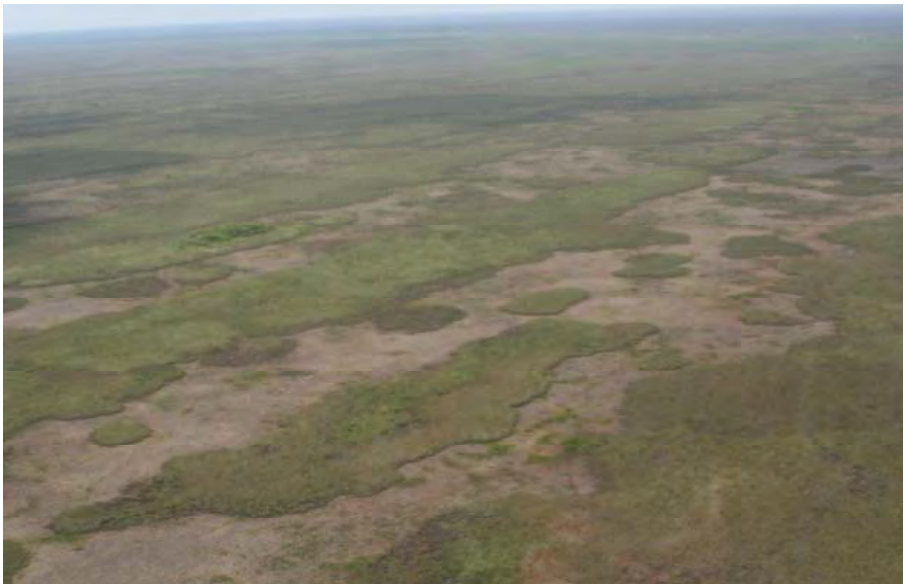


FIGURE 41: AERIAL VIEW OF THE WCA 3A AND 3B

The conceptual management plan for this management area identifies several resource management problems within the Everglades Complex and presents several strategies to address these concerns. The problems identified in the management plan relating specifically to land use include human disturbance contributing to habitat conditions that are not optimal for wildlife species; man-made features that have limited the spatial extent of prescribed fires and wildfires and thus promoted fuel loading and, consequently, peat fires that have reduced wildlife habitat; limited management control on the part of FFWCC over the larger ecosystem of which Everglades Complex is a part; and large inputs of nitrogen and phosphorus from surrounding areas that have degraded water quality in the Everglades Complex. Accompanying strategies developed in response to these problems include: identifying historic vegetative community types in order to restore habitats to the proper plant community composition; continue to maintain and establish rapport with landowners adjacent to the Everglades Complex; provide technical assistance and advice in order to ensure the welfare of ecosystem components; maintain working relationships with local representatives of governmental and regulatory agencies (i.e., SFWMD, four

Florida counties, Department of Environmental Protection, Florida Division of Forestry, USACE, NPS, USFWS, and the Miccosukee and Seminole Indian Tribes); and provide technical assistance and support to USACE, SFWMD, and other involved agencies to improve the quality of water entering the Everglades Complex (FFWCC 2003).

MICCOSUKEE LANDS

The area of analysis includes approximately 1,100 acres of lands occupied or used by the Miccosukee Tribe (figure 34). These lands are comprised primarily of herbaceous wetlands and are managed for multiple uses. Notably, the Miccosukee Tribe operates a resort and casino near the northwestern corner of Krome Avenue and SW 8th Street (Tamiami Trail) (see figure 42). Lands occupied or used by the Miccosukee Tribe are discussed in more detail in the "Tribal Lands Including Indian Trust Resources" section of this chapter.

FIGURE 42: MICCOSUKEE RESORT AND CASINO

LOCAL GOVERNMENT LANDS AND LAND USE PLANS

Several recreational and institutional land uses operated by local government entities are located within the area of analysis. Most notably, a complex housing the Miami Prison / Everglades Correctional Institute is located at the southwest corner of Tamiami Trail and SW 177 Avenue / Krome Avenue. Lands managed by Miami-Dade County are also found throughout the area of analysis, predominantly within the residential communities to the east. These include several community parks and recreational facilities such as and Sun Lake Park (located at SW 167th Avenue and SW 78th Street) and the Trail Glades Gun Range (located north of Tamiami Trail approximately a quarter mile east of Krome Avenue).

Miami-Dade County Comprehensive Development Master Plan

The general land use objectives and policies of Miami-Dade County, as well as where and how it intends development or conservation of land and natural resources during the next ten to twenty years, are addressed in its Comprehensive Development Master Plan. The plan provides for "sustainable development," which allows for land capacity to meet projected needs, preservation of wetlands and agricultural areas and protection of drinkable water well fields. A major review and update of the plan is done every seven years.

The plan establishes a growth policy that encourages development to occur:

- At a rate commensurate with projected population and economic growth.
- In a contiguous pattern centered around a network of high-intensity urban centers well-connected by multi-modal intra-urban transportation facilities.
- In locations which optimize efficiency in public service delivery and conservation of valuable natural resources.

The Land Use portion of the plan includes a map for 2015–2025, which shows recommended land uses by major categories, each of which is interpreted locally through zoning designations. The plan also establishes an Urban Development Boundary, which is shown in figures 34 and 35, as well as figure 43. Urban development within the boundary will generally be approved through the year 2015, provided that level-of-service standards for necessary public facilities are met (Miami-Dade 2013a). Figure 43 also depicts the future land use designations contained with the County's Comprehensive Development Master Plan.

Northwest Wellfield Protection Area and the West Wellfield Interim Protection Area

The Miami-Dade County West and Northwest wellfield protection areas, which are illustrated in figure 43, represent two components of a larger network comprised of freshwater wells (located throughout Miami-Dade County) that collect and deliver groundwater to the county's drinking water plants.

East Everglades Area of Critical Environmental Concern

As described in Miami-Dade County regulations Section 33B-13, Areas of Critical Environmental Concern are those having "significant environmental and natural resource value." The extent of the East Everglades Area of Critical Environmental Concern is depicted in figure 43. Reasons for designating the East Everglades Area of Critical Environmental Concern include its ability to provide for recharge of Biscayne Aquifer; surface water supply to Everglades National Park; flood storage capacity; water quality maintenance; and vegetation, wildlife, and other natural features.

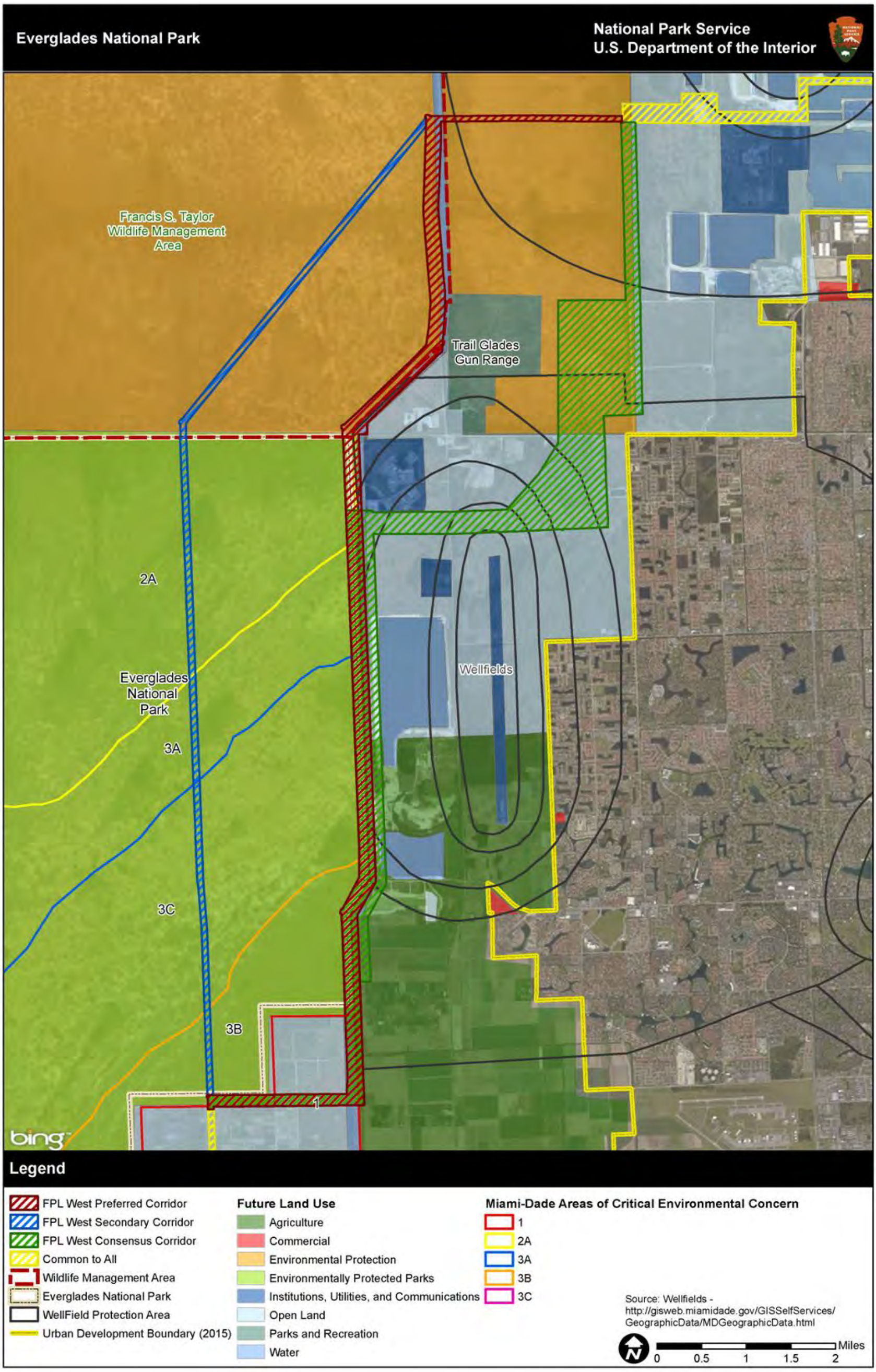


FIGURE 43: MIAMI-DADE AREAS OF CRITICAL ENVIRONMENTAL CONCERN, FUTURE LAND USE

Miami-Dade County ordinance number 81-1, §1, 1-15-81 states that "The regulation of land use in a coordinated manner within the area of critical environmental concern as described (in Section 33B-13), will minimize the dangers to human health, safety and welfare and to the functioning of the Biscayne Aquifer, its related surface waters and ecosystems, by:

a. Providing protection against alterations of the natural drainage systems;
b. Providing protection against coverage of natural water retention and recharge areas with excessive impermeable surfaces;
c. Providing protection against substantial alteration of the form and function of the natural ecosystem;
d. Providing protection against deterioration of water quality, both surface and ground;
e. Providing protection for the continuation of slow, natural overland flow of surface waters into Everglades National Park and the biotic and estuarine communities dependent on such flows;
f. Providing protection for the biological filtering capabilities of the wetland areas; and
g. Providing criteria for the method of elevation of structures above the level of seasonal, one hundred-year and storm surge flood levels."

Miami-Dade County intends for land uses within the East Everglades Area of Critical Environmental Concern to be managed in ways that prevent impacts from development. Property owners in the area are allowed use of their property, making public acquisition unnecessary. However, the use of transferable development rights can be evaluated and, if found to be appropriate, applied to all portions of the area as an alternative economic use so that owners may benefit from ownership and leave their land in its natural state (Miami-Dade 2013b).

TRIBAL LANDS INCLUDING INDIAN TRUST RESOURCES

There are two land areas held in trust for the Miccosukee Tribe (the Tribe) that are in the vicinity of the proposed action. Figure 34 shows locations as described below. In addition to the two Indian Trust parcels, there is an additional fee land parcel as well as land permitted to the Miccosukee in the vicinity of the project area. Trust land is land where the federal government holds the legal title, but the beneficial interest remains with the tribe. For fee land, the tribe acquires the legal title. Finally, the permitted land is owned by the NPS but under a long-term use permit to the Miccosukee Tribe.

The first area is comprised of three parcels of trust land outside the Everglades National Park, which are held in trust by the United States for the benefit of the Tribe and are used for self determination and commercial development purposes. One parcel is North of U.S. 41 (Tamiami Trail) and East of Krome Avenue. It is the Lambik Property and it consists of approximately 225 acres. This property is not currently used. Another parcel is the SEMA Property located east of Krome Avenue and South of U.S. 41. It consists of approximately 302 acres and has been graded to accommodate overflow parking from the Miccosukee Indian Resort and Gaming Facility, as described below. The third of these parcels is the Coral Way Property located east of Krome Avenue and South of U.S. 41/Tamiami Trail (and South of the SEMA Property). It consists of approximately 50 acres and is not currently in use.

The second area is comprised of three parcels also held in trust by the United States for the benefit of the Tribe located at the intersection of Krome Avenue and Tamiami Trail. The first Krome Avenue reservation area is comprised of 25 acres located at the northwest corner of the intersection and it is the site of the Miccosukee Indian Resort and Gaming Facility. A second parcel is behind and adjacent to the 25-acre Resort and Gaming Facility. This land held in trust for the benefit of the Miccosukee Tribe and

consists of approximately 180.61 acres. It extends all the way to the canal located behind the 25 acre Casino property but excludes a 4 acre existing radio/cell tower site. The third Krome Avenue reservation area is a 0.92-acre lot located on the southwest corner of the intersection and is the site of the Miccosukee Tobacco Shop. For purposes of the chapter 4 analysis, these three parcels are analyzed as one, referred to as the Resort and Gaming Facility.

The fee property is owned by the Miccosukee and is located along the eastern edge of Krome Avenue and north of SW 88th Street (N Kendall Drive). The parcel is approximately 100 acres. The current use is unknown, however when viewing an aerial photograph, the land use appears to match the agricultural uses of the adjacent properties.

The Tribe also has the right to use land in the Tamiami Trail Reservation Area within the Everglades National Park located at the 40-mile bend on U.S. 41, mile marker 70. This parcel is subject to an act of Congress that states the area is to be treated as a federally recognized Indian reservation (Miccosukee n.d.).[4] The Tamiami Trail Reservation Area is 5 miles long and 500 feet deep and approximately 333 acres, located adjacent to the Tamiami Trail. The eastern edge of the Tamiami Trail Reservation Area is approximately 15 miles from the FPL West Secondary Corridor and approximately 18 miles from the FPL West Preferred Corridor. The Tamiami Trail Reservation Area is presently the site of most Tribal operations and is the center of the Miccosukee Indian population (Miccosukee n.d.).

SOCIOECONOMICS

Potential socioeconomic issues associated with the alternatives and their associated transmission line construction scenarios include construction impacts on the regional economy, transmission line effects on property values and on recreation visitation, visitor spending, and on associated businesses, and possible effects of the transmission line development costs on shareholders and rates. Since the bulk of the construction workforce for the project is likely to reside within the large urban region of Miami-Dade County, the contribution to jobs and income associated with the construction activity is likely to have a broader effect on the economy, with the majority occurring within Miami-Dade County. As such, employment, unemployment, and income are described for Miami-Dade County in this section.

The effects of transmission lines on residential property values are known to have the largest effects on residential structures within close proximity to transmission lines (Pitts and Jackson 2007; Jackson and Pitts 2010). Therefore, the analysis will focus on identifying residential structures at varying proximities to the transmission line routes, and housing values will be assessed at a finer level of geography encompassing the alternative routes.

The cost of the transmission line routes and easements have the potential to impact shareholders and electricity rates; FPL serves 4.5 million customers in Florida.

GEOGRAPHIC CHARACTERISTICS

Miami-Dade County is located in Southeastern Florida bordered by Broward County to the north; the Atlantic Ocean to the southeast; Monroe County to the south and west; and Collier County to the west. The county encompasses 1,946 square miles of land, and 485 square miles of water. The county's interior makeup is characterized by substantial urban development to the east along the coastline; WCAs in the

[4] Miccosukee Reserved Area Act, P. L. 105-313, Oct. 30, 1998, 112 Stat. 2964.

northwest corner; agricultural land concentrated in the center of the county; and Everglades National Park comprising vast portions of Miami-Dade, from the center of the county to its western and southern extents.

The FPL West Preferred and FPL West Secondary Corridors as well as the West Consensus Corridor are located within Miami-Dade County. The West Consensus Corridor is located to the west of the urban development boundary. Just east of the project area and urban development boundary there are a number of communities that border the boundary on its west side. From south to north, these communities include The Hammocks, Kendall West, Kendall Lakes, Tamiami, and Doral.

DEMOGRAPHIC CHARACTERISTICS

Population Trends

Miami-Dade County has a population of 2,496,435 people, and a population density of 1,265 people per square mile (U.S. Census 2010a). It is the most populous county in Florida, and the eighth most populous county in United States, comprising half of the total South Florida metropolitan area population, including Miami-Dade, Broward, and Palm Beach counties (UF BEBR 2008).

Miami-Dade County has experienced population growth, especially in the 1960s and 1970s, with population doubling from 1960 to 1990. Southeastern Florida's densely populated urban areas and growing population have fueled the westward development of agricultural and unimproved lands, closer to western urban boundary and the Tamiami Trail region. Populations for the communities and subdivisions adjacent to the western urban boundary are summarized in table 14.

TABLE 14: POPULATION CHANGE 2000–2007 FOR MIAMI-DADE COUNTY

County and Census Designated Place	2000	2010	Percentage Change
Miami-Dade County	2,253,362	2,496,435	10.8
The Hammocks	47,379	NA	–
Kendall West	38,034	NA	–
Kendall Lakes	56,901	NA	–
Tamiami	54,788	NA	–
Doral	20,438	NA	–

Source: U.S. Census Bureau 2000, 2010a.

Race and Ethnicity

Florida and Miami-Dade County comprise approximately 58 and 15 percent non-Hispanic white populations, respectively. There has been an increase in the proportion of individuals of Hispanic origin in recent years in Miami-Dade County; in 2010, the Hispanic population comprised 65 percent of the population in the county. Table 15 provides the race and ethnicity for Florida and Miami-Dade in 2010.

TABLE 15: RACE AND ETHNICITY, 2010

Race or Ethnicity	Florida (in percent)	Miami-Dade County (in percent)
Non-Hispanic	77.5	35.0
White	57.9	15.4
Black	15.2	17.1
Other Race	2.9	1.7
Two or More Races	1.5	0.8
Hispanic (all races)	22.5	65.0

Source: U.S. Census Bureau 2010a.

ECONOMIC CHARACTERISTICS

Labor Force and Unemployment

In 2010, Miami-Dade County employment represented 14.3 percent of the total Florida employment (U.S. Bureau of Economic Analysis 2012). The unemployment rate in Miami-Dade County in 2010 was 11.3 percent, whereas the unemployment rate in Florida was 10.5 percent, and the U.S. unemployment rate was 5.8 percent. In February 2012, the unemployment rate was 10.0 percent, while the state's unemployment rate in February 2012 was 9.4 percent (UF BEBR 2012).

Employment and Income

In 2010, the per capita personal income in Miami-Dade County was $36,520, slightly less than the state's per capita income of $38,210 (UF BEBR 2012). In Miami-Dade County, total full-time and part-time jobs in 2010 were 1,416,227, while employment in Florida was 8,933,114 (U.S. Bureau of Economic Analysis 2012). In 2010, in Miami-Dade County, the other services sector was the largest source of employment, accounting for 26.5 percent of jobs, slightly higher than in Florida. The education and health care sector accounted for 13.9 and 13.1 percent, in Miami-Dade County and Florida, respectively (US Bureau of Economic Analysis 2012). The construction sector accounted for 4.2 percent of the jobs in the county and 5.2 percent of the jobs in the state. Table 16 summarizes employment by industry sectors for Miami-Dade County and Florida.

Housing

Within Miami-Dade County, residential areas are found in cities, towns, smaller communities, and in the unincorporated portions of the county. To identify the property values in close proximity to the alternative routes, the number of housing units, occupancy rate, and median housing values for 2010 were examined for 9 census tracts that intersect or are directly adjacent to the West Consensus Corridor. Within the 9 census tracts, there are over 11,000 housing units, with median housing values ranging from $263,800 to $434,400. Figure 44 summarizes the locations of the census tracts within the project area. Table 17 presents the housing characteristics.

TABLE 16: SUMMARY OF EMPLOYMENT BY INDUSTRY, 2007, MIAMI-DADE COUNTY AND FLORIDA

Industry Sector	Miami-Dade County	Florida
Goods-Producing		
Natural Resources and Mining	0.7%	1.7%
Construction	4.2%	5.2%
Manufacturing	2.9%	3.5%
Subtotal	**7.8%**	**10.3%**
Services-Producing		
Transportation	5.6%	3.0%
Information, Finance, Insurance, and Real Estate	12.3%	13.2%
Wholesale and Retail Trade	15.6%	14.6%
Education and Healthcare	13.9%	13.1%
Accommodations and Food Services	7.2%	8.0%
Other Services*	26.5%	25.5%
Subtotal	**81.2%**	**77.5%**
Government	11.1%	12.3%
Total	100.0%	100.0%

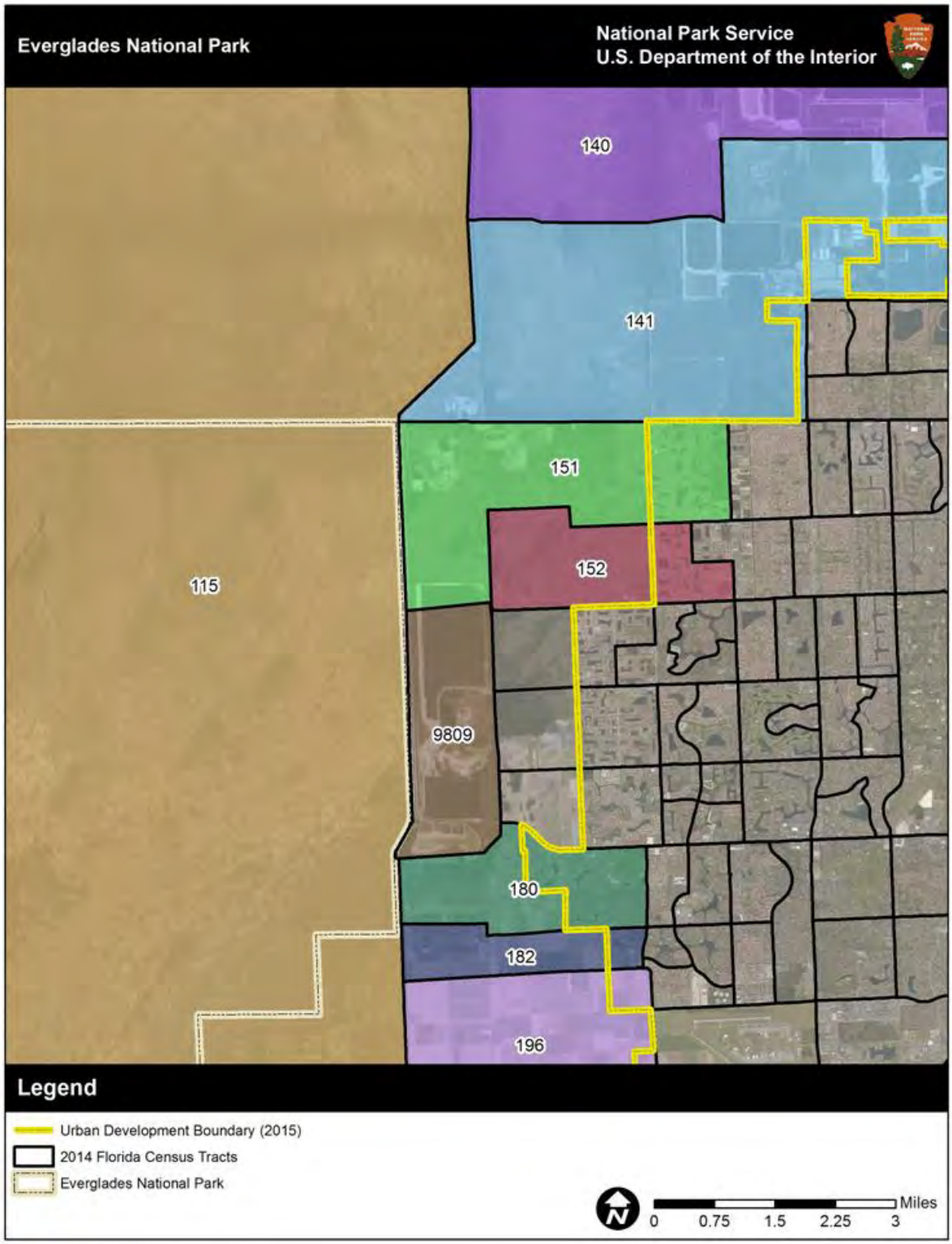
*Includes professional and technical services, management of companies, administrative and waste services, arts, entertainment and recreation, and other services.

Source: U.S. Bureau of Economic Analysis 2012

TABLE 17: HOUSING UNITS AND VALUES, 2010

Geography	Housing Units	Percent Occupied	Median Housing Value (2010$)
Florida	8,863,057	80.7	205,600
Miami-Dade County	980,580	84.4	269,600
Census Tract 115	1,865	84.5	434,400
Census Tract 140	12	100.0	NA
Census Tract 141	0	–	–
Census Tract 151	2,599	91.2	357,500
Census Tract 152	2,014	94.9	349,100
Census Tract 180	2,205	95.6	343,800
Census Tract 182	845	85.9	263,800
Census Tract 196	1,572	85.2	357,200
Census Tract 9809	0	–	–

Source: U. S. Census Bureau 2010b.



Note: This map does not depict the entire census tract area for census tracts 115, 196, and 140. As a result, there are housing units within these census tracts listed in table 17 that lie to the north, west and south of the portions of the census tracts shown on this map.

FIGURE 44: CENSUS TRACTS THAT INTERSECT OR ARE IN PROXIMITY TO THE ALTERNATIVE ROUTES

Park Visitor Spending and Contributions to the Regional Economy

Everglades National Park attracts over 1 million visitors a year spending an estimated $136.5 million annually (Stynes 2011). The visitor spending supports an estimated 1,956 jobs with annual income of $72.2 million in the regional economy (Stynes 2011). Although the jobs supported by park visitor spending represent only about 0.1 percent of total regional employment, the visitor spending and jobs supported are important to many businesses located near the park, such as concession operations and fishing outfitters (NPS 2013a).

FPL Rates and Ratepayers

FPL is the largest electric utility in Florida and one of the largest rate-regulated utilities in the United States. FPL serves 4.6 million customers in Florida (FPL 2012b). The typical FPL bill is the lowest out of 55 utilities in Florida and about 24 percent below the national average (FPL 2012c).

Capital expenditures for improvements to electric-utility infrastructure are investments made to serve customers. The expenditures are passed on to the customers served in the form of increased rates. However, as a regulated utility, the proponent can increase rates only on approval by state utility commissions. Such rate-increase requests are subjected to rigorous analysis by regulators and others, and to public process.

PARK OPERATIONS AND MANAGEMENT

Park management and operations refers to park staff efforts to maintain and administer park resources, and to provide an ideal visitor experience. Everglades National Park staff provides the full scope of functions and activities needed to accomplish management objectives. They perform duties that include visitor and resource protection, resource management, and interpretation and education. The superintendent manages all park staff and includes managers responsible for concessions, planning, and compliance, and cultural resources programs (NPS 2006a).

Principal park operations and management of relevance within EEEA and the scope of this project are overseen by the Fire Management, South Florida Natural Resources Center (SFNRC), Cultural Resources, and Visitor and Resource Protection divisions. Exotic plant management is an important part of management and operations in EEEA, and is a subdivision of the SFNRC.

FIRE AND AVIATION MANAGEMENT

The main responsibility of the Fire and Aviation Management is to implement prescribed burns and manage wildfires throughout Everglades National Park. The main purpose of these prescribed burns is to reduce the risk and threat of unwanted wildfire to protect life, property, community and park resources and maintain fire adapted ecosystems. Fire management staff also respond to approximately one wildfire per month, but there are large fluctuations in the frequency of fire events at the park due to the high potential for fires: in any given year, an average of 300 days offer suitable conditions for wildfires to start. Throughout the park, a total of 10 to 20 prescribed burns are conducted each year. Each burn generally lasts one to three days. Prescribed burns are extremely labor-intensive, requiring between 10 and 30 staff, all of whom are full-time professional fire staff (with occasional interagency participation from the USFWS and the U.S. Forest Service). The total staff size is 32 individuals, all of whom are permanent, full-time employees (four are subject to furlough). This is sufficient to meet the current needs of the Fire Management division (Anderson pers. comm. 2012).

Approximately two to four prescribed burns are conducted in EEEA each year. Aviation is an important part of fire management activities. Fire management staff uses a retrofitted crop-duster airplane to douse fires, as well as a contracted helicopter to ignite prescribed burns. Aircraft are also sometimes used to transport firefighters to strategic locations. Currently, the most significant obstructions to aviation in EEEA are large trees (Anderson pers. comm. 2012).

INTERPRETATION AND VISITOR SERVICES DIVISION

Interpretation and Visitor Services staff are active in the EEEA from December 1 – April 30, when the Chekika Day Use Area is open. Six volunteers operate in this vicinity on a daily basis during this period. Additional staff are located at the Shark Valley Visitor Center, which is open year round. Overall, three Visitor and Resource Protection staff and six staff from the Fire Management division are located at the EEEA. Due to budget and staffing cuts, Chekika area is currently closed indefinitely as of December 2013. Chekika will remain closed until sufficient resources are available to maintain operations in the area. User groups can still access the area through use of special permits.

SOUTH FLORIDA NATURAL RESOURCES CENTER

The SFNRC is one of the park's principal divisions. SFNRC oversees environmental and ecological assessments within the park, and provides scientific information to the park and to the U.S. Department of the Interior (DOI). The division is also responsible for permitting scientific research conducted by non-NPS institutions within the park, and provides funding for groups seeking to conduct such research. SFNRC had 62 full-time, permanent staff, and three part-time staff in 2012 (Mitchell pers. comm. 2012).

The SFNRC was divided into five major branches in 2012:

- Administration, which oversees administrative duties within SFNRC;
- Project Management, which oversees interactions with the USACE and carries out projects within the USACE framework;
- Water Quality, which analyzes water quality data and determines whether the park's water resources meet water quality standards;
- Physical Resources, which conducts hydrologic monitoring and interacts with the engineers at USACE and the SFWMD, as well as other county, state, and federal agencies; and
- Biological Resources, which oversees biological monitoring, exotic species management, and ecological modeling activities.

SFNRC operations make use of aircraft, particularly in the EEEA where aviation constitutes the easiest and most efficient way to transport individuals to otherwise inaccessible areas (Mitchell pers. comm. 2012).

EXOTIC PLANT MANAGEMENT

The Exotic Plant Management program is a part of the SFNRC. Exotic plant management is overseen by two permanent employees. This subdivision receives only a very small amount of internal NPS funding, enough for a modest operational budget. The majority of funding currently comes from external sources, largely from state and county governments. The availability of funding is therefore highly variable from year to year and from season to season, and external contractors rather than NPS staff carry out the majority of the physical operations of exotic plant management. The Exotic Plant Management

subdivision of SFNRC's main responsibilities are to secure funding, author contracts, hire contractors, oversee contracted work on exotic plants, and conduct exotic plant monitoring activities (Taylor pers. comm. 2012a).

Most exotic plant control is accomplished via herbicide application, manual removal, and application of prescribed fire. This subdivision works closely with the Fire Management division when fire is used a tool in managing exotic plant populations (Taylor pers. comm. 2012a).

Exotic plants of primary ecological concern in Everglades National Park at the time of this writing include melaleuca, Australian pine (*Casuarina equisetfolia*), Brazilian pepper, and Old World climbing fern (*Lygodium microphyllum*). The availability of funding for management activities focusing on these species is not equal: the majority of funding sources are for melaleuca-related work, with a small amount for Australian pine, and no funding for work involving other exotic plant species. For the fiscal years 2010, 2011, and 2012, all of the subdivision's work focused on melaleuca because this was the only plant for which funding was available. In the fiscal years 2009 and 2008, melaleuca-related work constituted the bulk of the subdivision's efforts. Even though Australian pine, Brazilian pepper, and *Lygodium* spp. are also serious ecological threats, funding for management activities focusing on them is seldom available (Taylor pers. comm. 2012a).

The majority of this subdivision's work takes place within EEEA. Almost all of the melaleuca in Everglades National Park is found in the EEEA, and over 90 percent of the park's Australian pine is also found there. Aircraft are routinely employed in order to provide transportation during exotic plant management operations, with helicopters used in up to 70 percent of the work that takes place in any given year. Airplanes are used for exotic plant monitoring (Taylor pers. comm. 2012a, 2012b).

CULTURAL RESOURCES

The Cultural Resources division oversees the park's Cultural Resources Program, the purpose of which is to research, delineate, and develop management objectives for the park's cultural resources (including archeological sites, historic preservations sites, historic structures, ethnographic resources, cultural landscapes, and historical resources). The Cultural Resources division also supervises the museum, oversees Section 106 and Section 110 consultations, and manages activities related to the National Historic Preservation Act (NHPA), including tribal consultations. The division consists of six full-time employees, four of which are permanent and two are subject to furlough (Memory pers. comm. 2012).

The Cultural Resources division works with the Fire Management and Visitor and Resource Protection divisions to accomplish its mission of cultural resources stewardship. Fire Management protects cultural resources from fires, and Visitor and Resource Protection enforces the policies put into place to protect sites from poaching or harmful human disturbance (Memory pers. comm. 2012).

Currently, the inventory of Everglades National Park's cultural resources is incomplete. Approximately 1.5 million acres of land needs to be inventoried, and the majority of it is not yet complete.

The Cultural Resources division's use of the EEEA is mostly limited to research and delineation of archeological and ethnographic sites. Ethnographic sites are sites or landscapes within Everglades National Park that have associations with living cultural groups, such as areas used for ceremonies or for traditional plant-gathering practices. A study is currently underway to identify all of the ethnographic sites in EEEA. The Cultural Resources division uses aircraft to access EEEA when necessary (Memory pers. comm. 2012).

VISITOR AND RESOURCE PROTECTION

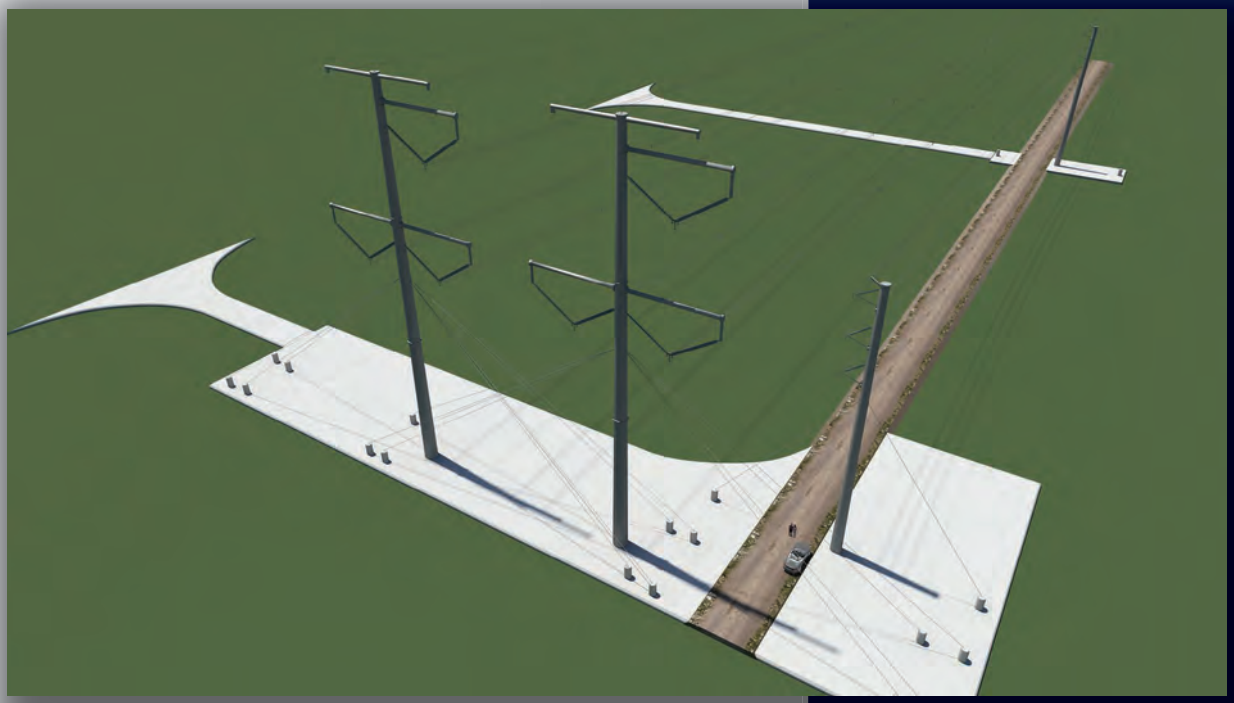
The Visitor and Resource Protection division is responsible for enforcing NPS laws and regulations within Everglades National Park. Visitor and Resource Protection officers monitor for violations of these laws and regulations, take action to prevent them, and, where possible, prosecute those responsible for violating them. Within this division, three officers are assigned to the EEEA. These three officers share an office with the Fire Management division (Foist pers. comm. 2012).

The most common violation of NPS laws within EEEA is the illegal use of all-terrain vehicles. As the vehicles are not street-legal and off-road use is not allowed in Everglades National Park, use of these vehicles within the park is illegal. Illegal all-terrain vehicle use within Everglades National Park increases the risk of wildfires, can damage naturally occurring biota, and sometimes results in serious injuries to visitors. Visitor and Resource Protection officers typically encounter several all-terrain vehicle violations per month in EEEA (Foist pers. comm. 2012).

Another common violation within the EEEA is the illegal dumping of trash. As EEEA is not fenced, it is easily vulnerable to such illegal dumping at any time during the year. Materials commonly dumped include tires, debris from construction sites, commercial debris, and miscellaneous garbage. Occasionally, the dumps include illegal materials in them, as with illegal marijuana growing operations that dump their debris in EEEA. In every instance, the Visitor and Resource Protection officers make an effort to identify the culprits responsible for the illegal dumps. Various items, such as retail receipts or medicine bottles with names on them, can sometimes provide enough information to allow Visitor and Resource Protection officers to identify the culprits and eventually develop a court case against them (Foist pers. comm. 2012).

The third most common illegal activity in EEEA, and also the most dangerous, is the illegal use of firearms for target shooting. Visitor and Resource Protection officers find evidence of firearm use approximately once per month. Firearm use is not allowed within Everglades National Park. Items of physical evidence, such as retail receipts, left at the scene of a crime can sometimes lead to successful prosecutions against those responsible (Foist pers. comm. 2012).

Other illegal activities within EEEA include poaching and illegal fishing, camping in inappropriate areas, use of airboats in inappropriate areas, and use of airboats without required safety equipment. Visitor and Resource Protection operations within EEEA are not yet completely defined. Efforts to catalogue the appropriate land within EEEA on which visitors may set up campsites, and routes upon which visitors may use airboats, are ongoing (Foist pers. comm. 2012).



CHAPTER 4

Environmental Consequences

CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter describes the potential environmental consequences of implementing any of the alternatives being considered. For each impact topic discussed in "Chapter 3: Affected Environment," the environmental consequences, or potential impacts, of each of the alternatives are analyzed. Impacts analyzed include the impacts of the National Park Service (NPS) action related to land acquisition, as well as the indirect impacts from the transmission line construction that could occur as a consequence of the proposed land acquisition.

Where appropriate, measures to reduce adverse impacts from the transmission line construction are described, and the effects of these measures are included in the analysis. These mitigation measures include those proposed by Florida Power & Light (FPL) for its transmission line construction (Site Certification Application (SCA) application; see appendix F) and the terms and conditions that would be imposed under either alternative 3 or 4 as part of an exchange agreement (see appendices G and H). The proposed terms and conditions are subject to approval during the preparation of the Record of Decision (ROD) for this environmental impact statement (EIS). In the analysis, it is assumed that permits can be obtained for the transmission line construction being analyzed, but it is recognized that this is not assured, and the mitigation measures that would be imposed under any permit conditions are not known at this time. If the final negotiated terms and conditions are significantly different than those included in the ROD, additional National Environmental Policy Act (NEPA) analysis may be required.

As required by the Council on Environmental Quality (CEQ) regulations implementing the NEPA, a summary of the environmental consequences for each alternative is provided in table 3, which can be found at the end of chapter 2.

METHODOLOGY FOR ESTABLISHING IMPACT INTENSITY DEFINITIONS AND MEASURING EFFECTS BY RESOURCE

The general approach for measuring the effects (or impacts; these terms are used interchangeably throughout) of the alternatives on each impact topic includes general analysis methods as described in guiding regulations, basic definitions, definitions of the intensity of impact resulting from each alternative, and methods used to evaluate the cumulative effects. The analysis of impacts follows CEQ guidelines and Director's Order 12 handbook (NPS 2001). The analysis incorporates the best available scientific literature applicable to the region and setting, the species and areas being evaluated, and the actions being considered in the alternatives. For each resource topic addressed in this chapter, the applicable analysis methods are discussed, including assumptions.

GENERAL ANALYSIS METHODS

Potential impacts of all alternatives are described in terms of type (Are the effects beneficial or adverse?); context (Are the effects site-specific, local, or regional?); duration (Are the effects short term or long term?); and intensity (Are the adverse effects negligible, minor, moderate, or major?). Because definitions of intensity vary by impact topic, intensity definitions are provided separately for each impact topic analyzed in this document. Beneficial impacts do not include an intensity determination.

Each action alternative is compared to a baseline to assess the context, duration, and intensity of the impacts, as well as to other alternatives to present the reader with a relative assessment of impacts. For purposes of the impact analysis, the baseline is alternative 1a, no NPS action, which includes neither acquisition of FPL lands nor acquisition of a perpetual flowage easement, and no transmission line construction (see chapter 2 for more detailed descriptions of this and all alternatives). Under each alternative, impacts of the land acquisition action are described first, followed by an assessment of the indirect impacts of the associated transmission line construction for that alternative.

In the absence of quantitative data, best professional judgment was used to determine impacts. In general, impacts were determined using existing literature; federal and state standards; consultation with subject-matter experts, including park staff, representatives from other agencies, and project consultants; and public scoping comments.

BASIC DEFINITIONS—TYPE AND DURATION OF IMPACTS

The following definitions are used for all impact topics unless otherwise noted:

- **Beneficial**: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
- **Adverse**: A change that declines, degrades, and/or moves the resource away from a desired condition or detracts from its appearance or condition.
- **Direct**: Impacts that would occur as a result of the proposed action at the same time and place of implementation (40 CFR 1508.8).
- **Indirect:** Impacts that would occur as a result of the proposed action but later in time or farther in distance from the action (40 CFR 1508.8). All of the impacts related to transmission line construction are considered to be indirect impacts.
- **Context**: Context is the affected environment within which an impact would occur, such as localized, parkwide, regional (southern Florida or other regional context that is particular to the topic), global, affected interests, society as whole, or any combination of these. Context is variable and depends on the circumstances involved with each impact topic.
- **Duration**: The duration of the impact varies according to the impact topic evaluated. However, for the purposes of this analysis, the following assumptions are used for all impact topics except soundscapes, which has its own definitions provided in that section.
  - **Short-term impacts**: Those impacts occurring in the immediate future or during implementation of either the land acquisition or exchange, or the pending transmission line construction, generally expected to range from a few months up to a few years. For natural systems (vegetation, wildlife, wetlands), recovery from short-term impacts would generally take less than one year.
  - **Long-term impacts**: Those impacts occurring after implementation of the alternative has occurred and construction is complete; for natural systems (vegetation, wildlife, wetlands), recovery from long-term impacts would take more than one year. Similarly, any impacts that occur after transmission line construction is complete would be long term.

INDIRECT TRANSMISSION LINE IMPACTS

Although the NPS does not have responsibility to choose or authorize if or where FPL builds transmission lines, it is foreseeable that FPL will attempt to obtain permits to construct transmission lines, and if

permits are approved, will construct the lines. Therefore, the indirect effects of these lines are discussed in this document.

The following assumptions were factored into the impact analysis of the transmission line construction associated with alternatives 1b, 2, 3, 4, and 5, although it is recognized that many of these factors will not be finalized until design is completed.

- Number of transmission lines with right-of-way: three as proposed (two 500-kilovolt (kV) lines, one 230-kV line)
- Width of right-of-way: 330 feet, with a 90-foot vegetation management easement for exotic species control (located along the west side of the FPL West Preferred Corridor)
- Approximate length of transmission line corridors within the project areas: from where the three corridor options in and around the park diverge south of the park, to where they converge in the Pennsuco wetlands area:
  - FPL West Preferred Corridor: about 15.7 miles (about 6.5 miles in the park)
  - FPL West Secondary Corridor: about 14.7 miles (about 7.4 miles in the park)
  - West Consensus Corridor: about 16.2 miles (0 miles in the park)
  - Route in area of possible relocated corridor: about 15 miles; this route was used for the Avian Risk Assessment (ARA) completed for the draft EIS only and is addressed only in sections dealing with avian resources
- Distance between structures: Based on information provided in the FPL SCA (FPL 2009a), the analysis assumes a span of 1,000 feet for the 500-kV line and a span of 500 feet for the 230-kV line, but it is recognized that this will vary with length of line between angles and the need to avoid or span some areas.
- Access road location and extent: This would depend on the route and the availability of access to the site (e.g., levee roads, other roads east of the park). For purposes of analysis, it is assumed that any road built would have an 18-foot-wide roadbed and would be up to 42 feet wide (in wetlands) and about 22 feet wide in uplands, including the slide slopes. For purposes of the analysis, it is assumed that the access road would run the entire length of any corridor. It is possible that the levee road could be used for access, or a road could be built in another location near the levee, depending on final design. Since that design is not known at this time, a “worst case” scenario of a new road constructed within the 330-foot corridor is used for analysis. Culverts would be included under access roads in wetlands to maintain channel flow and/or overland flow to the extent possible.
- Pads: pads would be required at all structure locations, but the area that would need to be filled is not exactly known for each route. For estimating area of disturbance, including side slopes, it is assumed that larger pads (where there are both 500-kV and 230-kV structures) would be 1 acre in wetlands and 0.63 acre in uplands. Smaller pads (where there are 230-kV structures only) are assumed for estimating purposes to cover about 0.35 acre in wetlands and 0.05 acre in uplands; corner pads (at angles in the lines) were estimated at 2 acres in wetlands and 1.74 acres in uplands (see appendix F for additional details). Pad sizes would likely be smaller in alternative 1b, in which additional flowage would not occur, but sizes are not known at this time, and these pad sizes were used for all estimates. All pads would be constructed of clean fill brought to the site. The final grade of access roads and structure pads is typically set to be 12 inches above the expected high water elevation. In the case of transmission line construction scenarios that include

> the perpetual flowage easement, this would mean 12 inches above a water level of 9.7 National Geodedic Vertical Datum (NGVD), or 10.7 NGVD.

Appendix F provides details about transmission line construction, operation, and management as well as a summary of mitigation as proposed by FPL in its application to the state for certification of its western corridors (SCA application). For alternatives 3 and 4, the terms and conditions for the exchanges also affect transmission line impacts and are assumed to be implemented in the analysis. These terms and conditions are found in appendices G and H.

For alternative 3, impacts within the park from transmission line construction would be reduced at the point where FPL is able to construct within the West Consensus Corridor. At this point, impacts under alternative 3 would then be similar to those described under alternative 2. For a conservative analysis, alternative 3 assumes FPL constructs entirely within the park.

AREA OF ANALYSIS (GEOGRAPHIC AREA EVALUATED FOR IMPACTS)

The area of analysis (or study area) for all topics is described under each topic and is based on the resources affected by the NPS land acquisition action and the geographic extent that one would expect to experience the impacts of the actions included in the alternatives. For most topics, the area of analysis is the project area shown in "Figure 5: Everglades National Park Showing Various Corridors and Areas Addressed in Alternatives 1–5" in chapter 2.

IMPACT INTENSITY DEFINITIONS

Because definitions of impact intensity (negligible, minor, moderate, and major) vary by impact topic, intensity definitions are provided separately for each impact topic analyzed. The impact intensity definitions define relative level of intensity for adverse effects. Beneficial impacts are described without the use of intensity definitions.

CUMULATIVE IMPACTS ANALYSIS

Cumulative impacts are defined in 40 CFR 1508.7 as those impacts that result from

> …the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

As stated in the CEQ Handbook (CEQ 1997b), "Considering Cumulative Effects," cumulative impacts need to be analyzed in terms of the specific resource, ecosystem, and human community being affected and should focus on effects that are truly meaningful. Cumulative impacts are considered for all alternatives, including the no-action alternative, and are presented at the end of each impact topic discussion analysis.

Cumulative impacts were determined by combining the impacts of the alternative being considered with other past, present, and reasonably foreseeable future actions. Those actions include past, present, and reasonable foreseeable projects and plans that would result in implementing actions that would contribute to the cumulative effects of the alternative on various resources or values. Most of the projects considered for cumulative analysis are described in the section "Relationship to Other Projects and Plans" in chapter 1. These are briefly summarized in table 18, along with some specific non-park actions that could have a cumulative effect on certain resources being analyzed.

The area of analysis for cumulative impacts is the same as that described under each topic for the assessment of impacts of the alternatives. The analysis for most topics is focused on the area of the potential land exchange and the potential transmission line routes in or around the park, which would be determined by the NPS proposed action. For avian resources, cumulative effects are considered to occur in adjacent wetlands and areas used by birds for foraging outside of the park, extending to the coast. Socioeconomic impacts are considered at the county level.

In defining the contribution of each alternative to cumulative impacts, the following terminology is used:

Imperceptible: The incremental effect contributed by the alternative to the overall cumulative impact is such a small increment that it is impossible or extremely difficult to discern.

Noticeable: The incremental effect contributed by the alternative, while evident and observable, is still relatively small in proportion to the overall cumulative impact.

Appreciable: The incremental effect contributed by the alternative constitutes a large portion of the overall cumulative impact.

TABLE 18: PROJECTS WITH CUMULATIVE EFFECTS ON RESOURCES ANALYZED IN THIS ENVIRONMENTAL IMPACT STATEMENT

Project	Brief Description (see "Relationship to Other Projects and Plans" in Chapter 1 for details)	Past (P), Present (PR), and/or Reasonably Foreseeable Future (F) Action?
Central and Southern Florida (C&SF) project (system of levees, canals, and water control structures; U.S. Army Corps of Engineers (USACE) and South Florida Water Management District (SFWMD) are continuing to make modifications to the system and the operations)		
Everglades Restoration Transition Plan (ERTP)	Current operating plan for projects that directly affect the Water Conservation Areas (WCAs) and the park; focus is on improving habitat for wood stork, Cape Sable seaside sparrow, and Everglade snail kite.	PR, F
Water Quality Improvement Projects	Projects aimed at achieving phosphorus water quality standard established for the Everglades; includes stormwater treatment areas and water storage basins; completion planned for 2024.	PR, F
Everglades restoration plans (water management projects that would restore or enhance flows in the East Everglades Expansion Area (EEEA); these would occur over a 20–30 year period as the projects are funded and implemented and as lands in the park are acquired)		
Modified Water Deliveries to the Everglades National Park (MWD) Project	Modification of the C&SF project to help restore natural hydrology by providing a way for additional water to flow from WCA 3, north of the Tamiami Trail, into the park.	P, PR, F
Tamiami Trail Next Steps Project	Builds on the Tamiami Trail road improvements under the MWD project; bridging and additional road raising allows for more water flow into the park.	PR, F
Canal 111 (C-111) Project Modifications	These modifications to the C&SF project consist of a series of detention basins between the park and the southern end of the L 31 N canal and other modifications to canals for flood protection.	PR, P, F

Project	Brief Description (see "Relationship to Other Projects and Plans" in Chapter 1 for details)	Past (P), Present (PR), and/or Reasonably Foreseeable Future (F) Action?
Comprehensive Everglades Restoration Plan (CERP) and associated projects	A number of CERP projects are intended to improve flows in and around Everglades National Park, including the decompartmentalization of WCA 3, Everglades National Park seepage management, the C-111 spreader canal project, the CERP Master Recreation Plan, the Central Everglades Planning Project (CEPP), and the Water Control Plan.	P, PR, F
FPL electrical generation and transmission projects (for topics where the area of analysis is more extended)		
Turkey Point Power Plant expansion	Development of two new nuclear units at the existing Turkey point site on Biscayne Bay.	F
Eastern power transmission corridor upgrades and expansion	230-kV transmission line from the Turkey Point Power Plant north to Miami.	F
Western transmission corridor; corridor segments leading to and from Everglades National Park	Transmission line corridor from the Turkey Point Power Plant north to the Pennsuco substation; part of this is in the project area for the EIS because the NPS proposed action may influence the path it takes in or around the park.	F
Park management plans and projects		
Acquisition of lands in the EEEA under the Everglades National Park Protection and Expansion Act of 1989 (Expansion Act)	Includes acquisition of privately owned parcels in the expansion areas; many have been acquired; remaining ones include the FPL parcel that is the subject of this EIS, three airboat operations, and two AM radio properties.	P, PR, F
Land Protection Plan (LPP) for the East Everglades Addition	1991 plan that determined that all lands in EEEA are needed for restoration and sets priorities for acquisition of lands in the EEEA. This plan identifies compatible and incompatible land uses.	P, PR, F
Everglades General Management Plan / East Everglades Wilderness Study	The general management plan (GMP) sets the direction for the area, including desired future conditions and objectives that promote protection of park resources. The Wilderness Study had found that 102,100 acres are eligible for wilderness, including the FPL parcel.	F
Everglades Fire Management	The park conducts prescribed burns and responds to wildland fires in the area; the plan is currently being updated.	P, PR, F
Exotic Vegetation Management	The park implements its plan for controlling exotic plant species in the park; the plan includes control of exotic vegetation in the project area.	P, PR, F
Research, surveys, and monitoring in the EEEA	Conduct of research and surveys to monitor park resources – hydrology, special-status species; can include use of helicopters and airboats.	P, PR, F

Project	Brief Description (see "Relationship to Other Projects and Plans" in Chapter 1 for details)	Past (P), Present (PR), and/or Reasonably Foreseeable Future (F) Action?
Non-park actions that can affect resources in the area of analysis		
Airboat tour operations	Four commercial airboat tour operations conduct airboat tours in the EEEA and bring approximately 300,000 visitors into the park annually. The continuation of airboat tours is a source of noise in the EEEA that can affect wilderness values, visitor use and experience, wildlife, soils, and hydrology.	P, PR, F
Land development: urban development, road construction and expansion (e.g., Krome Avenue expansion)	General land disturbance including vegetation removal, paving, and building or road construction east of the park that can be expected in the future (current conditions are part of the affected environment). This disturbance can affect most resources and socioeconomics. Additionally, car collisions can affect wildlife.	P, PR, F
Mining	Continued mining operations east of the park can affect natural resources, land use, and socioeconomics.	P, PR, F

HYDROLOGY

GUIDING REGULATIONS AND POLICIES

NPS *Management Policies 2006*, Section 4.6.1, "Protection of Surface Waters and Groundwaters" states, "The Service will perpetuate surface waters and groundwaters as integral components of park aquatic and terrestrial ecosystems" (NPS 2006a). NPS *Management Policies 2006* also specifically addresses the management of watershed and stream processes in Section 4.6.6. The policy states:

> The Service will manage watersheds as complete hydrologic systems and minimize human-caused disturbance to the natural upland processes that deliver water, sediment, and woody debris to streams.
>
> The Service will manage streams to protect stream processes that create habitat features such as floodplains, riparian systems, woody debris accumulations, terraces, gravel bars, riffles, and pools. Stream processes include flooding, stream migration, and associated erosion and deposition.
>
> The Service will protect watershed and stream features primarily by avoiding impacts on watershed and riparian vegetation and by allowing natural fluvial processes to proceed unimpeded.

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

The potential impact on hydrology is based on impacts to potential flows in the Northeast Shark River Slough (NESRS), which includes the entire area of analysis for this topic. The level of impact on potential flows in NESRS is related to the effects of the land acquisition and to the extent and location of any disrupting features such as access roads and structure foundations.

The following definitions were used to determine the magnitude of adverse impacts on hydrology:

- **Negligible**: An action would have no measurable or detectable effect on hydrology.
- **Minor**: An action would have small, but measurable, localized effects on hydrology. Once the disturbance is removed, the area would recover without assistance.
- **Moderate**: An action would have clearly detectable effects on hydrology over a large area or substantial effects over a small area. Resulting changes could potentially affect hydrologic connectivity, organisms, or natural ecological processes over a large area or would affect hydrologic connectivity, organisms, or natural ecological processes over a small area. If the disturbance is removed, the affected area would likely return to a normal state with minimal intervention.
- **Major**: An action would have substantial, regional effects on hydrology. Resulting changes would affect hydrologic connectivity, organisms, or natural ecological processes. Key ecological processes and community structure would be altered. The system would not return to a normal state without substantial intervention, and success is not guaranteed.

ANALYSIS AREA

The area of analysis for hydrology includes the areas potentially developed for transmission lines, plus downstream areas where soils could be affected by changes in water quality in the EEEA and the project area surrounding the park. This includes the general area occupied by the transmission corridors in the 8.5-square-mile area east of the park, WCA 3B and the Pennsuco wetlands north of the park, and extending to the urban development boundary to the east of the park (see "Figure 4: General Project Area," in chapter 1).

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, there would be no legal changes to the property's status or ownership, and FPL would not grant NPS a flowage easement. There would be no physical change to the land; therefore there would be no direct impacts on hydrology. However, the NPS would be unable to increase water levels in the NESRS, and would be unable to implement regional ecosystem restoration activities that rely on additional flow. Inability to allow increased water levels across the FPL property would result in preventing, reducing, or substantially delaying restoration efforts that rely on enhanced flows on a regional scale over the course of several decades, an indirect, but long-term major adverse impact on hydrology.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed. Therefore, there would be no construction-related impacts on hydrology.

Cumulative Impacts – Alternative 1a

Several past, present, and reasonably foreseeable projects are related to restoration of the hydrology and enhanced flows in the Everglades over a 20- to 30-year period. These include the C&SF project and Everglades Restoration Plans described in table 18. Funding and implementing associated projects and

acquisition of lands in the EEEA under the Expansion Act would result in large-scale beneficial impacts on hydrology in the NESRS and throughout the Everglades by increasing the hydroperiod and the flood stage in large parts of the Everglades in the park. However, alternative 1a would prevent or obstruct implementation of these flowage-related projects and would therefore result in major adverse impacts. Other actions in the area of analysis have also adversely affected regional hydrology, including the construction of mining lakes and paving of land for development east of the park, which disrupts natural flows and adds to impermeable surfaces and runoff. The impacts of not having flowage under alternative 1a would contribute appreciable adverse impacts on the overall cumulative effects on hydrology in this area.

Conclusion – Alternative 1a

Under alternative 1a, there would be no physical change to the land, so there would be no direct physical impacts on hydrology. However, NPS would be unable to increase water levels in the NESRS, preventing restoration on a regional scale and obstructing implementation of regional ecosystem restoration activities that rely on additional flow. Inability to allow additional flow across the corridor would result in long-term major indirect adverse impacts on hydrology. Alternative 1a would contribute appreciable adverse impacts on the overall cumulative effects on hydrology in this area.

IMPACTS OF ALTERNATIVE 1B-: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

Under alternative 1b, impacts of the land acquisition action would be the same as described for alternative 1a. The FPL retention of ownership of land in the EEEA would result in no direct impacts on hydrology; however, flowage restrictions would result in long-term indirect major adverse impacts on hydrology.

Impacts of Transmission Line Construction

Indirect impacts related to the construction of transmission lines in the FPL corridor would result from the construction of the transmission lines in the park, as described earlier in this chapter and appendix F. Under this alternative, transmission lines in the FPL West Secondary Corridor would be constructed directly through the flow path of the NESRS, and the FPL would not provide an easement to the NPS to accommodate the enhanced flows necessary for successful implementation of many of the ecosystem restoration projects in the Everglades. Construction of the transmission lines through this corridor would result in 7.4 miles of transmission lines in the park and 14.7 miles in the project area, including construction in the WCA 3B and Pennsuco wetlands north of the park. Culverts would be included under the access roads through this corridor to maintain existing surface water flows. FPL prefers the use of smaller diameter culverts to limit the depth of fill to be installed, but would use larger diameter culverts in some locations. The culverts would be designed and sized to equalize the amount of water volume created from a small rainfall event, and maintain the existing hydroperiod, and would be based on appropriate hydrological studies (see the “Mitigation Measures” section in appendix F).

Construction of the transmission lines, particularly without accommodation of enhanced flows, would result in long-term major adverse impacts. Existing hydroperiods would be maintained, but sheetflows would be disrupted as water is forced through the culverts and flows redirected. The transmission line corridor would be designed to maintain the existing hydroperiod during small rain events. However, the access road and associated support structures would result in a 7.4-mile-long hydrological barrier through the park’s portion of the NESRS and would contribute to compartmentalization of a system that is undergoing restoration activities to remove compartmentalization and reestablish sheet flow into and through the NESRS. Sheetflow would resume at some point downstream, but it would be noticeably

disrupted by the culverts, and it is likely there would be reduced hydroperiods downstream of the culverts (Sonenshein pers. comm. 2013).

Scour could also occur in the vicinity of the culverts, creating localized long-term negligible to minor adverse impacts along the transmission lines. There would also be short-term moderate adverse impacts related to the small to large-scale interruption of hydrologic processes that would also occur during construction, as areas are blocked off to place culverts and construct the access road and pads for the transmission line towers. Flows could be blocked or diverted along potentially long segments of the transmission lines. Bulldozers, excavators, and other construction equipment would be expected to enter the corridor to place fill materials to create the structure pads and access roads. This would cause localized and possibly regional obstructions and alterations of flow due to the presence of equipment and fill materials, depending on the method of construction.

Construction would occur in phases along the length of the lines, and although FPL has committed not to block flow along the entire length of the transmission line corridor, it is possible that flow could be blocked for several miles at a time. Typically, crews would selectively clear vegetation along the length of a right-of-way, or substantial portion of it, install silt fencing and curtains along the portion of the corridor that has just been cleared, lay the geotextile fabric, build the road and construct the transmission towers, and string the transmission lines. Hydrologic processes would be interrupted along the length of the corridor being worked on at any given time. Because the hydrology may be altered for miles, and the change in flow would be regionally noticeable with possible regional consequences, there would be short-term moderate adverse impacts on hydrology.

Cumulative Impacts – Alternative 1b

The cumulative projects with impacts on hydrology from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Construction of the transmission lines without a flowage easement in the FPL corridor would permanently prevent the implementation and success of these projects. Alternative 1b would result in major adverse impacts because of the lack of flowage, and would contribute appreciable adverse impacts on the overall cumulative effects on hydrology in this area.

Conclusion – Alternative 1b

Under alternative 1b, the impacts from the lack of a real estate transaction would be the same as under alternative 1a; flowage restrictions would result in long-term indirect major adverse impacts on hydrology. There would also be long-term major adverse impacts on hydrology from construction of the transmission lines, particularly the disruption of sheetflows through the culverts, and the likelihood that there would be reduced hydroperiods downstream of the culverts. Forcing the flow through culverts could result in scour, and localized long-term negligible to minor adverse impacts. Construction activities for the transmission lines would cause short-term moderate adverse impacts related to small to large-scale interrupted hydrologic processes that would occur during construction.

Alternative 1b would prevent or obstruct implementation of regional flowage-related projects and would therefore result in major adverse impacts. This alternative would contribute appreciable adverse impacts on the overall cumulative effects on hydrology in this area.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

Under alternative 2, no direct impacts would be expected from the acquisition of FPL land in the EEEA. There would be substantial long-term indirect benefits from placing ownership of this area solely with the NPS and the ability to accommodate enhanced flows, manage the area consistently with lands around it, and proceed with Everglades ecosystem restoration projects without obstacles from the FPL parcel.

Impacts of Transmission Line Construction

Under alternative 2, impacts on hydrology within the park would be avoided, but construction of the transmission lines in the West Consensus Corridor would result in disturbances to hydrology in this area. Impacts on hydrology would not be as great as impacts of alternative 1b for several reasons. The wetlands through which the lines would cross in this area are not contiguous with wetlands in the EEEA; many are segmented and have altered hydrologic conditions. This area is also not impacted by the regional ecosystem restoration projects that rely on enhanced flows. Culverts beneath the transmission line road and tower pads would allow flows beneath the lines at existing levels, but the culverts would disrupt the small amount of sheetflow that does exist in this area, and would further segment the hydrologic conditions. The existing hydroperiod would be maintained. There would be some potential for scour where water is directed through the culverts, with negligible to minor adverse impacts. Construction-related impacts would therefore be long-term negligible to moderate adverse.

The construction activities would block flows across the construction corridor in stages and would interrupt hydrologic processes and divert flow on a small to large scale, similar to those described under alternative 1b, but the results of the impacts would not be as noticeable. Impacts would not occur within the park because the wetlands in the West Consensus Corridor have been segmented hydrologically from the park, and there is no noticeable sheetflow that serves the remainder of the Everglades. These impacts would therefore be short-term minor to moderate adverse.

Cumulative Impacts

The cumulative projects with impacts on hydrology from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 2 would allow enhanced flows to proceed, and would allow for large-scale benefits over 20 to 30 years. The alternative would also result in long and short-term minor to moderate adverse impacts from the construction of the transmission lines in the West Consensus Corridor east of the park. Alternative 2 would contribute appreciable benefits to the overall cumulative impacts on hydrology; the contribution of adverse effects from the construction of the transmission lines outside the park would be only slightly noticeable overall.

Conclusion

Overall, there would be no direct impacts on hydrology from NPS acquisition of the FPL corridor. There would be indirect long-term benefits of acquisition and the additional protection to the land that would result from the change in ownership, and the ability of the NPS to allow the enhanced flows across the corridor called for in the ecosystem restoration plans. Under alternative 2, there would be short- and long-term negligible to moderate adverse impacts on hydrology in the wetlands in the West Consensus Corridor as a result of transmission line construction and temporary blockage of flow across the corridor, and longer-term fragmentation of the hydrologic processes around the new transmission lines. Alternative 2 would contribute appreciable benefits to the overall cumulative impacts on hydrology; the contribution

of adverse effects from the construction of the transmission lines outside the park would be only slightly noticeable overall.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 3, there would be no direct impacts on hydrology from the exchange of FPL and NPS lands in the EEEA. However, the exchange would allow the NPS to manage the existing FPL property for enhanced restoration flows. The exchange would ensure no development could be proposed in the current FPL corridor and the various flow dependent Everglades restoration projects could continue without any obstacles due to the presence of this parcel. The exchange would enhance conservation of the resources and values of the park, including hydrologic resources. Alternative 3 would have a substantial indirect long-term beneficial impact.

Impacts of Transmission Line Construction

Construction of new transmission lines adjacent to the L-31N canal and levee would have impacts similar in nature to those described under alternative 1b. The location of the lines adjacent to the levee would have reduced impacts on hydrology compared to construction of transmission lines further to the west, yet more noticeable impacts than if the lines were constructed in the West Consensus Corridor, especially in the portion of the West Consensus Corridor in Bird Drive Basin, further from the park boundary. Construction of culverts beneath the transmission line access roads would result in no change in hydroperiod in the area between the transmission lines and the L-31N levee, but sheetflow patterns would be disrupted by the transmission line platforms, which cannot be easily mitigated. Water flows toward the canal in many parts of this area, and would continue to do so until and possibly after the seepage barrier projects are completed. Impacts of this water flow would be minimized in these places, and the corridor is far enough east that impacts west of the transmission lines would be minimized. The regional ecosystem restoration activities that rely on enhanced flow would be minimally impacted because the regional flow pattern would be from the north to the south-southwest and thus would not need to pass through the transmission corridor.

Alternative 3 includes certain terms and conditions for the use of the FPL West Preferred Corridor (appendix G). Under these terms and conditions for the exchange, FPL would commit to describing methods and results of hydrologic analysis to avoid and minimize impacts on sheetflow at the park to the maximum extent practicable.

As a conditional requirement for the land exchange under this alternative, a perpetual flowage easement would be placed on the FPL fee property, ensuring that the hydroperiod would be maintained, and that impacts on sheetflow would be minimized. Hydrology in the FPL fee corridor could be managed consistently with restoration requirements. The transmission corridor would be designed and constructed to sustain water levels no greater than 10.7 NGVD29 for significant periods. FPL would be required to ensure that the design and construction of the transmission lines would be compatible with ecosystem restoration goals and activities allowing for protection of resources and values of Everglades National Park. However, the use of culverts would still disrupt sheetflows as water is forced around the structure pads and through culverts beneath the road, and it is possible that the hydrology in the channel between the levee and the transmission lines would be somewhat more isolated and restricted in its flow than water on the west side of the transmission lines. There would be adverse impacts associated with the construction of the access road (and/or finger pads if the levee road is used). Impacts would be less intense if the levee road is used and finger pads could be constructed because there would be fewer obstructions to hydrology.

The impacts from placement of the transmission lines in this area as described above would be long-term moderate and adverse. The potential for scour around the culverts where water is channelized would result in localized long-term negligible to minor adverse impacts.

Construction of the transmission lines would result in the same short-term minor to moderate adverse construction-related impacts related to small to large-scale interrupted hydrologic processes discussed in the analysis for alternative 1b, although they would be less noticeable because of the location next to the levee.

Cumulative Impacts

The cumulative projects with impacts on hydrology from other past, present and reasonably foreseeable future projects would be the same as those discussed under alternative 1a, and would be mainly beneficial. The proposed exchange would allow enhanced flows and implementation of flowage-related ecosystem restoration projects that would benefit hydrology overall. Alternative 3 would contribute long-term minor to moderate adverse impacts on hydrology on the far eastern edge of the park, as well as short-term minor to moderate adverse construction-related impacts. These impacts would contribute both appreciable long-term beneficial impacts, and noticeable long- and short-term adverse impacts on hydrology in this area.

Conclusion

Under alternative 3, there would be substantial indirect long-term beneficial impacts from the exchange and the ability for the NPS to increase water levels across the acquired FPL property and implement flow-related ecosystem restoration activities. The transmission lines would be located adjacent to the existing L-31N levee, so impacts on hydrology throughout the NESRS would be less than would occur if the lines were built in the existing FPL corridor further west. The hydroperiod would be maintained, but sheetflow patterns would be disrupted by the transmission line platforms, which cannot be easily mitigated. Water is also flowing toward the canal in many parts of this area, so impacts from this would be minimized in these places, and the corridor is far enough east that impacts would be minimized. The regional ecosystem restoration activities that rely on enhanced flow would be possible because the culverts beneath the transmission lines would be sized adequately to handle enhanced flows. There would be additional localized long-term negligible to minor adverse impacts at the culverts where water is channelized and scour could occur. There would be short-term minor to moderate adverse construction-related impacts related to small to large-scale interrupted hydrologic processes.

Alternative 3 would contribute both appreciable long-term beneficial impacts, and noticeable long- and short-term adverse impacts on overall cumulative impacts on hydrology in this area.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Impacts on hydrology from the land exchange under alternative 4 would be the same as impacts described for alternative 3, but with additional beneficial impacts on hydrology resulting from terms and conditions that would reduce the risk of having additional utility facilities developed within the exchange corridor and minimize the effects of associated disturbance on hydrology. These terms and conditions for alternative 4 are in appendix H. The exchange would ensure no development could be proposed in the current FPL corridor and the various flow dependent Everglades restoration projects could continue without any obstacles due to the presence of this parcel. The exchange would enhance conservation of the

resources and values of the park, including hydrologic resources. Alternative 4 would have a substantial indirect long-term beneficial impact.

Impacts of Transmission Line Construction

The terms and conditions related to hydrology for either the fee for fee exchange (appendix G) or the fee for easement exchange (appendix H) are the essentially the same. As a result impacts on hydrology under alternative 4 would be the same as impacts on hydrology under alternative 3. The transmission lines would be located adjacent to the existing L-31N levee, so impacts on hydrology throughout the NESRS would be less than would occur if the lines were built in the existing FPL corridor further west, but greater than if lines are constructed in the West Consensus Corridor. The hydroperiod would be maintained, but sheetflow patterns would be disrupted by the transmission line platforms, which cannot be easily mitigated.

The impacts on hydrology from construction under this alternative would be the same as under alternative 3. Alternative 4 would contribute long-term minor to moderate adverse impacts on hydrology on the far eastern edge of the park, as well as short-term minor to moderate adverse construction-related impacts.

Cumulative Impacts

Cumulative impacts under alternative 4 would be the same as under alternative 3. Alternative 4 would contribute long-term beneficial impacts and long-term minor to moderate adverse impacts on hydrology on the far eastern edge of the park, as well as short-term minor to moderate adverse construction-related impacts. Alternative 4 would contribute both appreciable long-term beneficial impacts and noticeable long- and short-term adverse impacts on hydrology in this area.

Conclusion

The impacts of land exchange and construction, as well as cumulative impacts would be the same as under alternative 3 except that no other utilities could be built in the corridor, which would lessen the risk of additional hydrologic impacts. Impacts from the land exchange would be long term and beneficial; impacts from construction of the transmission lines would be long-term moderate adverse, and there would be additional localized long-term negligible to minor adverse impacts at the culverts where water is channelized and scour could occur. There would be short-term minor to moderate adverse construction-related impacts related to small to large-scale interrupted hydrologic processes would also occur. Alternative 4 would contribute appreciable long-term beneficial impacts and noticeable long- and short-term adverse impacts on the overall cumulative impacts on hydrology in this area.

Impacts of Alternative 5: Perpetual Flowage Easement on FPL Property

Impacts of the Land Acquisition Action

Under alternative 5, the long-term flowage easement through the current FPL property would give the NPS the ability to manage the area to accommodate enhanced flows associated with ecosystem restoration activities. The ability to flow more water across the property would allow implementation of flow-related restoration projects, which would result in substantial indirect long-term beneficial impacts.

Impacts of Transmission Line Construction

Direct and indirect construction-related impacts on hydrology under this alternative would be similar to those described under alternative 1b, although enhanced flows would be accommodated across the corridor. Flows would be adequate for ecosystem restoration activities, but would be directed through culverts. The hydroperiod would be maintained, but even with FPL requirements to minimize disturbance to sheetflow, the flow would be interrupted by the culverts along the length of the transmission lines, and flows would be directed more in an east to west direction than a northeast to southwest direction, resulting in regional impacts that are hard to mitigate. The result would be long-term minor to major adverse impacts from the sheetflow interruption, with impact intensity varying according to the downstream distance from the culverts, and localized long-term negligible to minor adverse impacts at the culverts where water is channelized and scour could occur as previously described under alternative 1b. There would be short-term moderate adverse indirect impacts on hydrology resulting from blockage of flow across the FPL West Secondary Corridor during the construction process.

Cumulative Impacts

The cumulative projects with impacts on hydrology from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Implementation of alternative 5 would provide both long-term beneficial and long-term major adverse impacts, because the flow-related ecosystem restoration projects could proceed, but sheetflow patterns would be disrupted regionally by the transmission lines. Alternative 5 would therefore contribute appreciable beneficial impacts by allowing enhanced flows, and appreciable adverse impacts by the disruption of sheetflows to the overall cumulative effects on hydrology in this area.

Conclusion

Under alternative 5, there would be substantial indirect long-term beneficial impacts from the easement and the ability for the NPS to increase water levels across the FPL property and implement flow-related ecosystem restoration activities. Construction of the transmission lines would have similar impacts as described under alternative 1b, except that enhanced flows would be accommodated. The placement of the transmission lines would result in long-term minor to major adverse impacts, and localized negligible to minor adverse impacts related to scour around the culverts, and short-term moderate adverse construction-related impacts related to small to large-scale interrupted hydrologic processes that would also occur.

The alternative would contribute appreciable beneficial impacts to overall cumulative impacts by allowing enhanced flows, but would also contribute appreciable long-term adverse impacts because the culverts under the transmission lines would noticeably disrupt sheetflow and impact hydrology in this area.

WATER QUALITY

GUIDING REGULATIONS AND POLICIES

NPS *Management Policies 2006* specifically addresses water quality in Section 4.6.3. The policy states:

> The pollution of surface waters and groundwater by both point and nonpoint sources can impair the natural functioning of aquatic and terrestrial ecosystems and diminish the utility of park waters for visitor use and enjoyment. The Service will determine the quality of park surface and groundwater resources and avoid, whenever possible, the

pollution of park waters by human activities occurring within and outside the parks. The Service will

- Work with appropriate governmental bodies to obtain the highest possible standards available under the Clean Water Act for the protection for park waters;
- Take all necessary actions to maintain or restore the quality of surface waters and groundwater within the parks consistent with the Clean Water Act and all other applicable federal, state, and local laws and regulations; and
- Enter into agreements with other agencies and governing bodies, as appropriate, to secure their cooperation in maintaining or restoring the quality of park water resources.

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

Potential impacts on water quality are based on impacts on the chemical, physical, or biological constituents of the water column. The analysis of possible impacts on water quality was based on a review of existing literature and maps, information provided by the NPS and other agencies, experience related to transmission line construction-related effects, and professional judgment.

The following definitions were used to determine the magnitude of adverse impacts on water quality:

- **Negligible**: Water quality would not be affected, or changes would be at low levels of detection. Any detected effects to water quality would be slight and localized.
- **Minor**: Changes in water quality would be measurable, although the changes would be small and localized.
- **Moderate**: Changes in water quality would be measurable and regional.
- **Major**: Changes in water quality would be readily measurable, and would have observable consequences on a regional scale.

ANALYSIS AREA

The area of analysis for water quality includes the NESRS in the EEEA, the 8.5-square-mile area east of the park, WCA 3B and the Pennsuco wetlands north of the park, and extending to the urban development boundary to the east of the park (see “Figure 4: General Project Area,” in chapter 1).

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, there would be no legal changes to the property’s status or ownership and FPL would not grant NPS a flowage easement. Therefore, there would be no physical change to the land, and no direct impacts on water quality. However, because there would not be any flowage easements, the NPS could not flow additional water across the FPL property. Flow-dependent ecosystem restoration activities would be prevented or delayed. Anticipated improvements to water quality as the result of the restoration could not occur, and would result in indirect long-term minor adverse impacts.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed. Therefore, there would be no construction-related impacts on water quality.

Cumulative Impacts – Alternative 1a

Several past, present, and reasonably foreseeable projects related to restoration of the hydrology and enhanced flows in the Everglades over a 20- to 30-year period (the C&SF project and Everglades Restoration Plans described in table 18). Funding and implementing these associated projects, as well as acquisition of property throughout the park, would result in large-scale beneficial impacts by increasing the hydroperiod and the flood stage in large parts of the Everglades in the park. These hydrologic changes would also result in beneficial impacts to water quality by decreasing dry periods, although there is concern that there could be more phosphorus carried through the system with the restoration projects. Construction of the Stormwater Treatment Areas outside the park would proceed regardless, and would provide substantial water quality benefits. Other projects outside the park, including mining, road construction, and suburban/ urban development, have cumulative impacts on water quality by increasing impervious surfaces that increase runoff, and providing sources of contamination (sediments, mining discharge, pesticides, oils), which affect water quality in receiving waters.

Alternative 1a would prevent or obstruct implementation of the flow-related projects and would therefore result in minor adverse impacts. Alternative 1a would contribute slightly noticeable long-term adverse impacts on overall cumulative effects on water quality in the area.

Conclusion – Alternative 1a

Under alternative 1a, there would be no direct impacts on water quality since there would not be any real estate transaction, but the absence of a flowage easement would prevent or delay implementation of flow-dependent ecosystem restoration projects, resulting in long-term indirect minor adverse impacts on water quality. There would be no impacts related to transmission line construction. Alternative 1a would contribute slightly noticeable long-term adverse impacts on overall cumulative effects on water quality in the area.

IMPACTS OF ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

Under alternative 1b, there would be no direct impacts. Indirect impacts related to continued ownership of land in the EEEA by FPL and the lack of any flowage easements would be the same as alternative 1a. Flow-dependent ecosystem restoration activities would be prevented or delayed. Anticipated improvements to water quality as the result of the restoration could not occur, and would result in indirect long-term minor adverse impacts on water quality.

Impacts of Transmission Line Construction

Indirect impacts would result from the construction of transmission lines in the park, as described in earlier in this chapter and appendix F. FPL would obtain all necessary permits for constructing transmission lines through the existing FPL West Secondary Corridor directly through the flow path of the NESRS. FPL would place fill in wetlands to construct the access roads and structure pads placed every 500 feet along the transmission line corridor, about 7.4 miles of which is in the park. The fill would be clean and free of pollutants per state requirements, although the crushed limestone typically used as fill

in the region normally has higher levels of phosphorus and suspended solids that would affect surface runoff, even with the use of best management practices (BMPs) (Castro pers. comm. 2013). Potential impacts on water quality would be in the form of sediment discharge to the surrounding waterways, which would increase total suspended solids, turbidity, and nutrients, including nitrogen and phosphorus (the limiting nutrient in the Everglades system), which sorb to the sediment particles in the water column near the construction sites during the short term.

Other indirect impacts on water quality would result from the disturbance of sheetflows as water is pushed through the culverts. Particularly without enhanced flows, it would be reasonable to expect that there would be areas downstream of the corridor that could have more frequent episodes of drying and rewetting as a result of disturbed sheetflows. Increased period of drying and rewetting could increase concentrations of phosphorus, and could also increase methylation of mercury. Given the length of the transmission lines, there would be long-term major adverse impacts.

Turbidity screens and erosion control devices would be used to minimize construction impacts on wetlands and water bodies and ensure that state water quality standards for turbidity are met. In addition, FPL would place geotextile fabric beneath the fill to prevent fill material used to construct the access roads and structure pads from being released into the surrounding waters and wetlands. FPL would obtain stormwater permits for construction of the transmission lines. All stormwater discharges would be addressed through compliance with Rule 62-621.300 (4) (Generic Permit for Stormwater from Large and Small Construction Activities), and would require sediment and erosion control devices listed above, and possibly other actions to protect water quality. However, due to the location of the transmission line in the park, the effects of even small changes in water quality would be noticeable, and there would be short-term minor to moderate adverse impacts from sediment discharge into the aquatic environment during construction.

The installation of the transmission line support towers requires the use of an auger truck (appendix F) that will auger a hole approximately 18 to 25 feet deep, which could encroach into underlying groundwater layers and may require dewatering. This water may be discharged into the surrounding waterways if it is sufficiently free of sediments. The auger holes and discharge would be relatively small and localized, but the water would have different water chemistry characteristics than the surrounding water, and would not be free of sediment resulting in localized minor to moderate adverse impacts on water quality. Use of appropriate BMPs would be necessary.

FPL would develop a plan that would include a section on how pollutants or hazardous materials will be managed to minimize impacts and requires a contingency/containment plan. In the case of accidental spills from construction equipment, construction crews would be equipped with spill containment and absorption materials, so there would be short-term negligible to minor adverse localized impacts on water quality associated with accidental spills (FPL 2009a). Similarly, maintenance workers would be equipped with spill containment equipment when using herbicides during maintenance of the transmission line corridor. Such activities would result in indirect short-term minor to moderate adverse construction-related impacts.

Cumulative Impacts – Alternative 1b

The cumulative projects with impacts on water quality from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Construction of the transmission lines without a flowage easement in the FPL corridor would permanently hinder the implementation and success of these projects, and would therefore result in major adverse impacts on water quality, and short-term minor to moderate adverse impacts on water quality. Alternative 1b would

contribute appreciable long-term adverse impacts and noticeable short-term minor to moderate adverse construction-related impacts to overall cumulative impacts on water quality in the area.

Conclusion – Alternative 1b

Impacts related to the land acquisition action would be the same as under alternative 1a. There would be no direct impacts on water quality since there would not be any real estate transaction. However, the absence of a flowage easement would prevent or delay implementation of flow-dependent ecosystem restoration projects, resulting in long-term indirect minor adverse impacts on water quality. Construction of the transmission lines without a flowage easement in the FPL corridor would permanently hinder the implementation and success of ecosystem restoration projects, and would therefore result in major adverse impacts. There would also be short-term minor to moderate adverse impacts related to construction activities. Alternative 1b would contribute appreciable long-term adverse impacts, as well as noticeable short-term adverse construction-related impacts to overall cumulative impacts on water quality in the area.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

Under alternative 2, the NPS would own and therefore be able to manage the FPL corridor to accommodate enhanced flows associated with ecosystem restoration activities. The NPS could allow enhanced sheetflows across the FPL corridor and implement regional restoration activities that rely on enhanced flows. This would decrease the frequency and duration of dry periods in the EEEA, which would decrease the potential for increased production of methyl mercury and higher concentrations of phosphorus, resulting in indirect long-term benefits to water quality.

Impacts of Transmission Line Construction

The types of indirect adverse impacts from construction of transmission lines outside the park in the West Consensus Corridor would be the same as under alternative 1b, but because the waters outside the park are less pristine than waters in the park, the intensity of those impacts would be less pronounced. Flows would continue as they are, and it is not expected that there would be any noticeable changes to the frequency of drying and rewetting periods, so there would not be noticeable associated changes in phosphorus concentrations or methyl mercury production. Impacts would be indirect, long-term negligible to minor adverse. Construction-related activities would have short-term negligible to minor adverse impacts. The wetlands in the West Consensus Corridor are hydrologically compartmentalized from the EEEA, and impacts on water quality in the West Consensus Corridor would not affect water quality in the EEEA or NESRS, therefore impacts on water quality in the park would be avoided.

Cumulative Impacts

The cumulative impacts on water quality from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 2 would allow enhanced flowage and implementation of ecosystem restoration projects that rely on enhanced flows to proceed, and would allow for regional benefits to water quality over 20 to 30 years, but would also result in long-term negligible to minor adverse impacts, and short-term negligible to minor adverse impacts on water quality outside the park. Alternative 2 would contribute appreciable benefits to the overall cumulative impacts on water quality within the park; the contribution of adverse effects from the construction of the transmission lines outside the park would be only slightly noticeable.

Conclusion

Under alternative 2, acquisition of the FPL corridor and the ability to flow additional water across the property would result in indirect long-term beneficial impacts on water quality in EEEA. Impacts from the construction of the transmission lines outside the park would be similar to, but less intense than those described under alternative 1b—indirect, long-term negligible to minor adverse, and short-term negligible to minor adverse for construction activities. Impacts from transmission line construction inside the park would be avoided, and alternative 2 would contribute appreciable benefits to the overall cumulative impacts on water quality within the park; the contribution of adverse effects from the construction of the transmission lines outside the park would be only slightly noticeable.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 3, the fee for fee land exchange would allow the NPS to accommodate enhanced flows across the current FPL corridor and the exchange corridor, and proceed with flow-dependent ecosystem restoration projects, resulting in indirect long-term beneficial impacts on water quality from the property exchange, as discussed for alternative 2.

Impacts of Transmission Line Construction

Under this alternative, FPL would construct the transmission lines in the exchange corridor adjacent to the L-31N canal. Impacts on water quality related to the construction of the transmission lines would be similar to the impacts described in the analysis for alternatives 1a and 2, although the intensity of the impacts would be less than those expected under alternative 1b and more than under alternative 2, due to the location of the transmission line corridor. Water currently flows toward the canal in this area, and would continue to do so until the seepage barriers are put in place, and would carry pollutants toward the edge of the park and away from more sensitive areas. There would be possible impacts on water quality from sediment discharge into the surrounding waterways, which would increase total suspended solids, turbidity, and nutrients, particularly phosphorus (which sorb to the sediment particles, in the water column near the construction sites during construction), or from accidental spills from equipment or vehicles. The more confined water in the channel between the levee and a parallel access road might be more stagnant, with less flow, and that could adversely affect water quality by encouraging localized eutrophication, although FPL has committed to maintaining the hydroperiod and preserving sheetflow through the FPL transmission line corridor, resulting in long-term minor adverse impacts.

There might be additional water quality impacts in the area between the transmission lines and the levee, because it would be more compartmentalized hydrologically. Increased mercury methylation would not be a large concern in this area; it already has many areas that are dry and rewet regularly, and the changes in frequency of drying and rewetting would not be very noticeable (Castro pers. comm. 2013).

In addition, monitoring has shown there is an elevated level of metals and other pollutants in the soils near the canal (Castro et al. 2013). Should the soils be disturbed during construction and reach the water column, concentrations of these pollutants could increase in the adjacent waterways. Use of appropriate BMPs, such as turbidity curtains and coffer dams, to ensure runoff from the disturbed soils would not reach the adjacent waterways during construction would be important and necessary. Construction methodologies call for use of geotextile and other approaches that would minimize or negate long-term impacts related to contaminants in this area.

As with alternatives 1b and 2, FPL would use BMPs, such as turbidity screens and erosion control practices, during construction to ensure that water quality standards are met, and construction crews would have spill containment and absorption materials to manage spills. Short-term construction-related impacts would be the similar to impacts under alternative 1b (minor to moderate adverse), with the addition of concerns about metals and other constituents found in the park soils near the L-31N canal getting into the water column. These issues could be addressed through mitigation and use of proper management practices.

Under the terms and conditions (appendix G), FPL would develop a construction work plan. This plan would include a section on how pollutants or hazardous materials would be managed to minimize impacts and requires a contingency/containment plan. In the case of accidental spills from construction equipment, construction crews would be equipped with spill containment and absorption materials, so there would be short-term negligible to minor adverse localized impacts on water quality associated with accidental spills. Similarly, maintenance workers would be equipped with spill containment equipment when using herbicides during maintenance of the transmission line corridor, and all herbicides would be approved for use by the NPS. The section on erosion and sedimentation BMPs requires FPL to use state-of-the-art methods to prevent violations of state water quality standards and correct any erosion or shoaling that causes adverse impacts on water quality as soon as practicable.

Cumulative Impacts

The cumulative projects with impacts on water quality from other past, present and reasonably foreseeable future projects would be the same as those discussed under alternative 1a, and would be mainly beneficial. Construction of the transmission lines in the proposed exchange corridor on the eastern edge of the park, would allow enhanced flows and implementation of flowage-related ecosystem restoration projects that would benefit water quality overall. Long-term minor adverse, and short-term minor to moderate adverse impacts from the construction of the transmission lines would be limited to the eastern edge of the park. Alternative 3 would contribute appreciable benefits to water quality regionally, but would also contribute noticeable short and long-term adverse impacts to cumulative effects on water quality in the study area.

Conclusion

There would be no direct impacts on water quality under alternative 3, but there would be indirect long-term beneficial impacts on water quality as the result of being able to accommodate enhanced restoration flows, and placing a large area of connected land into NPS ownership, allowing for management of park resources, including water quality, consistently with park objectives. Additional indirect impacts similar in nature to those discussed under alternatives 1b and 2 would be related to the construction of transmission lines in the FPL West Preferred Corridor and would be both long-term minor adverse impacts, and short-term minor to moderate adverse impacts. Alternative 3 would contribute appreciable benefits to water quality regionally, but would also contribute noticeable short and long-term adverse impacts to cumulative effects on water quality in the study area.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

The terms and conditions for this action (appendix H) related to water quality for alternative 4 would be the same as under alternative 3, but with additional beneficial impacts resulting from terms and conditions that would reduce the risk of having additional utility facilities developed within the exchange corridor and minimize the effects of associated disturbance on water quality during construction. The impacts

related to the exchange and construction of the transmission lines on water quality under this alternative would be the same as for alternative 3. The property exchange would result in indirect long-term beneficial impacts on water quality.

Impacts of Transmission Line Construction

Because the terms and conditions that address water quality would be essentially the same under both alternatives 3 and 4 (appendices G and H), impacts of alternative 4 would therefore be the same as under alternative 3. There would be long-term minor adverse impacts related to sheetflow disturbance, and localized negligible to minor adverse impacts at the culverts where water is channelized and scour with associated water quality effects could occur. There would also be short-term minor to moderate adverse impacts on water quality from construction activities.

Cumulative Impacts

Cumulative impacts on water quality under alternative 4 would be the same as under alternative 3. Alternative 4 would contribute appreciable benefits to water quality regionally, but would also contribute noticeable short and long-term adverse impacts to cumulative effects on water quality in the study area.

Conclusion

Impacts on water quality would be the same as discussed under alternative 3 except no other utilities could be built in the corridor, which would lessen the risk of additional water quality impacts. There would be no direct impacts on water quality under alternative 3, but there would be indirect long-term beneficial impacts on water quality as the result of being able to accommodate enhance restoration flows, and placing a large area of connected land into NPS ownership, allowing for management of park resources, including water quality, consistently with park objectives. Additional indirect impacts similar in nature to those discussed under alternatives 1b and 2 would be related to the construction of transmission lines in the FPL West Preferred Corridor and would be both long-term minor adverse impacts, and short-term minor to moderate adverse impacts. Alternative 4 would contribute appreciable benefits to water quality regionally, but would also contribute noticeable short and long-term adverse impacts to cumulative effects on water quality in the study area.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

Under alternative 5, there would be no direct impacts on water quality. The acquisition of a perpetual flowage easement across the FPL property would give the NPS the ability to manage the area to proceed with ecosystem restoration activities that rely on enhanced flows. These restoration activities would increase the hydroperiod and improve water quality in the restoration area over the long term, and result in long-term beneficial indirect impacts on water quality.

Impacts of Transmission Line Construction

The construction of transmission lines in this corridor would result in the same types of impacts on water quality as discussed under alternative 1b, and result in long-term major adverse impacts and short-term minor to moderate adverse impacts. The impacts would still be major because of the size of the area affected. However, the increased hydroperiod and flood stage would result in less likelihood of frequent drying and rewetting that the disturbance to sheetflow would cause, which could attenuate some of the

potential impacts on water quality discussed under alternative 1b, particularly increased concentrations of phosphorus and methyl mercury in areas that dry and rewet more often,

Cumulative Impacts

The cumulative projects with impacts on water quality from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Implementation of alternative 5 would provide both long-term major adverse and short-term minor to moderate adverse impacts in the FPL West Secondary Corridor, but flow-related ecosystem restoration projects could proceed, resulting in regional benefits to water quality. The alternative would contribute appreciable beneficial impacts, and noticeable adverse impacts to cumulative effects on water quality in the area where sheetflow is disrupted, and wetlands could be more subject to drying.

Conclusion

Under alternative 5, there would be indirect long-term benefits to water quality from the flowage easement, but there would also be indirect major long-term adverse impacts and short-term minor to moderate adverse impacts related to the construction of the transmission lines, although increased flows would attenuate some of these adverse impacts downstream of the culverts and transmission lines. Alternative 5 would contribute appreciable beneficial impacts, and noticeable adverse impacts to cumulative effects on water quality in the area where sheetflow is disrupted, and wetlands could be more subject to drying.

SOILS

GUIDING REGULATIONS AND POLICIES

NPS *Management Policies 2006*, Section 4.8, states that the NPS will protect geologic features from the unacceptable impacts of human activity, while allowing natural processes to continue. The term “geologic features” describes the products and physical components of geologic processes and includes soils.

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

Potential impacts on soils are assessed based on the extent of disturbance to natural undisturbed soils, the potential for soil erosion resulting from disturbance, and the potential for changes to soils caused by changes in water quality. The analysis of possible impacts on soil resources was based on a review of existing literature and maps, information provided by the NPS and other agencies, experience related to transmission line construction-related effects, and professional judgment.

The following definitions were used to determine the magnitude of adverse impacts on soils:

- **Negligible**: Soils would not be affected, or effects would not be measurable. Any soil erosion or effects on soil productivity or the ability of the soil to support native vegetation would be slight and would occur in a localized area.
- **Minor**: Effects on soils (soil erosion, effects on soil productivity or the ability of the soil to support native vegetation) would be detectable, but only a localized area would be affected. If mitigation was needed to compensate for adverse effects, it would be relatively simple to implement and would likely be successful.

- **Moderate**: Effects on soils (soil erosion, effects on soil productivity or the ability of the soil to support native vegetation) would be readily apparent and would occur over a regional area. Mitigation would probably be necessary to compensate for adverse effects and would likely be successful.
- **Major**: Effects on soils (soil erosion, effects on soil productivity or the ability of the soil to support native vegetation) would be readily apparent, and would substantially change the soil or geologic characteristics over a regional area, with a permanent loss of large areas. Extensive mitigation would be needed to compensate for adverse effects, and its success would not be ensured.

ANALYSIS AREA

The area of analysis for soils includes the areas potentially developed for transmission lines, plus downstream areas where soils could be affected by changes in water quality in the EEEA and the project area surrounding the park. This includes the area in and around the transmission corridors in the 8.5-square-mile area east of the park, WCA 3B and the Pennsuco wetlands north of the park, and extending to the urban development boundary to the east of the park (see "Figure 4: General Project Area," in chapter 1).

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, there would be no legal changes to the property's status or ownership, and FPL would not grant NPS a flowage easement. Therefore, there would be no physical change to the land, so there would be no direct impacts on soils. Because flowage would not be restored, there would be long-term adverse indirect impacts on soils in the EEEA from the lack of seasonal drying and wetting and associated growth of plants and contribution to soils. Loss of peat soils would also occur through oxidation due to ongoing drying under flowage restrictions, resulting in long-term major adverse impacts on soils.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed, therefore, there would be no construction-related impacts on soils.

Cumulative Impacts – Alternative 1a

Ecosystem restoration projects in the Everglades described in table 18 and acquisition of property throughout the park would result in beneficial impacts on soils throughout the Everglades (over a 20-30 year period, as associated projects are funded and implemented), but alternative 1a would prevent or obstruct implementation of many if these projects and would therefore result in major adverse impacts. The overall direction of the GMP to preserve park resources would indirectly benefit the soils in the park. Other projects in the area of analysis with adverse effects on soil include ongoing urban development, road construction and potential road expansions, ongoing mining (minor to moderate adverse). Use of prescribed fire in the park can have short-term adverse effects on soils from loss of organic matter, but long-term benefits from release of nutrients. Alternative 1a would result in major adverse impacts because of the lack of flowage and would contribute appreciable adverse impacts to the overall cumulative effects on soils in this area.

Conclusion – Alternative 1a

Under alternative 1a, while there would be no direct impacts from the FPL retention of property in the EEEA, but there would be major long-term adverse impacts on soils because of the lack of additional flowage and resultant loss of peat soils. There would be no impacts related to transmission line construction. Alternative 1a would contribute appreciable adverse impacts to the overall cumulative effects on soils in this area.

IMPACTS OF ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

Under alternative 1b, impacts of the land acquisition action would be the same as described under alternative 1a. The FPL retention of ownership of land in the EEEA would not result in direct impacts on soils; however, flowage restrictions would result in long-term indirect major adverse impacts on soils.

Impacts of Transmission Line Construction

Under alternative 1b, long-term major indirect adverse impacts on soils would result from the construction of transmission lines in the park and surrounding areas to the north and south of the park. Construction in these areas would occur as described earlier in this chapter and appendix F, based on the FPL State Certification Application (SCA) and responses provided to data requests by the NPS (FPL 2009a; FPL 2012a). Transmission line construction along this corridor would involve excavation for pole placement, earthmoving and grading for the construction of access roads and pads, the placement of guy-wire anchors into the soil and subsoil, and the placement of fill in pads and along access roads. Soils would also be disturbed in construction laydown and staging areas along the right-of-way. Transmission line construction would result in direct disturbances to soils and the permanent loss of 182 acres of soils. Disturbances within the park would extend to 89 acres of soils that were previously undisturbed and contain nutrient levels closer to the natural state than those found outside of the park unit. Culverts along the length of the transmission line would, through channelization, contribute to some scour and subsequent erosion and resulting loss of additional soils.

The SCA (FPL 2009a) states that cranes, bucket trucks, flatbed trucks, semi-trailer trucks, front-end loaders, bulldozers, and other support vehicles are typically used in structure erection and anchor/guying installations. Laydown areas for equipment and materials will be located in uplands to the fullest extent practical, but there are few uplands along the FPL West Secondary Corridor, so most of these areas would have to be located along the right-of-way in wetland soils.

Ground disturbance from these actions can compact soils, disturb and modify the soil layer structure, expose soils, and increase the overall potential for erosion. Compacted soils contribute to reducing water infiltration rates, allowing for greater runoff and increased potential for erosion. Compacted soils can also inhibit seed germination and plant growth, which over the long term decreases the amount of organic material in the soils and decreases overall soil productivity. During construction, mitigation measures would be implemented to minimize adverse impacts on soils from ground disturbance. As detailed in the FPL SCA (FPL 2009a), these measures would include adhering to sedimentation and erosion control specifications and measures, including the use of silt fences, hay bales, and geotextile liners in wetland areas. Reclamation would include restoring laydown areas and stabilizing potentially erodible areas, typically through seeding and mulching. Impacts on soils that are disturbed during construction but reclaimed would be short and long term (depending on the length of time needed to restore the soil function), localized, minor to moderate, and adverse.

A permanent loss of soils would occur in the areas occupied by structure pads and access roads. The construction of pads and roads involves clearing and grubbing of the road or pad footprint and then placing, spreading, shaping, and compacting hauled clean fill to the design elevation. In the footprint of the pads and roadbed, existing peat or marl soils would be permanently excavated and replaced with fill, and the natural function of the soils would be lost. Although the pads and side slopes may be seeded later, there would be no natural soil used on these areas (they are gravel) and the soil loss would be considered permanent. The width of the area graded and filled for access roads (width of main road surface and side slopes) and the dimensions of the structure pads (main area of pad plus side slopes) would vary depending on the soil conditions and the amount of fill needed, which in turn would determine the height of the road or pad surface and the area of the side slopes. In order to do a comparative assessment of acres filled for analysis in this EIS, estimates of road width and pad sizes provided by FPL (based on a preliminary conceptual design) were used (see appendix F; also Braun 2012). Based on this information, it was assumed that the access road would be 42 feet wide in wetlands, where a large amount of fill would be needed, and about 22 feet wide in non-wetland areas. Estimated pad sizes (with side slopes) were derived from information provided by FPL (FPL 2012a; Braun pers. comm. 2012). It was assumed that each larger pad would cover 1 acre in wet areas and about 0.63 acre in non-wetland areas. Similarly, the smaller pad supporting only the 230-kV line (every 500 feet) would cover 0.35 acre in wet areas and 0.05 acre in drier areas. Corner pads (at angles in the lines) were estimated at 2 acres in wetlands and 1.74 acres in uplands. The number of pads depends on the span lengths, and it was assumed that the span for the 500-kV lines would be about 1,000 feet and the span for the 230-kV line would be about 500 feet. This would result in a larger pad every 1,000 feet and a smaller pad midway between the larger pads, but also every 1,000 feet.

Based on these assumptions, the total area of permanent loss of soils along the FPL West Secondary Corridor was estimated using geographic information system (GIS) mapping and the Florida Land Use, Cover, and Forms Classification System (FLUCFCS) vegetation cover types to delineate wetlands and non-wetland areas, and using a line in the center of the corridor for route location. Table 19 summarizes an estimate done for the area of soil loss for the FPL West Secondary Corridor in the park and between points of nexus of all three routes in the project area.

Other impacts on soils could occur from changes in water quality. While excavation is taking place, sediment and suspended solids would likely travel downstream and could affect soils through sedimentation and changes in nutrient condition. Exposed soils would be expected to erode and leach nutrients (phosphorus) into the water column, and erosion can carry phosphorus-laden sediments downstream and change the quality of soils in those areas. Sedimentation would likely only occur in limited areas and would be mitigated with the use of silt fencing and erosion control devices, so adverse impacts relating to this would be long term, but localized and minor.

Short-term minor to moderate adverse construction-related impacts would occur related to temporary disturbances from earth-moving activities and increased erosion potential. The long-term maintenance of the transmission lines would have only negligible adverse effects on soils, because maintenance vehicles would access the right-of-way on established access roads and maintenance surveys could be done by helicopter.

Overall, long-term adverse impacts on soils from transmission line construction would be major in severity. Impacts would be noticeable and would last beyond the period of construction. Although impacts would be localized in the right-of-way, they would occur throughout the project area and along the entire length of the right-of-way. Mitigation for impacts on soils that are not permanently lost would include reclamation (such as replacement of disturbed soils with topsoil and subsequent reseeding) and would be expected to successfully reduce impacts to minor levels in those areas. However, there would be

a permanent loss of soils on pads and access roads, which compose about 31 percent of the total right-of-way acreage.

TABLE 19: ESTIMATE OF ACRES LOST TO PADS AND ACCESS ROAD ROUTE IN FPL WEST SECONDARY CORRIDOR

Area of Disturbance		Approximate Area Disturbed in the Park (7.3 miles) (Using approximate centerline)	Approximate Area Disturbed in Area of Analysis (Includes Areas South and North of the Park to Points of Nexus) (14.7 miles) (Using approximate centerline)
Pad every 1,000 feet, all 3 lines	Wetlands Approx. 1 acre/pad	Approximately 38 pads 38 acres	Approximately 75 pads 75 acres
	Non-wetlands Approx. 0.63 acre/pad	—	Approximately 3 pads 1.9 acres
	Wetlands – angle structure Approx. 2.0 acres/pad	—	Approximately 2 pads 4 acres
	Non-wetlands – angle structure Approx. 1.74 acres/pad	—	—
Pad every 1,000 feet 230-kV line	Wetlands Approx. 0.35 acres/pad	Approximately 39 pads 13.7 acres	Approximately 76 pads 26.7 acres
	Non-wetlands Approx. 0.05 acre/pad	—	—
Access road	Wetlands 42 feet wide	37.4 acres	74.0 acres
	Non-wetlands 22 feet wide	—	0.4 acres
Total acres lost	Wetlands	89.1 acres	179.7 acres
	Non-wetlands	—	2.3 acres
Total acres lost		89.1 acres	182 acres (about 31% of total right-of-way acres)
Total right-of-way acres	Wetlands	293.9 acres	582.6 acres
	Non-wetlands	—	7.3 acres
Total right-of-way acres		293.9 acres	590 acres

Note: These are estimates only and are subject to change with final design and site-specific mapping.

Cumulative Impacts – Alternative 1b

The cumulative impacts on soils from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 1b would contribute short-term minor to moderate adverse construction-related impacts and long-term major adverse effects from construction of the transmission line without a flowage easement in the FPL corridor. Alternative 1b would contribute appreciable adverse impacts to the overall cumulative effects on soils in this area.

Conclusion – Alternative 1b

Under alternative 1b, there would be no direct impacts on soils from the FPL retention of property in the EEEA; however, flowage restrictions would result in long-term indirect major adverse impacts on soils. Indirect impacts on soils would result from the construction of the transmission lines in the FPL West Secondary Corridor and would include short- and long-term minor to moderate adverse impacts from construction, long-term major adverse impacts from a permanent loss of 182 acres of soils, and negligible adverse impacts from line maintenance. Alternative 1b would contribute appreciable adverse impacts to the overall cumulative effects on soils in this area.

IMPACTS OF ALTERNATIVE 2: NPS Acquisition of FPL Land

Impacts of the Land Acquisition Action

Under alternative 2, indirect beneficial impacts on soils would be expected from the acquisition of FPL land in the EEEA. NPS management would extend to an additional 320 acres of soils within the acquired area, and there would be improvements to soils associated with enhancing water levels. Flowage would allow for the development of soils from seasonal drying and wetting and would lead to improvements in soils conditions over time.

Impacts of Transmission Line Construction

Under alternative 2, long-term moderate adverse impacts on soils would result from the possible construction of transmission lines to the east of the park. While impacts on soils within the park would be avoided, transmission line construction in the West Consensus Corridor would result in disturbances to soils in this area. Impacts from transmission line construction would include erosion, compaction, and permanent removal. The severity of impacts on soils would depend on where the construction occurred in this area. While some soils in the area have been disturbed, drained, and cleared of vegetation, other areas (such as Pennsuco wetlands) contain natural, *in situ* soils. Construction in this area would affect soils that are, for the most part, already disturbed and there would be a higher likelihood of restoring any disturbed areas that are not permanently lost. If construction occurred within the West Consensus Corridor, about 187 acres would be lost in areas adjacent to the park unit. Culverts along the length of the transmission lines would also contribute through channelization to some scour and subsequent erosion and resulting loss of soils.

Impacts such as soil compaction and erosion from excavation for pole placement, earthmoving, and grading would occur and would be similar to those described under alternative 1b. Mitigation measures as described under alternative 1b (erosion control devices and geotextile liners) would be used to minimize adverse impacts on soils. Reclamation would include stabilizing potentially erodible areas, typically through seeding and mulching, and would reduce impacts in these areas to a minor level. There would also be a permanent loss of soils in areas of access road and pad locations similar to that described under alternative 1b. In order to compare acres of permanent soil loss, the acres of soils that would be permanently removed or covered with fill at pads and along the access road were estimated within the West Consensus Corridor by assuming a route length of approximately 16.2 miles, and a route that generally follows the far eastern side of the corridor (table 20). Impacts could be further minimized by selection of a route that is co-located with existing infrastructure and disturbed areas.

TABLE 20: ESTIMATE OF ACRES LOST TO PADS AND ACCESS ROAD ROUTE IN THE WEST CONSENSUS CORRIDOR

Area of Disturbance		Approximate Area Disturbed in the Park (0 Miles)	Approximate Area Disturbed in Area of Analysis (16.2 Miles)
Pad every 1,000 feet, all 3 lines	Wetlands Approx. 1 acre/pad	No area in park.	Approximately 60 pads 60 acres
	Non-wetlands Approx. 0.63 acre/pad	—	Approximately 24 pads 15.1 acres
	Wetlands – angle structure Approx. 2.0 acres/pad	—	Approximately 6 pads 12 acres
	Non-wetlands – angle structure Approx. 1.74 acres/pad	—	Approximately 5 pads 8.7 acres
Pad every 1,000 feet 230-kV line	Wetlands Approx. 0.35 acres/pad	—	Approximately 55 pads 19.3 acres
	Non-wetlands Approx. 0.05 acre/pad	—	Approximately 23 pads 1.15 acres
Access road	Wetlands 42 feet wide	—	58.0 acres
	Non-wetlands 22 feet wide	—	12.9 acres
Total acres lost	Wetlands	—	149.3 acres
	Non-wetlands	—	37.9 acres
Total Acres Lost			187.2 acres (about 29 of total right-of-way acres)
Total right-of-way acreage	Wetlands	—	454.9 acres
	Non-wetlands	—	195.7 acres
Total Right-of-Way Acres			650.6 acres

Note: These are estimates only and are subject to change with final design and site-specific mapping.

Selection of this route would result in the loss of approximately 29 percent of total acreage within the right-of-way due to access road and pad construction. Although the acreage of permanent loss is comparable to that under alternative 1b, fewer impacts would accrue to soils under alternative 2 because many areas in the West Consensus Corridor have been developed and soils at these locations have already been disturbed or removed. The impact on soil resources would be less in these areas because of the lack of natural soils, and greater in areas in undeveloped wetlands, located primarily north of Tamiami Trail. For example, the West Consensus Corridor would partly parallel the area currently used for rock mining, and natural soils have already been disturbed or removed in that area. However, adverse impacts would increase in any portions of a route that would cross undeveloped areas in Bird Drive basin and north in the Pennsuco wetlands. Also, soils in Bird Drive basin are marls and have already been disturbed by all-terrain vehicle use in that area (McMahon 1988).

There would be long-term minor adverse impacts on designated “unique” farmland soils in areas where the installation of access roads and pads was collocated with these soils types; however, soils of this designation occurring in the remainder of the right-of-way would be retained and probably not developed. Some agricultural activities could still take place under transmission lines, which would minimize the impacts on “unique” farmland soils.

Construction-related short-term impacts such as soil compaction and erosion from excavation for pole placement, earthmoving, and grading would occur, with minor to moderate adverse impacts. Mitigation measures such as erosion control devices and geotextile liners would be used to minimize adverse impacts on soils. Reclamation would include stabilizing potentially erodible areas, typically through seeding and mulching, and would reduce short-term impacts in these areas to a minor level.

Cumulative Impacts

The cumulative impacts on soils from other past, present, and reasonably foreseeable future projects would be similar to those discussed under alternative 1a. Alternative 2 would allow for enhancing water levels / implementation of the ecosystem restoration projects and benefit soils, but would also result in short- and long-term minor to moderate adverse impacts from transmission line construction in areas outside the park. Alternative 2 would contribute appreciable beneficial and noticeable adverse impacts to the overall cumulative effects on soils in this area.

Conclusion

Under alternative 2, there would be no direct impacts from the acquisition of FPL property in the EEEA, with indirect benefits from the acquisition itself and the ability to increase water levels in the area, which contributes to the development of soils. There would be indirect long-term moderate adverse impacts on soils from transmission line construction east of the park, which would result in the loss of 187.2 acres of soils outside the park. The severity of impacts would depend on where the impact occurs within the West Consensus Corridor, and some of the soils in this area have been disturbed, drained, or cleared of vegetation. In general, impacts on soils would be greater along the eastern and northern portions of the area and reduced along the western and southern portions of the area where soils have already been disturbed. There would also be minor adverse impacts on designed unique farmland soils in the southern portion of the route outside the park. Impacts from transmission line construction inside the park would be avoided. Alternative 2 would contribute appreciable beneficial and noticeable adverse impacts to the overall cumulative effects on soils in this area.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 3, indirect beneficial impacts on soils similar to those described under alternative 2 would be expected from the acquisition of FPL land in the EEEA. NPS management would extend to an additional 320 acres of soils within the acquired area, and improvements to soils associated with enhanced water levels would occur. Flowage would allow for the development of soils from seasonal drying and wetting and would lead to improvements in soils conditions over time. However, these gains would be offset to some degree by long-term indirect moderate adverse impacts resulting from the removal of 260 acres of soils from the park and associated park management activities.

Impacts of Transmission Line Construction

Under alternative 3, indirect adverse impacts on soils would result from the construction of transmission lines in the exchange corridor, directly adjacent to park lands, as described earlier in this chapter and appendix F (SCA). Long-term major adverse impacts on soils would occur from compaction within the footprint of towers and roads and the permanent loss of an estimated 194 acres, including 80 acres within the park. Additionally, culverts along the length of the transmission line would contribute through channelization to some scour and subsequent erosion and resulting loss of soils. Because terms and conditions would accommodate enhanced flows across the property, the regional ecosystem restoration activities that rely on enhanced flow would be possible. However, impacts such as compaction and erosion from excavation for pole placement, earthmoving, and grading would occur. Alternative 3 would result in short-term minor to moderate adverse construction-related impacts stemming from temporary disturbances due to earth-moving activities and increased erosion potential. Erosion control measures required by the terms and conditions would minimize impacts where possible.

Similar to the other transmission line construction–related impacts described earlier, there would be a permanent loss of soils in areas of access road and pad locations. For the purposes of the analysis, it is assumed that a new access road would be constructed along the right-of-way, although if the existing levee road could be used, that would decrease impacts. In order to compare acres of permanent soil loss, the acres of soils that would be permanently removed or covered with fill at pads and along the access road were estimated by assuming a route length of approximately 15.7 miles with about 6.3 miles in the park (table 21).

Impacts on soils under alternative 3 would be similar to those described for alternative 1b and would include compaction, erosion, loss of soils on pads and access road locations, impacts from sedimentation and possible changes in water quality (nutrient release and input to soils), and negligible adverse effects from future line maintenance. Impacts on soils that are not permanently lost would be reduced somewhat areas that are already developed or in agricultural areas, since these soils are already disturbed. Also, agricultural soils can be stockpiled during construction for replacement or topsoil can be added, if needed, to restore productivity. Overall, transmission line construction along the FPL West Preferred Corridor would have localized, long-term major adverse impacts. The impacts could be noticeable and would last for more than the period of construction in most locations. Although impacts would be limited to localized areas in the right-of-way, they would occur throughout the project area and along the entire length of the right-of-way. Mitigation for impacts on soils that are not permanently lost would include reclamation and would be expected to successfully reduce impacts to minor levels in those areas. The permanent loss of soils would be limited to pads and access roads, which compose about 31 percent of the total right-of-way acreage.

There would be long-term minor adverse impacts on designated “unique” farmland soils in a few areas where the installation of access roads and pads was collocated with these soils types. Few of these soils exist within the FPL West Preferred Corridor, however, and soils of this designation occurring in the right-of-way would be retained and most likely not developed.

TABLE 21: ESTIMATE OF ACRES LOST TO PADS AND ACCESS ROAD ROUTE IN FPL WEST PREFERRED CORRIDOR

Area of Disturbance		Approximate Area Disturbed in the Park (6.3 Miles)	Approximate Area Disturbed in Area of Analysis (Includes Areas South and North of the Park to Points of Nexus) (using line located on west side of corridor within exchange corridor) (15.7 Miles)
Pad every 1,000 feet, all 3 lines	Wetlands Approx. 1 acre/pad	Approximately 33 pads 33 acres	Approximately 71 pads 71 acres
	Non-wetlands Approx. 0.63 acre/pad	—	Approximately 9 pads 5.7 acres
	Wetlands – angle structure Approx. 2.0 acres/pad	Approximately 2 pads 4 acres	Approximately 8 pads 16 acres
	Non-wetlands – angle structure Approx. 1.74 acres/pad	—	Approximately 1 pad 1.7 acres
Pad every 1,000 feet 230-kV line	Wetlands Approx. 0.35 acres/pad	Approximately 32 pads 11.2 acres	Approximately 68 pads 23.8 acres
	Non-wetlands Approx. 0.05 acre/pad	—	Approximately 10 pads 0.5 acres
Access road	Wetlands 42 feet wide	31.9 acres	70 acres
	Non-wetlands 22 feet wide	—	5.3 acres
Total acres lost	Wetlands	80.1 acres	180.8 acres
	Non-wetlands	—	13.2 acres
Total Acres Lost		80.1 acres	194 acres (about 31% of total right-of-way acres)
Total right-of-way acreage	Wetlands	175.5 acres	534.9 acres
	Non-wetlands	—	95.3 acres
Total Right-of-Way Acres		175.5 acres	630.2 acres

Note: These are estimates only and are subject to change with final design and site-specific mapping.

Alternative 3 also includes certain terms and conditions for the use of the FPL West Preferred Corridor (appendix G). Not many of the terms and conditions pertain directly to soils. Impacts on soils from vegetation management in the nonnative vegetation management easement would occur due to access and vegetation management activities. Impacts would include disturbance and compaction from equipment and access by foot. Intensity would depend on frequency of treatment, area treated, and type of equipment used for vegetation management activities.

Cumulative Impacts

The cumulative impacts on soils from other past, present, and reasonably foreseeable future projects would be similar to those discussed under alternative 1a. Alternative 3 would allow enhancing water levels /implementation of the ecosystem restoration projects and benefit soils, but the land exchange and construction of the transmission line in the exchange corridor would result in minor to moderate and long-term major adverse impacts; these impacts would contribute both appreciable adverse and appreciable beneficial impacts to the overall cumulative effects on soils in this area.

Conclusion

Under alternative 3, there would be no direct impacts on soils from the exchange of FPL property in the EEEA. There would be indirect long-term beneficial impacts from having all the EEEA under NPS ownership, resulting in the ability to go forward with Everglades ecosystem restoration projects and the enhancement of resource conservation and values of the park, including soil resources. However, these gains would be offset to some degree by long-term indirect moderate adverse impacts occurring from the removal of 260 acres of soils from the park and associated park management activities. There would be indirect major adverse impacts on soils from the construction of the transmission lines in the FPL West Preferred Corridor with a resulting permanent loss of 194 acres of soils including 80 acres in the exchange corridor. There would also be long-term minor adverse impacts on unique farmland soils located within this corridor but in an agricultural area south of the park boundary and short-term minor to moderate adverse construction-related impacts. The unique farmland soils are not in the park, but are part of the corridor being analyzed from nexus to nexus. Alternative 3 would contribute both appreciable adverse and appreciable beneficial impacts to the overall cumulative effects on soils in this area.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 4, there would be benefits to soils as described under alternative 3, but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance or removal of soils. These terms and conditions are found in appendices G and H.

Impacts of Transmission Line Construction

Impacts occurring on soils from transmission line construction under alternative 4 would be similar those described for alternative 3; however, the terms and conditions under this alternative allow for other utility related facilities in the right-of-way. This increases the risk of additional soil disturbance in the right-of-way either at the time of transmission line construction or at a later date. Construction of the transmission lines in the FPL West Preferred Corridor would have the following indirect impacts on soils. There would be long-term major adverse impacts on soils from compaction within the footprint of towers and roads and the permanent loss of an estimated 194 acres, including 80 acres in the exchange corridor. Long-term minor adverse impacts on designated “unique” farmland soils would occur in a few areas where the installation of access roads and pads was collocated with these soils types. Short-term minor to moderate adverse construction-related impacts on soils would stem from temporary disturbances due to earth-moving activities and increased erosion potential. Erosion control measures required by the terms and conditions would minimize impacts where possible. Impacts on soils from vegetation management in the nonnative vegetation management easement would occur due to access and vegetation management activities. Impacts would include disturbance and compaction from equipment and access by foot.

Intensity would depend on frequency of treatment, area treated and type of equipment used for vegetation management activities.

Cumulative Impacts

The cumulative impacts on soils from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 4 would allow flowage/implementation of the ecosystem restoration projects and benefit soils, but the land exchange and construction of the transmission line in the exchange corridor would result in minor to moderate and long-term major adverse impacts; these impacts would contribute both appreciable adverse and appreciable beneficial impacts to the overall cumulative effects on soils in this area.

Conclusion

Under alternative 4, there would be benefits to soils as described under alternative 3, but with easement terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance or removal of soils. There would be no direct impacts on soils from the exchange of FPL property in the EEEA. There would be indirect beneficial impacts from a gain in land and soils in the park and from having a majority of the EEEA under NPS ownership, resulting in the ability to go forward with ecosystem restoration without any potential future obstacles, which would enhance the conservation of the resources and values of the park, including soil resources. Additional beneficial impacts on soils would occur under terms and conditions that would reduce the risk of having additional utility facilities developed within the exchange corridor, thereby minimizing the effects of associated disturbance or removal soils. Indirect adverse impacts on soils from the construction of the transmission lines in the FPL West Preferred Corridor would include: long-term major adverse impacts on soils within the footprint of towers and roads resulting in a loss of 194 acres of soils, including 80 acres in the exchange corridor. There would be long-term minor adverse impacts on designated “unique” farmland soils outside the park; and short-term minor to moderate adverse construction-related impacts. Alternative 4 would contribute both appreciable adverse and appreciable beneficial impacts to the overall cumulative effects on soils in this area.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

Under alternative 5, there would be no direct impacts of the land acquisition action on soils. Although a flowage easement would be maintained, the FPL retention of ownership of land in the EEEA would result in no direct impacts on soils.

Indirect impacts on soils associated with the flowage easement would be the same as described under alternative 2. The perpetual flowage easement across the FPL property would result in long-term beneficial impacts by allowing the NPS to manage the area to accommodate enhanced flows associated with ecosystem restoration activities. Improvements to soils associated with ecosystem restoration activities would occur on lands previously not subject to ecosystem restoration activities.

Impacts of Transmission Line Construction

Direct and indirect adverse impacts on soils under alternative 5 would be the very similar to those described under alternative 1b. Indirect impacts on soils would result from the construction of the transmission lines in the FPL West Secondary Corridor and would include short- and long-term minor to moderate adverse impacts from construction and negligible adverse impacts from line maintenance.

Long-term major indirect adverse impacts on soils would result from the construction of transmission lines in the park and surrounding areas to the north and south of the park from the permanent loss of soils. Transmission line construction along this corridor would involve excavation for pole placement, earthmoving and grading for the construction of access roads and pads, the placement of guy-wire anchors into the soil and subsoil, and the placement of fill in pads and along access roads. Soils would also be disturbed in construction laydown and staging areas along the right-of-way. Transmission line construction would result in direct disturbances to soils and the permanent loss of 182 acres of soils. Disturbances within the park would extend to 89 acres of soils that were previously undisturbed and contain nutrient levels closer to the natural state than those found outside of the park unit. Culverts along the length of the transmission line would, through channelization, contribute to some scour and subsequent erosion and resulting loss of additional soils.

Cumulative Impacts

The cumulative impacts on soils from other past, present, and reasonably foreseeable future projects would be similar to those discussed under alternative 1a. Alternative 5 would provide beneficial impacts because flowage easement would allow the ecosystem restoration projects to proceed, but would have minor to long-term major adverse impacts due to transmission line construction in the park with no gain of park protected soils. These impacts would contribute both appreciable adverse and appreciable beneficial impacts to the overall cumulative effects on soils in this area, although the benefits would not be as extensive as those under the alternatives that result in the acquisition of soils in the park.

Conclusion

Under alternative 5, impacts on soils related to construction of the transmission lines would be similar to those for alternative 1b. There would be no direct impacts on soils from the FPL retention of property in the EEEA, but there would be long-term benefits from having a perpetual flowage easement agreement. Indirect impacts on soils would result from the construction of the transmission lines in the FPL West Secondary Corridor and would include short- and long-term minor to moderate adverse impacts from construction and negligible adverse impacts from line maintenance, and long-term major adverse impacts from the permanent loss of 182 acres of soils including 89 acres in the park. These impacts would contribute both appreciable adverse and appreciable beneficial impacts to the overall cumulative effects on soils in this area, although the benefits would not be as extensive as those under the alternatives that result in the acquisition of soils in the park.

VEGETATION AND WETLANDS

GUIDING REGULATIONS AND POLICIES

As described in chapter 3, most of the vegetation in the project area is wetland vegetation, with the exception of some disturbed land, cultivated land, and developed land in the area east of the park. Federal Executive Order 11990: Protection of Wetlands, directs federal agencies to avoid adverse impacts on wetlands. Director’s Order 77-1 establishes policies, requirements, and standards for implementing Executive Order 11990.

Director’s Order 77-1 states that the NPS will employ a sequence of avoiding adverse wetland impacts to the extent practicable, minimizing impacts that cannot be avoided, and compensating for remaining unavoidable adverse wetland impacts by restoring degraded wetlands. A wetland statement of findings will be completed for the alternative that is selected as the preferred alternative at the time of permitting.

NPS *Management Policies 2006* specifically addresses water quality, wetlands, and floodplains in Sections 4.6.3, 4.6.4, and 4.6.5, respectively. The policies state that the NPS will "take all necessary actions to maintain or restore the quality of surface waters and ground waters in parks consistent with the Clean Water Act (CWA) and all other applicable and federal, state, and local laws and regulations." The NPS will provide similar protective provisions for wetlands and floodplains as stated in the director's orders discussed above (NPS 2006a).

Regarding vegetation and the habitat it provides, the NPS *Management Policies 2006* directs parks to provide for the protection of park resources. The policies state that "the Service will not attempt to solely preserve individual species (except threatened or endangered species) or individual natural processes; rather, it will try to maintain all the components and processes of naturally evolving park ecosystems, including the natural abundance, diversity, and genetic and ecological ecosystems" (NPS 2006a, Section 4.1).

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

Maps showing vegetation cover in the project area derived from SFWMD FLUCFCS data (SFWMD 2011a) and communications with NPS staff were used to identify baseline conditions for vegetation and wetlands. Available information was taken from other NPS and non-NPS resources to describe these resources in more detail. The analysis of possible impacts on vegetation and wetlands was based on review of existing literature and maps, information provided by the NPS and other agencies, experience related to transmission line construction-related effects, and professional judgment. Wetlands and other vegetation communities are largely considered together in this section because the vast majority of plant communities in the project area also qualify as jurisdictional wetlands. In addition to this analysis, populations of special-status plant species are considered in the "Special-status Species" section as appropriate.

The impact intensity definitions for vegetation and wetlands are based on the amount of wetlands or other plant communities permanently altered or restored and on the size, integrity, and connectivity of the wetlands or other plant communities affected. These indicators are defined as follows:

- **Size**: The severity of impacts on wetlands and other plant communities depends on the size of the impacted area. A small area of impact in a large wetland would be likely to have less of an effect than a large area of impact in a small wetland. Similarly, a small area of impact on a large tree island would be likely to have less of an effect on a large area of impact on a small tree island. The change in the size of a wetland or other plant community, as a result of an impact, would also influence the integrity and connectivity of the wetland and vice versa.
- **Integrity**: Highly intact wetlands or other plant communities with little prior disturbance would be more susceptible to impacts from direct development than those that were previously degraded by development or other activities. The loss of function and productivity of the higher quality area would be a greater loss than that of a lower quality area. Additionally, indirect impacts due to soil disturbance or a change in vegetation or hydrology would also impact the integrity of the area.
- **Connectivity**: The relationship of wetlands to other wetlands or other plant communities is also important in determining the degree of impact or project benefits. The establishment of buildings or other structures in wetlands or other plant communities would create barriers to the natural dispersal of plants and animals and impact the connectivity of those communities. Impacts to areas with more complex associations of wetlands and/or other plant communities would be more likely to affect the connectivity of the area than impacts on areas with fewer natural community types.

The following definitions were used to determine the magnitude of adverse impacts on vegetation and wetlands:

- **Negligible**: No measurable or perceptible effects on size, integrity, or connectivity of wetlands would occur. For any other vegetation present, impacts may cause a change, but the change would have no measurable or perceptible effects on plant community size, integrity, or continuity.
- **Minor**: The effect on wetlands would be measurable or perceptible, but localized in terms of area and in the nature of the impact. A small effect on size, integrity, or connectivity would occur; however, the overall viability of the wetland would not be affected. If left alone, an adversely affected wetland would recover, and the impact would be reversed. For any other vegetation present, impacts may cause a change in plant community size, integrity, or continuity, but the change would be localized in a relatively small area and no change in the viability of the plant community would occur.
- **Moderate**: The impact would be sufficient to cause a measurable effect on one of the three parameters (size, integrity, and connectivity) or would result in a permanent loss in wetland acreage, but not to large areas. Wetland functions would not be affected in the long term. For any other vegetation present, impacts may cause a change in plant community size, integrity, or continuity, and the change would be extensive but not regional in nature.
- **Major**: The impact would result in a measurable effect on all three parameters (size, integrity, and connectivity) or a permanent loss of large wetland areas. The impact would be substantial and highly noticeable. The character of the wetland would be changed so that the functions typically provided by the wetland would be substantially altered. For any other vegetation present, impacts may cause a change that would be substantial, would be highly noticeable, and would affect a large area. Extensive mitigation would be needed to offset adverse effects and its success would not be ensured.

ANALYSIS AREA

The area of analysis for vegetation and wetlands includes the area of construction disturbance and transmission line presence along the transmission line corridors in and around the park, located in the EEEA and in the project area surrounding the park. This includes the area in and around the transmission line corridors in the 8.5-square-mile area east of the park, WCA 3B and the Pennsuco wetlands north of the park, and extending to the urban development boundary to the east of the park (see “Figure 4: General Project Area,” in chapter 1). The area of analysis for vegetation and wetlands is focused on vegetation and wetlands in the proposed corridors and on adjacent lands (within 500 feet of any transmission line right-of-way) and downstream wetlands.

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, there would be no legal changes to the property’s status or ownership, and FPL would not grant NPS a flowage easement. Therefore, there would be no physical change to the land, so there would be no direct impacts on vegetation or wetlands. Under alternative 1a, indirect impacts would result in continued long-term major adverse impacts on vegetation and wetlands due to continued habitat degradation from altered hydrology. Habitat restoration and exotic species management efforts within the park would be hindered by FPL ownership of the parcel and the lack of a flowage easement, or sufficient interests in these properties, to flow additional water across the FPL West Secondary Corridor, thereby

having a negative impact on vegetation and wetlands. Adverse impacts on soils in the EEEA would result from the lack of a flowage easement due to the lack of seasonal drying and wetting and associated growth of plants and contribution to soils. Loss of peat soils would also occur through oxidation due to ongoing drying under flowage restrictions. This soil degradation and loss could result in the region becoming less able to support native wetland vegetation.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed. Therefore, there would be no construction-related impacts on vegetation or wetlands.

Cumulative Impacts – Alternative 1a

The past, present, and reasonably foreseeable future land acquisition and ecosystem restoration actions in the Everglades described in table 18 would result in several long-term beneficial impacts, with some short-term minor adverse effects. However, many of these ecosystem restoration projects may not be completed as planned or when planned due to the inability to flow enough water over the FPL West Secondary Corridor to establish hydrologic restoration goals. Habitat degradation from altered hydrology would be expected under alternative 1a due to the lack of a flowage easement or sufficient rights to flow additional water across the FPL West Secondary Corridor, resulting in long-term major adverse impacts. Other projects in the area of analysis have contributed and would contribute adverse cumulative impacts on wetlands and vegetation through removal of vegetation and filling of wetlands. These include urban development, road construction, and mining. Park projects such as prescribed burns can cause short-term adverse effects, but long-term benefits by reducing the fuel load and reducing the severity of wildfires. Vegetation management by the park, particularly exotic plant management planning and implementation, provides beneficial cumulative impacts. The overall direction of the GMP to preserve park resources would indirectly benefit the vegetation in the park. The impacts of alternative 1a due to the lack of flowage and resultant inability to meet ecosystem restoration goals for the Everglades would contribute appreciable adverse impacts to the overall cumulative effects on wetlands and vegetation in this area.

Conclusion – Alternative 1a

Under alternative 1a, the retention of ownership of land in the EEEA by FPL without construction on the FPL West Secondary Corridor, in the exchange corridor, or in any area outside the park, would result in continued indirect long-term major adverse impacts on vegetation and wetlands due to continued habitat degradation from altered hydrology. Habitat restoration and exotic species management efforts within the park would be hindered by the lack of a flowage easement, or sufficient interests in these properties, to increase water levels across the FPL West Secondary Corridor, thereby having a negative impact on vegetation and wetlands. There would be no impacts on vegetation and wetlands from transmission line construction since no construction would occur on the FPL West Secondary Corridor, in the exchange corridor, or in any area outside the park. Alternative 1a would contribute appreciable adverse impacts to the overall cumulative effects on wetlands and vegetation in this area.

ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of Land Acquisition Action

Under alternative 1b, FPL would retain ownership of land in the EEEA, but the impacts of the land acquisition action would be the same as described under alternative 1a. There would be no physical change to the land, so there would be no direct impacts on wetlands or vegetation. Indirect impacts would result in continued long-term major adverse impacts on vegetation and wetlands due to continued habitat

degradation from altered hydrology. FPL ownership of the parcel and the lack of a flowage easement, or sufficient interests in these properties, to flow additional water across the FPL West Secondary Corridor are expected to hinder habitat restoration and exotic species management efforts within the park, thereby having a negative impact on vegetation and wetlands.

Impacts of Transmission Line Construction

Localized long- and short-term major adverse impacts on vegetation and wetlands would result from the construction of transmission lines in the park and in surrounding areas to the north and south of the park, as described earlier in this chapter and appendix F, based on the FPL SCA and responses provided to data requests by NPS (FPL 2009a; FPL 2012a). As described in the analysis of impacts on soils, transmission line construction along the FPL West Secondary Corridor would involve excavation for pole placement, earthmoving and grading for the construction of access roads and pads, the placement of guy wire anchors in the soil and subsoil, and the placement of fill in pads and along access roads. Laydown areas for equipment and materials would be located in uplands to the fullest extent practicable, but because there are few uplands along the FPL West Secondary Corridor, most of these laydown areas would have to be located along the right-of-way in wetlands. Essentially the entire right-of-way is wetland (see "Figure 9: Wetlands and Vegetative Cover Map" and "Table 5: Land Cover Types within the Corridors in the Area of Analysis," both in chapter 3), consisting of predominantly sawgrass marsh in the EEEA, interspersed with small tree islands consisting of wetland hardwood forest, and some freshwater graminoid marsh near the Tamiami Trail. The area north of the trail is again primarily sawgrass marsh until the right-of-way turns to the east and enters the Pennsuco wetlands, which are mainly graminoid freshwater prairie marsh, with areas of wet prairie and nonnative (also called exotic) hardwoods (melaleuca) especially in disturbed areas.

Heavy equipment entering the marsh would cause localized long-term disturbance to vegetation and the wetlands located outside of areas where filling may be necessary for roads or structure pads. Vegetation in these areas would be crushed or removed, and soils compacted in areas of ground disturbance. Compacted soils can inhibit seed germination and plant growth, which over the long term, decreases the amount of organic material in the soils and decreases the overall productivity of the wetland vegetation. Also, disturbance caused by the removal of soil and vegetation is expected to make the area more vulnerable to nonnative species growth and disruption of native plant species compositions.

Where vegetation is not removed for construction purposes and can remain in the right-of-way, it must be cut to meet line clearance requirements. Trees (native and nonnative) in the corridor would be cut or removed to reduce the risk of flashovers from transmission lines. Where clearing is required, all trees and shrubs within the right-of-way limits whose mature height could exceed 14 feet and that are in the wire management zone under the transmission lines would be evaluated by FPL for pruning or clearing to ground level. Where trees are cut to ground level, stumps would either be cut or ground down to natural grade and treated with an NPS-approved herbicide to prevent regrowth, or the entire stump and root mat would be grubbed to at or below grade. When chipped material is not spread in uplands along the right-of-way, vegetation debris may be hauled to landfills or piled and burned within the limits of the right-of-way consistent with state and local regulations. Side trimming and pruning of trees along the right-of-way edges may also be required. Clearing in wetlands will be accomplished using restrictive clearing techniques, usually with chainsaws or with low-ground-pressure shear or rotary type machines, which reduce soil compaction and vegetation disturbance. In these areas, minimal clearing should be required, given the primary type of wetland vegetation present (sawgrass marsh). Also, there are areas of tree islands in the FPL West Secondary Corridor that could require clearing for access or construction laydown or staging areas, if there is no way to avoid these areas. Trees would have tops trimmed or removed.

According to the FPL SCA, construction in wetlands will retain the vegetative root mat in the right-of-way in areas not filled for road or structure pad construction, thereby minimizing impacts on wetland vegetation in these areas. Other mitigation measures would be implemented to minimize adverse impacts on vegetation. As detailed in the FPL SCA, these measures would include adhering to sedimentation and erosion control specifications and measures, including the use of silt fences, hay bales, and geotextile liners in wetland areas. Areas that are not permanently filled will be allowed to revegetate from seed stock from surrounding areas.

Areas occupied by access roads or structure pads would require the full removal of vegetation, and a permanent loss of wetland vegetation would occur in these areas. Details regarding the areas of these pads can be found in the analysis under the "Soils" topic. However, since the majority of the FPL West Secondary Corridor is wetlands, essentially all the acres identified as having loss of soils would also have loss of wetland vegetation. The loss of wetlands is detailed in table 19 under the soils analysis and is summarized in table 22, for three possible routes that would be considered for transmission line construction under this and other alternatives (based on preliminary design assumptions).

TABLE 22: SUMMARY OF WETLAND ACRES LOST TO PADS AND ACCESS ROADS (ESTIMATE)

Route	Approximate Wetland Acres Lost in the Park	Approximate Wetland Acres Lost from Nexus to Nexus in Project Area
FPL West Secondary Corridor	89.1	179.7
FPL West Preferred Corridor	80.1	180.8
West Consensus Corridor	0	149.3

See tables 19, 20, and 21 in the "Soils" section for details.

As can be seen in table 22, about 179.7 acres of wetlands would be lost from direct construction-related activities along the FPL West Secondary Corridor right-of-way from nexus point to nexus point in the project area, and about 89.1 acres would be lost in Everglades National Park. The impacts on wetlands in this area would include the loss of acres but also the loss of wetland functions and values, including a reduced ability to support plants and animals. As noted in chapter 3, functions of these wetlands in the project area include supporting water storage and biogeochemical processes and providing habitat for numerous wildlife species, including important nesting and foraging habitat for many special-status birds (see the "Wildlife" and the "Special-status Species" sections for a more detailed assessment of impacts on these species). Mitigation for wetland losses and impacts in transmission line rights-of-way were proposed by FPL in its 2009 ERP application (FPL 2009a, Appendix 10.4, Section 3). All transmission line impacts are proposed to be mitigated through the purchase of mitigation credits from the Hole-in-the-Donut wetland mitigation bank, which is located in Everglades National Park, using a mitigation ratio of 1:1. It is stated that this would provide significant benefit to regional wetland restoration and conservation efforts and would directly benefit vegetation communities and wildlife habitat in the park. Although this mitigation would provide benefits in another area of the park, the mitigation would be off site and would not replace the functions lost within the project area or prevent the fragmentation of the wetland environment in that area by the access road along the length of the right-of-way. The U.S. Fish and Wildlife Service (USFWS) may also require mitigation of wetland impacts in the Core Foraging Area of affected wood stork colonies within the core foraging area of that colony and creation of wetlands with similar hydroperiods as those impacted.

Other impacts on wetlands could occur from changes in water quality and hydrology. It is anticipated that disturbance to the wetlands, including the excavation of soils and vegetation for each structure pad, would release nutrients into the water (as described above in "Soils" and "Water Quality") and cause phosphorus assimilation processes to occur downstream in the park. Vegetation in a nutrient-poor environment like

the Everglades can respond to an increase in nutrients with a change in species composition or accelerated growth. Macrophyte communities may be altered, because they have shown responses from phosphorus increases as low as 5 μgL^{-1} (Gaiser et al. 2005; Gaiser et al. 2007). Nonnative species could expand if not properly managed. The level of this impact on vegetation remains unknown; however, as nutrients vital for plant growth become readily available, native and nonnative vegetation productivity may be accelerated in the project area. These effects would likely only occur in limited areas if BMPs including silt fencing and erosion control devices are implemented prior to and during construction.

Wetland vegetation can also be affected by changes in hydrology and it is expected that hydrology would change due to the placement of the access road and pads along the entire length of the corridor. According to the SCA, culverts would be included beneath access roads in wetlands to maintain channel flow and/or overland flow. However, a localized change in species composition would be expected around the culverts and along the access road and pad foundations. Flows would be channelized through the numerous culverts beneath the access road and it is likely that this could result in a change in species composition or transitional vegetation progression just downstream of most of the culvert sets, similar to what has been seen along the Tamiami Trail, resulting in localized adverse impacts on wetlands.

Vegetation would have to be maintained at an acceptable height over the life of the lines. The long-term maintenance of the transmission lines would have only negligible adverse effects on vegetation and wetlands, because maintenance vehicles would access the right-of-way on established access roads and maintenance surveys could be done by helicopter. Also, most of the wetlands crossed by the corridor, including those portions in Everglades National Park, are nonforested (herbaceous) wetlands. Here, the vegetation tends to grow low enough to not require any clearing except at access road and structure pad locations. According to the SCA, FPL plans to manage vegetation on the transmission line right-of-way by a variety of methods, including trimming, mowing, and the use of approved growth regulators and herbicides, targeting species that are incompatible with the safe access and operation and maintenance of the transmission system. The FPL right-of-way maintenance program is specific to each location, and the exact manner in which right-of-way maintenance will be done will depend on the location, type of terrain, surrounding environment, and regulatory control. Any fast-growing vegetation whose mature height could exceed 14 feet would be pruned or removed from the area between the structures to avoid interference with the conductor clearance. Any vegetation that could restrict access to the right-of-way would be removed; however, this should consist mainly of trees and shrubs in the tree island areas. FPL also states in the SCA that it would control the spread of nuisance plants that could present a fire hazard in the right-of-way through the use of approved herbicides and other removal techniques. Where vegetation maintenance activities would occur in or adjacent to the park, herbicide use and other removal techniques would be coordinated with the park and in accordance with the NPS Integrated Pest Management Plan.

Impacts on vegetation and wetlands from individual fill pads would be somewhat localized. However, overall impacts on vegetation and wetlands would be wide spread, short- and long-term, major and adverse because the construction of the access roads and pads would have a highly noticeable effect and would include a permanent loss of approximately 179.7 acres in the area of analysis, 89.1 acres of which are within the park boundary. Mitigation for impacts on wetlands that are not permanently lost would include reclamation and would be expected to successfully reduce impacts to minor levels in those areas. Although the permanent losses are limited to localized areas in the right-of-way, they would occur throughout the project area and along the entire length of the right-of-way. Wetland functions may not be substantially altered but there would be a change in the character of the wetland for which the proposed off-site mitigation may not totally compensate. A permanent loss of wetlands would occur on pads and access roads, and this acreage comprises about 30 percent of the total right-of-way acreage.

Cumulative Impacts – Alternative 1b

The cumulative impacts on vegetation and wetlands from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 1b would have long-term major adverse impacts, and localized, short-term major adverse impacts, and these would contribute appreciable adverse impacts to the overall cumulative effects on wetlands and vegetation in this area.

Conclusion – Alternative 1b

Under alternative 1b, FPL would retain ownership of land in the EEEA. Indirect long-term major adverse impacts on vegetation and wetlands would occur as described under alternative 1a. Impacts on vegetation and wetlands would result from the construction of the transmission lines in the FPL West Secondary Corridor and would include localized short- and long-term major adverse indirect impacts from construction and operation of the transmission line. These impacts would include a permanent loss of approximately 179.7 acres of wetlands, of which 89.1 acres are within the park boundary. Alternative 1b would contribute appreciable adverse impacts to the overall cumulative effects on wetlands and vegetation in this area.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

The park would realize a net gain of 320 acres of primarily wetlands within the park boundary under alternative 2. This would be a direct long-term benefit to vegetation and wetlands. Long-term indirect benefits to vegetation and wetlands would also occur because the land acquisition of the FPL corridor in the interior of the park would ensure that no other development would be proposed in this area and that the various Everglades ecosystem restoration projects could occur without any obstacles relating to the presence of this parcel. The connectivity of the EEEA wetlands would be ensured, and a potential source of nonnative vegetation not under NPS control would be removed. Placing ownership of this area solely with the NPS would enhance the ability to provide more natural water flows to the park, which in turn would enhance the conservation of the resources and values of the park, a long-term beneficial impact.

Impacts of Transmission Line Construction

Indirect impacts under alternative 2 would result from the possible construction of transmission lines to the east of the park in the West Consensus Corridor. This area is also mostly wetlands, but there are areas of non-wetland vegetation in the southern portion of the route (agricultural lands, developed lands) and adjoining the mining operations. Impacts of vegetation removal (temporary) from excavation for pole placement, earthmoving, and grading would occur and would be similar to those described under alternative 1b. Also, disturbance caused by the removal of soil and vegetation would be expected to make the area more vulnerable to nonnative species growth and the disruption of native plant species compositions. Mitigation measures as described under alternative 1b (erosion control devices and geotextile liners) would be implemented to minimize adverse impacts in those areas. Laydown areas for equipment and materials would be located in uplands to the fullest extent practicable. Reclamation would include seeding and mulching, and would reduce impacts in these areas to a minor level. It is expected that the USACE, through the Section 404 permitting process, would require avoidance and minimization of impacts to wetlands in the West Consensus Corridor. This is anticipated to reduce wetland impacts if transmission lines are eventually constructed in this area.

Where vegetation is not removed for construction purposes and can remain in the right-of-way, it must be cut to meet line clearance requirements. As noted under alternative 1b, any trees or shrubs (native and nonnative) within the right-of-way limits whose mature height could exceed 14 feet and that are in the wire management zone under the transmission lines would be evaluated by FPL for pruning or clearing to ground level. Where trees are cut to ground level, stumps would either be cut or ground down to natural grade and treated with a herbicide to prevent regrowth, or the entire stump and root mat would be grubbed to at or below grade. When chipped material is not spread in uplands along the right-of-way, vegetation debris may be hauled to landfills or piled and burned within the limits of the right-of-way consistent with state and local regulations. Side trimming and pruning of trees along the right-of-way edges may also be required.

Clearing in wetlands will be accomplished using restrictive clearing techniques, usually with chainsaws or with low-ground-pressure shear or rotary type machines, which reduce soil compaction and vegetation disturbance. In these areas, minimal clearing should be required, given that most of the wetlands in the West Consensus Corridor are low-growing wet prairie. There are areas of wetland hardwoods in this area that would require trimming or removal; some of these are nonnative hardwoods.

There would be a permanent loss of vegetation in areas of access road and pad locations that have vegetation. Most of the West Consensus Corridor is vegetated, but the type of vegetation varies considerably within this area. The total number of acres of vegetation permanently removed would be the same as those acres presented in the soils analysis and are shown in table 20 in the soils analysis. An estimate of wetland acres lost from transmission line construction in the West Consensus Corridor is in table 22. These estimates were done for a route located on the far eastern side of the West Consensus Corridor. The approximate values may be more or less than those estimated, depending on final route selection, co-location of infrastructure with existing roads and other filled areas and the wetland impact minimization required for CWA Section 404 permit approval.

The impacts on wetlands from permanent filling would be less under alternative 2 compared to alternative 1b not only because there are fewer wetlands compared to the FPL West Secondary Corridor (see table 22: 149.3 total acres of wetlands lost in the West Consensus Corridor compared to approximately 180 acres for either of the other routes with the FPL corridors), but also because of the type of wetlands present and their current condition. There is a relatively large amount of nonnative wetland hardwood in the area, dominated by melaleuca. Wetlands in the Bird Drive basin area have been disturbed by nonnative infestations as well as by all-terrain vehicle use. Non-wetland vegetation also occurs in the West Consensus Corridor, particularly in agricultural areas in the south and in disturbed areas along the roadways and canals. The impact on vegetation and on wetlands in particular would be less in these areas because of the lack of native species and the lower functional value of wetlands with those species and with evidence of human disturbance. Also, the West Consensus Corridor partly parallels the area currently used for rock mining, and natural vegetation has already been disturbed or removed in that area. Similarly, there would be little impact on vegetation in the areas that are already disturbed or developed in the south end of this route from agriculture or industrial development. However, adverse impacts would increase in any portions of the route that cross undeveloped areas in the Pennsuco wetlands. Adverse impacts on Pennsuco wetlands could be minimized if existing filled and/or disturbed areas are used for the transmission line corridor. It is assumed that off-site mitigation would be used to compensate for any permanent wetland losses along this route, similar to what is proposed in the SCA and the mitigation plan. Off-site mitigation bank credits may or may not fully compensate for the losses, depending on the area crossed and the value of the wetlands in that location.

Other impacts on wetlands could occur from changes in water quality and hydrology. As noted under alternative 1b, it is anticipated that disturbance to the wetlands, including the excavation of soils and vegetation for each structure pad, would release nutrients into the water and cause phosphorus

assimilation processes to occur downstream in the park. Vegetation in a nutrient-poor environment like the Everglades can respond to an increase in nutrients with a change in species composition or accelerated growth, and this could occur in wetter areas, such as the Pennsuco wetlands. These effects would likely only occur in limited areas if BMPs including silt fencing and erosion control devices are implemented prior to and during construction.

Wetland vegetation can also be affected by changes in hydrology, and it is expected that hydrology would change due to the placement of the access road and pads along the entire length of the corridor. According to the SCA, culverts would be included beneath access roads in wetlands to maintain channel flow and/or overland flow. However, a localized change in species composition would be expected around the culverts and along the access road and pad foundations. Flows would be channelized through the numerous culverts beneath the access road, and it is likely that this could result in a change of species or transitional vegetation progression just downstream of most of the culvert sets, resulting in localized adverse impacts on wetlands.

Vegetation would have to be maintained at an acceptable height over the life of the lines, and this long-term maintenance of the transmission lines would have only negligible adverse effects on vegetation and wetlands because maintenance vehicles would access the right-of-way on established access roads and maintenance surveys could be done by helicopter. Most of the wetlands crossed by the West Consensus Corridor are nonforested (herbaceous) wetlands, which would require less vegetation clearing, and there are areas that are more urbanized or cultivated in the West Consensus Corridor that would not require vegetation clearing at all. FPL states in the SCA that it would control the spread of nuisance plants that could present a fire hazard in the right-of-way through the use of approved herbicides and other removal techniques. The use of herbicides would be selective and would meet applicable federal, state, and local regulations. To enhance the safe, reliable operation of the proposed transmission lines, FPL may trim or remove danger timber outside the FPL right-of-way in coordination with the adjacent property owners. Danger timber includes trees in danger of falling or leaning into the conductors or, in areas of wildfire hazard, other vegetation that may provide excessive fuel loading in proximity to the transmission lines. For example, when the right-of-way is adjacent to the 8.5-square-mile area east of the park or the Pennsuco wetlands north of the park, FPL may acquire the necessary property rights to maintain such vegetation, as needed.

Overall, impacts on vegetation and wetlands under alternative 2 would range from negligible and adverse to short and long term, moderate, and adverse, depending on the area within the West Consensus Corridor that is affected. In general, impacts on wetland vegetation would be greatest in the Pennsuco wetlands in the northern portions of the West Consensus Corridor. Impacts would be reduced along the western and southern portions of the West Consensus Corridor where vegetation has already been disturbed and there are fewer wetlands and wetlands of lower quality due to proximity to disturbance, interrupted flows, and abundance of nonnative plant species. Impacts from construction would be noticeable and would last beyond the period of construction in most locations, and although impacts would occur along the entire length of the right-of-way, there would be areas of previous disturbance where impacts would be less severe. It is not likely that construction in these previously disturbed areas would change the character of the wetlands to the extent that functions provided would be substantially altered. Mitigation for impacts on vegetation and wetlands that are not permanently lost would include reclamation and would be expected to successfully reduce impacts to minor levels in those areas. A permanent loss of wetlands would be limited to pads and access roads, and this acreage comprises about 23 percent of the total right-of-way acreage. Impacts on wetlands are reduced when compared to alternative 1b since there is less wetland acreage impacted (approximately 149.3 acres impacted under alternative 2 versus approximately 179.7 acres under alternative 1b) and no wetlands within the boundary of the park are impacted. Wetlands within the park are generally considered to be of higher quality than wetlands outside the park due to their size, integrity, and connectivity.

Cumulative Impacts

The cumulative impacts on vegetation and wetlands from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. It is expected that hydrologic restoration goals can be met in the EEEA since NPS would acquire the FPL West Secondary Corridor, with substantial long-term beneficial impacts, plus short-term negligible to moderate adverse impacts of constructing a transmission line outside the park; alternative 2 would contribute appreciable benefits and somewhat noticeable adverse effects to the overall cumulative effects on wetlands and vegetation in this area.

Conclusion

Under alternative 2, there would be substantial long-term beneficial impacts to vegetation and wetlands from the acquisition of FPL property in the EEEA. The land acquisition would remove a large area of non-NPS ownership of land in the interior of the park, ensuring that no other development would be proposed in this area and that the various Everglades ecosystem restoration projects could occur without any obstacles relating to the presence of this parcel.

Adverse impacts would result from the construction of the transmission lines in the West Consensus Corridor and would include short- and long-term negligible to moderate adverse impacts on vegetation and wetlands, depending on the location of the lines; impacts could be less due to fewer wetland acres in the West Consensus Corridor compared to the areas crossed by the other routes in the FPL West Secondary and FPL West Preferred Corridors and the relative quality of the wetlands. Impacts from transmission line construction inside the park would be avoided. Alternative 2 would contribute appreciable benefits and somewhat noticeable adverse effects to the overall cumulative effects on wetlands and vegetation in this area.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 3, the exchange would remove a large area of non-NPS ownership of land in the interior of the park, and add 320 acres in the FPL right-of-way. This would ensure that no other development would be proposed in the corridor and that the various Everglades ecosystem restoration projects would be able to proceed without obstacles related to the presence of the FPL parcel. The connectivity of the EEEA wetlands would be ensured, and a potential source of nonnative vegetation not under NPS control would be removed. Placing the ownership of this area solely with the NPS would enhance the ability to provide more natural water flows to Everglades National Park, which in turn would enhance the conservation of the resources and values of the park, including wetlands, a substantial long-term beneficial impact. In addition, the park would realize a net gain of 60 acres of higher-value wetlands. The exchange corridor given to FPL would be 260 acres of mostly wetlands located at the edge of the park, close to developed areas, with several areas infested with nonnative plants. The FPL corridor gained by the park would be 320 acres that is far from developed areas, with fewer nonnative plants and containing tree islands or hardwood hammocks that support a variety of vegetation species, including some listed species.

Alternative 3 would result in a loss of 260 acres of wetlands within the park. There would be a net gain of 60 acres, but a loss of 260 acres. Alternative 3 would result in a direct, long-term major adverse impact from the loss of park wetlands/vegetation (260 acres), and negligible to minor adverse impact from the loss of the ability to maintain wetlands and vegetation according to NPS standards.

Impacts from Transmission Line Construction

Under alternative 3, indirect short- to long-term major adverse impacts would result from the construction of transmission lines in the FPL West Preferred Corridor, directly adjacent to park lands, as described earlier in this chapter and appendix F. Impacts such as soil compaction and erosion from excavation for pole placement, earthmoving, and grading would occur that could affect vegetation and wetlands and would be similar to those described under alternative 1b. Also, disturbance caused by the removal of soil and vegetation would be expected to make the area more vulnerable to nonnative species growth and disruption of native plant species compositions. Mitigation measures as described under alternative 1b (erosion control devices and geotextile liners) would be implemented to minimize adverse impacts in those areas. Laydown areas for equipment and materials would be located in uplands to the fullest extent practicable. Alternative 3 also includes certain terms and conditions for the use of the FPL West Preferred Corridor that include provisions for the protection of wetlands and the control of nonnative and invasive species (appendix G). A construction work plan would be developed and approved and would require steps to avoid, minimize, and mitigate wetland impacts to the maximum extent practicable, including temporary impacts that occur during construction. Terms and conditions that protect natural hydrology would also protect wetlands. Assuming that these provisions are implemented, overall earthmoving and use of equipment during construction would result in short- and long-term minor adverse impacts on vegetation and wetlands.

Similar to the other transmission line construction impacts described earlier, there would be a permanent loss of wetlands in areas of access road and pad locations. The exact acreage of direct wetland impacts is unknown due to uncertainties in the design at this stage. For the purposes of the analysis, it is assumed that a new access road would be constructed along the right-of-way, although if the existing levee road could be used, that would decrease impacts. In order to compare acres of permanent soil loss, the acres of vegetation/wetlands that would be permanently removed or covered with fill at pads and along the access road were estimated by assuming a route length of approximately 15.7 miles, with about 6.3 miles inside Everglades National Park (see table 21 in the soils analysis). An estimate of wetland acres lost is summarized in table 22. The approximate acres of wetlands lost in the project area is 180.8, about the same as for the FPL West Secondary Corridor, although approximately 9 fewer acres of wetlands are lost in the park compared to the FPL West Secondary Corridor (approximately 80.1 acres versus 89.1 acres). The amount of wetland fill may increase over estimates if fill pads are located closer together (i.e., span lengths are shorter than 500 and 1,000 feet).

For alternative 3, the wetland mitigation plan proposed by FPL provides for a 1:1 compensation using the Hole-in-the-Donut wetland mitigation bank in Everglades National Park. Alternative 3 also includes certain terms and conditions for the use of the FPL West Preferred Corridor that include provisions for the protection of wetlands. A construction resource stewardship plan would be developed and approved and would require steps to avoid, minimize, and mitigate wetland impacts to the maximum extent practicable. No wetlands on the corridor can be excavated for the purpose of obtaining fill, and impacts on the hydrology of the area must be minimized. As described above, the terms and conditions also include a provision for avoidance of wetland impacts by altering structure locations, examining the need for access road and pad construction, and changing span lengths. It is assumed that the mitigation developed and the approved terms and conditions for this alternative would provide adequate compensation for wetlands losses and other impacts on vegetation. Also, impacts on vegetation and wetlands would be considered reduced under this alternative because the FPL West Preferred Corridor crosses no large expanses of heavily forested uplands or forested wetlands. There are also a few areas along the FPL West Preferred Corridor that are already disturbed or in agricultural use in the 8.5-square-mile area east of the park. This vegetation can be readily replaced (agricultural) or has lower ecological values due to the fragmentation of habitat and the presence of nonnative plant species along this edge environment. Areas that contain nonnative species such as Brazilian pepper and melaleuca, which are more common along edge

environments such as along canals and roadways, have a reduced functional value because they provide relatively poor wildlife habitat and reduced species diversity. However, the northern portion of the route near the Tamiami Trail contains habitat for nesting wood storks and kites and wading birds (see the "Special-status Species" section).

Other impacts on wetlands could occur from changes in water quality and hydrology. As noted under alternative 1b, it is anticipated that disturbance to the wetlands, including the excavation of soils and vegetation for each structure pad, would release nutrients and cause phosphorus assimilation processes to occur downstream in the park. Vegetation in a nutrient-poor environment like the Everglades can respond to an increase in nutrients with a change in species composition or accelerated growth, and this could occur in wetter areas of the route. These effects would likely only occur in limited areas if BMPs including silt fencing and erosion control devices are implemented prior to and during construction. Wetland vegetation can also be affected by changes in hydrology, and it is expected that hydrology would change based on the placement of the access road and pads along the entire length of the corridor. According to the SCA, culverts would be included beneath access roads in wetlands to maintain channel flow and/or overland flow. However, a localized change in species composition would be expected around the culverts and along the access road and pad foundations. Flows would be channelized through the numerous culverts beneath the access road, and it is likely that this could result in the transitional vegetation progression just downstream of most of the culvert sets, resulting in localized minor adverse impacts on wetlands.

Vegetation would have to be maintained at an acceptable height over the life of the lines, and this long-term maintenance of the transmission lines would have only negligible adverse effects on vegetation and wetlands because maintenance vehicles would access the right-of-way on established access roads and maintenance surveys could be done by helicopter. Most of the wetlands crossed by the corridor, including those portions in Everglades National Park, are nonforested (herbaceous) wetlands and would therefore require less vegetation clearing, and there are areas that are more urbanized or cultivated in the southern section of this route that would not require vegetation clearing at all. Much of the forested areas along the canal consist of Brazilian pepper or melaleuca, which as nonnative species should be removed. FPL states in the SCA that it would control the spread of nuisance plants that could present a fire hazard in the right-of-way through the use of approved herbicides and other removal techniques. Impacts on wetlands from vegetation management in the nonnative vegetation management easement would occur due to access and vegetation management activities. Impacts would include disturbance and soil compaction from equipment and access by foot. Intensity would depend on frequency of treatment, area treated, and type of equipment and chemicals used for vegetation management activities. The use of herbicides would be selective and would meet applicable federal, state, and local regulations and NPS Integrated Pest Management Plan requirements. To enhance the safe, reliable operation of the proposed transmission lines, FPL may trim or remove danger timber outside the FPL right-of-way in coordination with the adjacent property owners. Danger timber includes trees in danger of falling or leaning into the conductors or, in areas of wildfire hazard, other vegetation that may provide excessive fuel loading in proximity to the transmission lines. For example, when the right-of-way is adjacent to the park along the canal, FPL may acquire the necessary property rights to maintain such vegetation, as needed. There is also a 90-foot-wide vegetation management easement proposed along the border with the park to facilitate the control of nonnative species and fire. It is not clear if the right-of-way would be sufficient to provide access to wetlands in the 90-foot easement and vehicle/equipment access may create additional impacts. The vegetation management practices are not expected to be consistent with existing park vegetation management practices in the easement area, which may lead to additional minor adverse impacts on naturally occurring vegetation and wetlands.

Overall, with the additional mitigation in place under the terms and conditions, impacts on vegetation and wetlands from transmission line construction along the FPL West Preferred Corridor would be short and

long term, major, and adverse. Changes to non-wetland communities would be localized in relatively small areas and short term, with no change in the viability of the plant communities. Wetlands would be affected in the short term during construction, and many of these areas would recover. However, the impact on many wetlands would be sufficient to cause a measurable effect on one of the three parameters (size, integrity, and connectivity) and there would be a permanent loss of wetland acreage, but not in large areas of wetlands. Loss is estimated at 80.1 acres in the park, 180.8 acres in area of analysis. Mitigation for impacts on wetlands, including the mitigation that would be implemented under the required terms and conditions (including exotic species control conditions), should reduce adverse impacts especially in areas that are not permanently lost. There would still be a permanent loss of acres for pads, roads and adherence to terms and conditions cannot guarantee impacts level less than major adverse as defined by the definitions used for analysis.

Cumulative Impacts

The cumulative impacts on vegetation and wetlands from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. The land exchange would result in contribution of long-term benefits and long-term major adverse impacts on wetlands and vegetation, as well as short-term negligible to major adverse impacts from construction of the transmission line in the exchange corridor. The contribution of alternative 3 to the overall cumulative impacts would include appreciable benefits and appreciable adverse impacts.

Conclusion

Under alternative 3, there would be substantial beneficial impacts to vegetation and wetlands from having a net gain in wetland acreage to the park and having the main body of EEEA wetlands reconnected in NPS ownership, resulting in the ability to go forward with ecosystem restoration without any potential future obstacles from the FPL parcel. Placing the majority of the EEEA under NPS ownership would enhance the conservation of the resources and values of the park, including vegetation and wetlands. Alternative 3 would also result in a loss of 260 acres of wetlands in the exchange corridor. There would be a net gain of 60 acres, but a loss of 260 acres. This is a direct long-term, major adverse impact from the loss of park wetlands/vegetation (260 acres), and negligible to minor adverse impacts from the loss of the ability to maintain wetlands/vegetation per NPS standards. There would also be adverse impacts on vegetation and wetlands from the construction of the transmission lines in the FPL West Preferred Corridor, which would include short- and long-term minor major adverse impacts from transmission line construction. Alternative 3 would contribute appreciable benefits and appreciable adverse impacts on overall cumulative impacts on vegetation and wetlands.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts from the Land Acquisition Action

Under alternative 4, there would be benefits to vegetation and wetlands as described under alternative 3, but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance or removal of wetlands. The easement terms and conditions do not necessarily imply the same level of protection and management as NPS *Management Policies 2006*. There would be no major adverse impacts under this alternative related to the land exchange because the acreage of vegetation /wetlands would remain the same within the park boundary (this is a difference between alternatives 3 and 4). Terms and conditions are found in appendices G and H.

Impacts from Transmission Line Construction

Adverse impacts on vegetation and wetlands from transmission line construction would be the same as described under alternative 3, because there are no substantial differences in the terms and conditions under this alternative and no expected differences in how wetlands would be treated under an easement as opposed to under fee ownership, given the mitigation that FPL included in its SCA and expected conditions in the required resource stewardship plan. Indirect adverse impacts on vegetation and wetlands from the construction of the transmission lines in the FPL West Preferred Corridor would include short- and long-term major adverse impacts from transmission line construction.

Cumulative Impacts

The cumulative impacts on vegetation and wetlands from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 3. However, the park would have slightly more control over vegetation management in the exchange corridor than under alternative 3. Alternative 4 would contribute appreciable benefits and appreciable adverse impacts to overall cumulative impacts on vegetation and wetlands.

Conclusion

Under alternative 4, there would be benefits to vegetation and wetlands as described under alternative 3, but with easement terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance or removal of wetlands. There would be no major adverse impacts related to the land exchange because the acreage of vegetation /wetlands would remain the same within the park boundary (this is a difference between alternatives 3 and 4). Short- and long-term major adverse impacts on vegetation and wetlands from transmission line construction would be the same as described under alternative 3, because there are no substantial differences in the terms and conditions under this alternative and no expected differences in how wetlands would be treated under an easement as opposed to under fee ownership, given the mitigation that FPL included in its SCA and expected conditions in the required resource stewardship plan. The park would have slightly more control over vegetation management in the exchange corridor than under alternative 3. Alternative 4 would contribute appreciable benefits and appreciable adverse impacts to overall cumulative impacts on vegetation and wetlands.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

Alternative 5 provides for a perpetual flowage easement over the FPL West Secondary Corridor that would allow flows over and around structures in the FPL corridor. Having a flowage easement on the FPL parcel in the EEEA that would allow for surface flows and would not impede any ecosystem restoration projects planned for this area would have substantial indirect, long-term benefits on park resources, including wetlands.

Long-term minor to moderate adverse impacts would occur from the continued inability to manage the corridor as NPS lands (i.e., FPL ownership of the parcel would hinder any wetland/vegetation management efforts within the park).

Impacts from Transmission Line Construction

There would also be adverse impacts on vegetation and wetlands both in and around the park from the transmission line construction in the FPL West Secondary Corridor, as described under alternative 1b. These impacts would be short and long term, major, and adverse. However, the additional water available from the flowage easement may enable ecosystem restoration of areas disturbed during construction to occur at a faster rate. Alternative 5 would reduce the ability to restore wetlands, but not completely prevent all ecosystem restoration efforts. Degradation of the vegetation/wetlands from FPL ownership instead of NPS will be similar to alternative 1a, except there would be a flowage easement or sufficient rights to flow additional water over the corridor.

Cumulative Impacts

The cumulative impacts on vegetation and wetlands from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 5 would result in long-term beneficial impacts from the flowage easement, but would also result in short- to long-term minor to major adverse impacts from the construction of the transmission line. Alternative 5 contributes both appreciable adverse and appreciable beneficial impacts to the overall cumulative effects on wetlands and vegetation in this area, although the benefits would not be as extensive as those under the alternatives that result in the acquisition of wetlands in the park

Conclusion

Under alternative 5, impacts would be similar to alternative 1b, except there would be substantial long-term benefits from having a perpetual flowage easement agreement. Adverse impacts on vegetation and wetlands would result from the construction of the transmission lines in the FPL West Secondary Corridor and would include short- and long-term major adverse impacts from the transmission lines. Alternative 5 would contribute both appreciable adverse and appreciable beneficial impacts to the overall cumulative effects on wetlands and vegetation in this area, although the benefits would not be as extensive as those under the alternatives that result in acquisition of wetlands in the park.

FLOODPLAINS

GUIDING REGULATIONS AND POLICIES

Procedural Manual 77-2: Floodplain Management, establishes the NPS procedures for implementing floodplain protection and management actions in units of the national park system as required by Executive Order 11988: Floodplain Management, and Director's Order 77-2: Floodplain Management. It is NPS policy to preserve floodplain values and minimize potentially hazardous conditions associated with flooding. If a proposed action is found to be in an applicable regulatory floodplain and relocating the action to a non-floodplain site is considered not to be a viable alternative, flood conditions and associated hazards must be quantified as a basis for management decision making and a formal statement of findings must be prepared. The statement of findings should describe the rationale for selection of a floodplain site, disclose the amount of risk associated with the chosen site, and explain flood mitigation plans.

NPS *Management Policies 2006* specifically addresses floodplains in Section 4.6.4. The policy states:

> In managing floodplains on park lands, the National Park Service will (1) manage for the preservation of floodplain values; (2) minimize potentially hazardous conditions associated with flooding; and (3) comply with the NPS Organic Act and all other federal laws and executive orders related to the management of activities in flood-prone areas,

including Executive Order 11988 (Floodplain Management), the National Environmental Policy Act, applicable provisions of the Clean Water Act, and the Rivers and Harbors Appropriation Act of 1899. Specifically, the Service will

- protect, preserve, and restore the natural resources and functions of floodplains;
- avoid the long- and short-term environmental effects associated with the occupancy and modification of floodplains; and
- adversely affect the natural resources and functions of floodplains or increase flood risks.

When it is not practicable to locate or relocate development or inappropriate human activities to a site outside and not affecting the floodplain, the Service will

- prepare and approve a Statement of Findings, in accordance with procedures described in Director's Order 77-2: Floodplain Management;
- use nonstructural measures as much as practicable to reduce hazards to human life and property while minimizing the impact on the natural resources of floodplains;
- ensure that structures and facilities are designed to be consistent with the intent of the standards and criteria of the National Flood Insurance Program (44 CFR 60).

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

Impacts on floodplains were assessed by consideration of the size of impact, length of effect, and area affected, using best professional judgment and discussion with NPS staff.

The following definitions were used to determine the magnitude of adverse impacts on floodplains:

- **Negligible**: Floodplains would not be affected; effects would either be non-detectable, or, if detected, would be considered slight, local, and would likely be short term.
- **Minor**: Effects on floodplains would be measurable, although the effects would likely be small, short term, and localized. No mitigation measures associated with water quality or hydrology would be necessary.
- **Moderate**: Effects on floodplains would be measurable and long term, but relatively localized. Mitigation could be required and if implemented and would likely be successful.
- **Major**: Effects on floodplains would be readily measurable, would have substantial consequences, and would be observable over a relatively large area and likely long term. The character of the floodplain would be changed so that the functions typically provided by the floodplain would be substantially changed. Mitigation would be required and its success could not be ensured.

ANALYSIS AREA

The area of analysis for floodplains is the 100-year floodplain located in the general project area, including the NESRS in the EEEA. This includes the 8.5-square-mile area east of the park, WCA 3B and the Pennsuco wetlands north of the park, and extending to the urban development boundary to the east of the park (see "Figure 4: General Project Area," in chapter 1 and "Figure 10: Floodplain Map" in chapter 3; most of the study area is 100-year floodplain).

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, there would be no legal changes to the property's status or ownership, and FPL would not grant NPS a flowage easement. Therefore, there would be no physical change to the land, so there would be no direct impacts on floodplains. However, the NPS would be unable to flow additional water across FPL property from north of the park, and would be unable to implement regional ecosystem restoration activities that rely on additional flow. The inability to increase water levels across the FPL property would result in preventing restoration on a regional scale. Excess water would continue to be held in the WCAs north of the park or redirected upstream to the St. Lucie River or elsewhere rather than through the park. Floodplain values associated with the restoration related to habitat values, wetland quality, etc., would be limited to existing floodplain values. The urban areas outside the park would not be at increased risk of flooding. This would result in indirect, long-term major adverse impacts on floodplains.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed. Therefore, there would be no construction-related impacts on floodplains.

Cumulative Impacts – Alternative 1a

Several past, present, and reasonably foreseeable projects related to the restoration of hydrology and enhanced flows in the Everglades over a 20- to 30-year time period, and acquisition of property throughout the park, as described in table 18, would result in large scale regional beneficial impacts on floodplain function and values in the slough and throughout the Everglades by increasing the hydroperiod and the flood stage in large parts of the Everglades in the park, and relieving stresses on water storage requirements outside the park. However, alternative 1a would prevent or obstruct implementation of these flowage-related projects and would therefore result in major adverse impacts on floodplains. Other projects and actions in the area of analysis have had and could have adverse impacts on floodplains, including any construction in the regulatory floodplain that changes flows and surface runoff characteristics; this includes all urban/suburban, commercial, and industrial development to the east of the park. Alternative 1a would have major adverse impacts that would contribute appreciable adverse impacts on floodplains in the area.

Conclusion – Alternative 1a

Under alternative 1a, there would be no direct impacts on floodplain function and values, but there would be long-term indirect major adverse impacts related to the lack of a flowage easement and the inability to proceed with flow-dependent ecosystem restoration projects that would prevent moving additional water into the park. There would be no construction under this alternative, so there would be no construction-related impacts. Alternative 1a would contribute appreciable adverse impacts to the cumulative impacts on floodplains in the area.

IMPACTS OF ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

Under alternative 1b, impacts from the land acquisition action would be the same as under alternative 1a. There would be indirect long-term major adverse impacts due to the inability to flow additional waters across the FPL property, so more water would continue to be stored north of the park, and improvement of many floodplain values would be prevented.

Impacts of Transmission Line Construction

There would be additional impacts related to the construction of the transmission lines in the existing corridor without a flowage easement. Without a flowage easement, noticeable improvement of floodplain function and values would therefore be prevented within the park. Indirect impacts would result from the construction of transmission lines in the park, as described earlier in this chapter and appendix F. Transmission lines in the FPL West Secondary Corridor would be constructed directly through the flow path of the NESRS.

Construction of the transmission lines through this corridor would result in construction of 7.4 miles of transmission lines in the park and 14.7 miles through both the NPS wetlands and the SFWMD Pennsuco wetlands north of the park. FPL has committed to constructing culverts under the access roads through this corridor to maintain existing surface water flows. The culverts would be designed and sized to equalize the amount of water volume created from a small rainfall event, and would therefore convey most stormwater through the culverts. There would be no substantial increase or decrease in floodplain elevation and the transmission lines would not increase threats to human safety due to flooding. Although water could pass through the culverts, the transmission lines would serve to compartmentalize the NESRS, and impacts on floodplain values and functions (such as creating a habitats for fish and other animals and providing temporary storage of high flows, slowing flow velocity, providing groundwater recharge, and reducing downstream impacts of high flows) would be measurable and localized. Impacts from transmission line construction would therefore be long-term, moderate and adverse.

Cumulative Impacts – Alternative 1b

The cumulative impacts on floodplain function and values from the other past, present, and reasonably foreseeable future projects considered in the cumulative analysis would be the same as those discussed under alternative 1a. Under alternative 1b, there would be long-term major adverse impacts related to the lack of a flowage easement, plus long-term moderate adverse impacts from the construction and presence of transmission lines, which would contribute appreciable adverse impacts to the overall cumulative effects on floodplains in this area.

Conclusion – Alternative 1b

Under alternative 1b, the direct and indirect impacts on floodplains related to the land acquisition decision would be the same as under alternative 1a; with no direct impacts on floodplain function and values, but with long-term major adverse impacts related to the lack of a flowage easement and the inability to proceed with flow-dependent ecosystem restoration projects that would prevent moving additional water into the park. There would be additional long-term moderate adverse impacts on floodplain functions and values related to the construction and presence of the transmission lines. Construction of the transmission lines without a flowage easement in the FPL corridor could permanently hinder the implementation and success of these projects, and would contribute appreciable adverse impacts to the overall cumulative effects on floodplains in this area.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

Under alternative 2, no direct impacts on floodplains would be expected from the acquisition of FPL land in the EEEA. There would be indirect long-term benefits from placing ownership of this area solely with the NPS and the ability to continue flow-dependent ecosystem restoration projects. Floodplain values in the park would improve, as would long-term floodplain function. Flows could be redirected from upstream areas currently receiving excess water. Urban areas would continue to be protected from flooding because flood storage capacity in the park would increase.

Impacts of Transmission Line Construction

Under this alternative, FPL would construct the transmission lines outside the park in the West Consensus Corridor. The possible corridor outside the park would not be affected by ecosystem restoration activities. Impacts on floodplains in this area would occur from construction of roads, pads, and culverts, and the transmission lines would serve to compartmentalize flows in the area, although water could pass through the culverts. However, wetlands and floodplains have been segmented and compartmentalized in this area. Flows are already disrupted and the area has been drained and disconnected from the broader natural floodplain, so the existing floodplain values in this area are less than they are inside the park. Impacts on floodplain function and values would therefore be long-term indirect negligible and adverse. Impacts on floodplain function and values within the park would be avoided.

Cumulative Impacts

The cumulative impacts on floodplain function and values from other past, present, and reasonably foreseeable future projects related to the restoration of hydrology and enhanced flows in the Everglades would be the same as those discussed under alternative 1a. Alternative 2 would allow enhanced flowage and implementation of restoration projects that rely on enhanced flows to proceed, which would provide large-scale benefits over 20 to 30 years. The alternative would also result in long-term negligible adverse impacts from the construction and presence of the transmission lines in the West Consensus Corridor east of the park. Alternative 2 would contribute appreciable benefits to the overall cumulative impacts on floodplains; the contribution of adverse effects from the construction of the transmission lines outside the park to cumulative impacts on floodplains would be only slightly noticeable overall.

Conclusion

Overall, there would be no direct impacts on floodplains from obtaining the FPL corridor. There would be indirect benefits of acquisition itself from placing ownership of this area solely with the NPS and the ability to continue flow-dependent ecosystem restoration projects. Under alternative 2, there would be long-term indirect negligible adverse impacts related to transmission line construction and presence in an area that has already been segmented hydrologically and disconnected from the natural floodplain. Impacts from transmission line construction inside the park would be avoided. Alternative 2 would contribute noticeable benefits to the overall cumulative impacts on floodplains; the contribution of adverse effects from the construction of the transmission lines outside the park to cumulative impacts on floodplains would be only slightly noticeable overall.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 3, the direct and indirect impacts associated with the land exchange would be the same as described under alternative 2, since the enhanced flowage would be accommodated across the original FPL property and the exchange corridor. There would be no direct impacts on floodplains from the acquisition of FPL land in the EEEA.

Impacts of Transmission Line Construction

Under alternative 3, there would be long-term moderate adverse impacts related to the placement of the transmission lines in the exchange corridor adjacent to the existing L-31N levee. With the transmission lines on the edge of the park, impacts on floodplain function and values throughout the NESRS would be less than would occur if the lines were built further to the west, but impacts on floodplains would be greater than if the lines were built east of the park in (see alternative 2).

In addition to the commitment to maintain surface and subsurface flows, and accommodate enhanced flows by using culverts under the access road, alternative 3 includes certain terms and conditions for the use of the FPL West Preferred Corridor (appendix G). Under these terms and conditions for the exchange, FPL would minimize impacts on sheetflow at the park to the maximum extent practicable. The presence of the road or finger pads would alter hydrologic flow locally as water is forced around the structure pads and through culverts beneath the access road or driveway portion of the finger pads, but would not noticeably alter floodplain function.

Should an access road be built parallel to the levee, it is possible that the hydrology in the channel between the levee and the transmission lines would be somewhat more compartmentalized and restricted in its flow than water on the west side of the transmission lines. FPL would be required to ensure that the design and construction of the transmission lines would be compatible with ecosystem restoration goals and activities allowing for protection of resources and values of Everglades National Park. With implementation of this mitigation and the full hydrologic analysis conducted as part of the required terms and conditions, there would be long-term moderate adverse impacts on floodplain function and values.

Cumulative Impacts

The cumulative impacts on floodplain function and values under alternative 3 from other past, present and reasonably foreseeable future projects would be the same as those discussed under alternative 1a, and would be mainly beneficial. There would be indirect benefits of acquisition itself from the ability to continue flow-dependent ecosystem restoration projects. Construction and presence of transmission lines would contribute long-term moderate adverse impacts on floodplains on the far eastern edge of the park. These impacts would contribute both appreciable long-term beneficial, and noticeable adverse impacts on floodplains in this area.

Conclusion

Under alternative 3 there would be no direct impacts on floodplains from the implementation of the land exchange associated with this alternative. There would be long-term indirect beneficial impacts of acquiring the FPL land, which would enhance the conservation of the resources and values of the park, including floodplains and their values and functions, and allow for flow-dependent ecosystem restoration projects to proceed. There would be long-term moderate adverse impacts on floodplain functions and values from construction and presence of transmission lines in the FPL West Preferred Corridor due to

increased compartmentalization and the effects of the disrupted sheetflows on floodplain values, such as habitat. Alternative 3 would contribute appreciable long term beneficial, and noticeable adverse impacts to the cumulative impacts on floodplains in the area.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 4, the direct and indirect impacts associated with the land exchange would be the same as described under alternative 3, but with beneficial impacts on floodplains resulting from terms and conditions that would reduce the risk of having additional utility facilities developed within the exchange corridor and associated floodplain. Terms and conditions are found in appendices G and H.

Impacts of Transmission Line Construction

The indirect impacts associated with the placement of the transmission lines in the exchange corridor would be the same as described under alternative 3. There would be long-term moderate adverse impacts on floodplains and floodplain function and values due to increased compartmentalization and the effects of the disrupted sheetflows on floodplain values.

Cumulative Impacts

Cumulative impacts would be the same as described under alternative 3. Alternative 4 would contribute indirect benefits of acquisition itself from the ability to continue flow-dependent ecosystem restoration projects, and long-term moderate adverse impacts on floodplains on the far eastern edge of the park. These impacts would contribute both appreciable long term beneficial, and noticeable adverse impacts on floodplains in this area.

Conclusion

Impacts would be the same as described under alternative 3 except no other utilities could be built in the corridor, which would lessen the risk of additional floodplain impacts. There would be no direct impacts on floodplains from the implementation of the land exchange, but there would be long-term indirect beneficial impacts of acquiring the FPL land, which would enhance the conservation of the resources and values of the park, including floodplains and their values and functions, and allow for flow-dependent ecosystem restoration projects to proceed. There would be indirect adverse impacts from construction and presence of transmission lines in the FPL West Preferred Corridor resulting in long-term moderate adverse impacts on floodplains and floodplain function and values. Alternative 4 would contribute appreciable long term beneficial, and noticeable adverse impacts to the cumulative impacts on floodplains in the area.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

Under alternative 5, the direct and indirect impacts associated with the land exchange would be the same as described under alternative 2. The enhanced flowage would be accommodated across the exchange corridor and across the original FPL property. Alternative 5 would have indirect long-term benefits on floodplains.

Impacts of Transmission Line Construction

Under alternative 5, indirect impacts on floodplains and floodplain functions and values would be the same as those described for alternative 1b, except that the flowage easement would allow for enhanced flows to accommodate flow-related ecosystem restoration activities. The hydroperiod would be maintained, but the enhanced flows would be forced through culverts, limiting the benefits to floodplain function, and this would continue to hamper improvements to floodplain values and result in long-term moderate adverse impacts on floodplains by compartmentalizing areas and obstructing flows and diminishing floodplain function locally.

Cumulative Impacts

The cumulative projects considered with respect to floodplain function and values from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Implementation of alternative 5 would provide both long-term beneficial and long-term moderate adverse impacts, because the flow-related ecosystem restoration projects could proceed, but sheetflow patterns would be disrupted regionally by the transmission lines. Alternative 5 would therefore contribute appreciable beneficial impacts by allowing enhanced flows and a higher flood stage, and noticeable adverse impacts on floodplain function in the area.

Conclusion

Under alternative 5, enhanced flowage would be accommodated across the exchange corridor and across the original FPL property, resulting in long-term benefits, similar to alternative 2. Impacts on floodplains from transmission line construction would be long-term moderate adverse, similar to those discussed under alternative 1b. Alternative 5 would contribute appreciable beneficial impacts by allowing enhanced flows and a higher flood stage, and noticeable adverse impacts on cumulative impacts on floodplains in the area.

SOUNDSCAPES

GUIDING REGULATIONS AND POLICIES

In accordance with NPS *Management Policies 2006* (NPS 2006a) and Director's Order 47: Sound Preservation and Noise Management (NPS 2000a), an important part of the NPS mission is the preservation of natural soundscapes associated with national park units. Natural soundscapes exist in the absence of human-caused sound. The natural ambient soundscapes is the aggregate of all the natural sounds that occur in park units, together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive and can be transmitted through air, water, or solid materials.

As stated in Director's Order 47, natural sounds are intrinsic elements of the environment that are often associated with parks and park purposes. They are inherent components of the "scenery and the natural and historic objects and the wildlife" protected by the NPS Organic Act. Intrusive sounds are of concern to the NPS because they can impede the ability of the NPS to accomplish its mission.

By definition, noise is human-caused sound that is considered unnecessary and unwanted. Whether a sound is considered unpleasant depends on the individual who hears the sound and the setting and circumstance under which the sound is heard. While performing certain tasks, people expect and, as such, accept certain sounds that are considered unpleasant under other circumstances. For example, if a person works in an office, sounds from printers, copiers, telephones, and keyboards are generally acceptable and

not considered unduly unpleasant or unwanted. By comparison, when resting or relaxing, these same sounds may be intolerable.

Sound levels are usually measured in A-weighted decibels (dBAs), and descriptors such as the energy equivalent noise level (L_{eq}) and the day-night average noise level (L_{dn}) are commonly used to account for fluctuations of sound over time. Generally, a 3 dBA increase in ambient sound levels is considered the minimum threshold at which most people can detect a change in the sound environment. Decibels (dBs) are often related to perceived loudness, and in some frequency bands a 10-dBA increase can result in sounds that seem twice as loud, even though this would correspond to multiplying the number of sound sources by 10.

Sounds found desirable during times of rest and relaxation are referred to as natural quiet, and include natural, outdoor ambient sounds, without the intrusion of human-caused sounds. Natural sounds throughout the park—including flowing water, animals, and rustling leaves—are not considered noise. The enjoyment of natural sounds in the park enhances the visitor's experience, and natural quiet can be essential for some individuals to achieve a feeling of peace and solitude.

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

Soundscape impacts in the park were assessed based on the area where noise attributable to transmission line construction or operation would be 3 dBA or greater over the *natural ambient*. For noise-sensitive residential areas outside the park, impacts were assessed based on the area where transmission line construction or operation would increase sound levels by 3 dBA or greater over the *existing ambient*. The rationale for the 3 dBA change criterion for assessing impacts is explained below, followed by further details on the methodologies used to characterize natural ambient and existing ambient sound levels, temporary construction impacts, and long-term operation impacts.

Background Information on Reduction in Listening Area

An increase in the ambient noise level affects the ability of humans and animals to perceive other sounds within a certain distance. In general, the higher the ambient noise level, the shorter the distance from which other sounds (for example, those of a songbird) can be heard. This concept is expressed in terms of listening area and alerting distance. In terms of impact metrics, a 3 dBA increase in the natural ambient is an important indicator of potential impact because it results in a 50 percent reduction in *listening area* for humans and animals and a 30 percent reduction in *alerting distance*, as described below (NPS 2010d).

Reduction in listening area quantifies the loss of hearing ability to humans and animals as a result of an increase in ambient noise level. Under natural ambient conditions a sound is audible within a certain area around a visitor or animal. If the ambient level is increased due to a noise event, the area in which the sound is audible decreases. Table 23 and figure 45 illustrate the relationship between increased ambient and listening area reduction.

TABLE 23: REDUCTION IN LISTENING AREA AND ALERTING DISTANCE DUE TO INCREASES IN AMBIENT LEVELS

dBA Ambient Increase	3	6	10	20
Percent Reduction in Listening Area	50%	75%	90%	99%
Percent Reduction in Alerting Distance	30%	50%	70%	90%

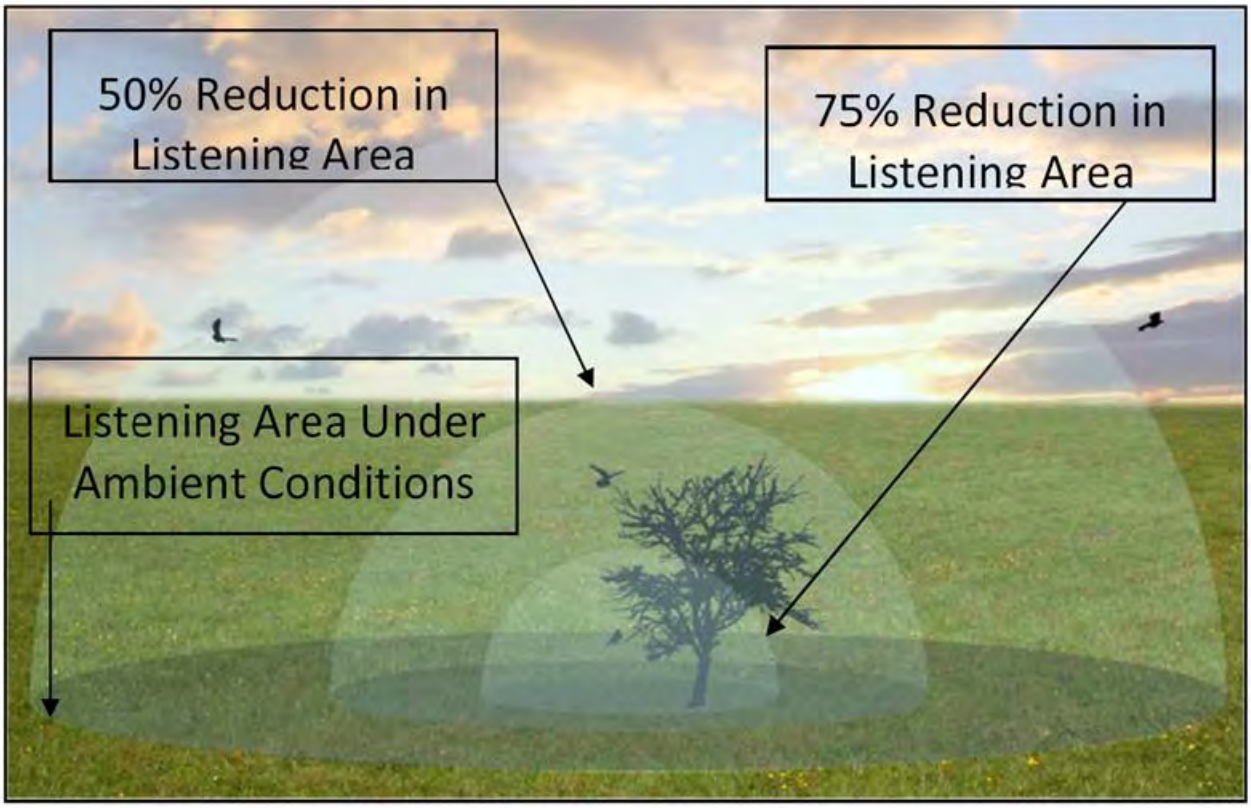


FIGURE 45: REDUCTION IN LISTENING AREA

For example, under natural ambient conditions, an owl perched in a tree may be able to hear a mouse scurrying through the brush anywhere within an area of 100 square meters of the perch. If a noise event increases the ambient level by 3 dBA, the area in which the owl can hear a mouse would decrease by 50 percent to approximately 50 square meters.

The reduction in alerting distance is closely related to the reduction in listening area. The residual alerting distance is equal to the square root of the residual listening area. Instead of addressing losses in terms of an area, reduction in alerting distance expresses the reduction as a linear distance from a source. For example, under natural ambient conditions, a hiker may be alerted to the sound of a flash flood at a distance of 1 mile. If a noise such as an off-road vehicle increases the ambient level by 6 dBA, the distance at which the flood could be detected would decrease by 50 percent to approximately 1/2 mile (NPS 2010d).

Visitors and wildlife are impacted by their failure to hear natural sounds that would have been audible in the absence of noise: a bird misses the sound of a worm, a mouse misses the footfall of a coyote, a visitor misses the sound of a distant waterfall. Reductions in listening area and alerting distance capture these types of impacts.

Natural Ambient and Existing Ambient Sound Levels

As discussed in chapter 3, the existing natural ambient in the park was determined from a monitoring site south of the Shark Valley Visitor Center and the results are considered generally representative of interior areas of the park in the project area. The natural ambient varies between summer and winter, with winter being quieter. Therefore, to be conservative, the winter daytime natural ambient of 28.4 dBA was used as

the basis for assessing impacts in the park. The analysis also does not account for masking corona noise due to weather noise, resulting in a more conservative analysis.

Natural ambient is not an appropriate basis for assessing impacts in the context of residential areas, where human-caused sounds are more accepted. An existing day-night sound level (L_{dn}) of 55 dBA was estimated based on population density, as discussed in chapter 3. The L_{dn} metric incorporated a 10 dBA penalty on sound levels occurring at night. There is no monitoring data available for the affected residences. For impact assessment purposes, the estimated quietest daytime hourly L_{eq} was assumed to be approximately 10 dBA less than the estimated L_{dn}, or 45 dBA.

Short-term Construction Impacts Methodology

The specific activities associated with the possible future transmission line construction were evaluated in terms of the types of equipment typically used, the potential duration and frequency of occurrence of the activities, and the potential approximate noise level generated at various distances from the noise sources. Each of these factors was subsequently used to determine the degree of the impact associated with construction relative to natural ambient (in the park) or existing ambient (residential area) sound levels.

Table 24 summarizes the maximum instantaneous (L_{max}) noise levels generated by typical equipment used in transmission line construction as a function of distance from the construction site. The reference L_{max} levels at a distance of 50 feet are based on monitoring of actual construction equipment operation as reported in the documentation of the Federal Highway Administration's Roadway Construction Noise Model.[5] The equipment noise levels at greater distances from the site were calculated assuming that noise levels would decrease by 6 dBA per doubling of distance, which is typical for point sources of noise. The L_{max} levels presented in the table are conservative (over-predicting as opposed to under-predicting impacts), because they do not take into account ground cover attenuation, atmospheric effects, or the effects of topography on sound levels. The "total" column presents the combined noise level of all the listed types of equipment operating simultaneously as calculated through "decibel addition" (dBs are expressed on a logarithmic scale and thus cannot be directly added together). Helicopters were not included in the sound levels shown in table 25, but helicopter sound levels on the ground during conductor stringing would be similar to the combined noise level of heavy construction equipment (e.g., 80–90 dBA maximum).

Within the park, construction noise would drop to equal the natural ambient (and thus result in a 3 dBA increase in the total sound level) at a distance of 13.7 miles under the simplified analysis assumptions used. Construction noise will drop to ambient levels at much shorter ranges than 13.7 miles on sunny days, because the warmer air near the ground will cause the noise energy to refract upwards. Propagation out to 13.7 miles will be the plausible upper bound, and will occur shortly after sunrise, possibly shortly before sunset, and possibly downwind of the construction site when wind speeds are low. Construction noise levels could exceed the natural ambient by 10 dBA or more (e.g., 38.4 dBA) out to a distance of 4.3 miles.

[5] http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/.

TABLE 24: TYPICAL TRANSMISSION LINE CONSTRUCTION NOISE LEVELS (L_{MAX})

Distance (feet)	Flat Bed Truck dBA	Grader/Scraper dBA	Crane dBA	Tractor dBA	Bulldozer dBA	Generator dBA	Saw dBA	Auger Drill Rig dBA	Total dBA
50	74	84	81	84	82	81	84	84	91.6
100	68.0	78.0	75.0	78.0	76.0	75.0	78.0	78.0	85.6
200	62.0	72.0	69.0	72.0	70.0	69.0	72.0	72.0	79.5
400	55.9	65.9	62.9	65.9	63.9	62.9	65.9	65.9	73.5
800	49.9	59.9	56.9	59.9	57.9	56.9	59.9	59.9	67.5
1,600	43.9	53.9	50.9	53.9	51.9	50.9	53.9	53.9	61.5
3,200	37.9	47.9	44.9	47.9	45.9	44.9	47.9	47.9	55.5
6,400	31.9	41.9	38.9	41.9	39.9	38.9	41.9	41.9	49.4
12,800	25.8	35.8	32.8	35.8	33.8	32.8	35.8	35.8	43.4
25,600	19.8	29.8	26.8	29.8	27.8	26.8	29.8	29.8	37.4
26,600	19.5	29.5	26.5	29.5	27.5	26.5	29.5	29.5	37.1
28,100	19.0	29.0	26.0	29.0	27.0	26.0	29.0	29.0	36.6

For residential areas, construction noise would drop to equal the existing ambient at a distance of 2.0 miles in the absence of intervening barriers to sound (such as terrain or other buildings). Construction noise would be 10 dBA or more over the existing ambient out to a distance of 0.6 miles. Building row attenuation effects were accounted for. As sound travels from near ground level sources (such as most construction equipment), the initial rows of buildings encountered serve to attenuate the noise for subsequent rows. The distance to the first row of buildings for various segments of the transmission lines was estimated using a GIS. A shielding factor of 4.5 dB was subtracted at the first row of buildings and 1.5 dB subtracted for each successive row of buildings, up to a maximum attenuation of 10 dBA as recommended by the Federal Transit Administration guidance (FTA 2006). Once the edge of a residential area was reached, additional building rows were assumed every 200 feet until the 10 dBA maximum attenuation was reached.

Residences potentially impacted by construction noise were quantified based on a database of geocoded addresses for Miami-Dade County.[6] The address database was reviewed in comparison to 2010 orthophotography and address points on vacant land and commercial properties in the study area were removed.

[6] http://gisweb.miamidade.gov/GISSelfServices/Data/HTML/GeoAddress.htm.

TABLE 25: SUMMARY OF SHORT-TERM AND LONG-TERM SOUNDSCAPE IMPACTS BY TRANSMISSION LINE CORRIDOR

	Transmission Line Corridor	Temporary Construction Impacts		Long-term Corona Noise Impact		Notes
		3 dBA or greater increase[a]	10 dBA or greater increase[b]	3 dBA or greater increase[c]	10 dBA or greater increase[d]	
Square Miles of Park Impacted	FPL West Preferred Corridor	221.4	43.3	1.4	0.11	Impact on park soundscapes less than FPL West Secondary Corridor, but greater than east side of West Consensus Corridor
	FPL West Secondary Corridor	227.6	52.9	3.3	0.7	Largest potential for impact on park soundscapes
	West Consensus Corridor - East	221.9	42.6	0.1	0	Smallest potential for impact on park soundscapes
	West Consensus Corridor - West	221.2	43.7	1.8	0.6	Impact on park soundscapes less than the FPL West Secondary Corridor, but greater than the east side of the West Consensus Corridor and FPL West Preferred Corridor
Residential Structures Impacted	FPL West Preferred Corridor	155	70	NA	NA	Greater impacts on soundscapes in residential areas than FPL West Secondary Corridor, but less than West Consensus Corridor
	FPL West Secondary Corridor	109	11	NA	NA	Smallest potential for impacts on soundscapes in residential areas
	West Consensus Corridor - East	2,197	203	NA	NA	Largest potential for impacts on soundscapes in residential areas
	West Consensus Corridor - West	592	58	NA	NA	Less potential for impact on soundscapes in residential areas than east side of West Consensus Corridor but greater impacts than the FPL West Preferred and the FPL West Secondary Corridor

[a]13.7 miles in park, distance varies in residential areas depending on building row attenuation (maximum of 2.0 miles with no shielding).

[b]4.3 miles in park, distance varies in residential areas depending on building row attenuation (maximum of 0.6 miles with no shielding).

[c]0.23 miles in park.

[d]0.047 miles in park.

Long-term Operation Impact Methodology

The localized electric field near an energized conductor can produce tiny electric discharges that can ionize air close to the conductors.[7] This partial discharge of electrical energy is called corona discharge, or corona. Corona generates audible noise that can be characterized as a hissing, crackling sound, which under certain conditions is accompanied by a hum. This audible noise can barely be heard in fair weather conditions on higher-voltage lines. During wet weather conditions, water drops collect on the conductor and increase corona activity so that a crackling or humming sound may be heard at higher levels than those experienced under dry conditions.[8]

Corona noise calculations were performed by FPL for 14 representative transmission line cross sections at various locations along the FPL West Preferred and FPL West Secondary Corridors as part of the SCA (FPL 2009a; appendix F). Corona noise levels in terms of L_{50} were estimated using the Bonneville Power Administration's Corona and Field Effects Program. The Bonneville Power Administration's program calculates corona noise using empirical equations that have been developed from measurements on numerous high-voltage lines.[9] All four cross sections in the project area had an estimated maximum noise level of approximately 49 dBA (L_{50}) under foul weather conditions (FPL 2009a).

Noise from a "line source" such as a transmission line attenuates at a slower rate than noise from a point source, or approximately 4.5 dBA per doubling of distance over soft cover (e.g., vegetated areas). Based on this and assuming that the corona noise level of 49 dBA would occur at approximately 50 feet from the lines, worst-case corona conditions would drop to equal the park natural ambient of 28.4 dBA at a distance of 1,200 feet from the lines and would be 10 dBA over the natural ambient within 250 feet. Residential areas would not be affected by corona noise under any of the alternatives because the corona noise would be much less than the existing ambient of 45 dBA at the location of the closest receptors.

The following definitions were used to determine the magnitude of adverse impacts on soundscapes:

- **Negligible**: Natural or background sounds would prevail; activities associated with noise would be very infrequent or absent.
- **Minor**: Natural or background sounds would predominate and human-generated sounds would be heard occasionally. When noise is present, it would be passing and would occur at low to medium levels in local areas, rarely audible at a distance.
- **Moderate**: Natural or background sounds would predominate, but activities associated with noise would occur occasionally at low to moderate levels. When noise is present, it would be occasionally audible at a distance from the source and may mask natural sounds briefly. Noise would not be overly disruptive to noise-sensitive visitor or resident activities.
- **Major**: Natural or background sounds would be impacted by activities associated with noise frequently or for extended periods. Noise would disrupt conversation for long periods and make enjoyment of other activities in the area difficult.

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[7] http://www.cpuc.ca.gov/environment/info/aspen/deltasub/pea/16_corona_and_induced_currents.pdf.

[8] http://www.cpuc.ca.gov/environment/info/aspen/deltasub/pea/16_corona_and_induced_currents.pdf

[9] Big Eddy Knight EIS. http://efw.bpa.gov/environmental_services/Document_Library/Big_Eddy-Knight/pdf/BEK_FEIS_Volume2_Appendix_E_Electric_Fields_Magnetic_Fields_Noise_and_Radio_Interference.pdf

Duration definitions for noise are as follows:

- **Short Term**: Impacts on the natural soundscape occurring during the period of construction.
- **Long Term**: Impacts that affect visitor or resident use patterns and consequently the associated impacts of human-generated noise on the natural soundscape for years to come.

ANALYSIS AREA

The area of analysis for soundscapes includes the area of audibility along and adjacent to the various possible transmission corridors in the general project area, extending out from any source of noise to where noise would decrease to background levels, which will vary with the type of land use.

Summary of Indirect Impacts by Transmission Line Corridor

Table 25 summarizes the quantification of potential temporary construction and long-term corona noise impacts by transmission line corridor and help in assessing the differences among the corridors. The impacts are discussed by alternative below.

In interpreting table 25, note that the duration of noise exposure is not reflected by the impact metrics, which are a simple tabulation of the acres of park land or number of residences within certain buffers. The buffer distances reflect the maximum potential extent of impacts from every point along the various transmission line routes (e.g., construction equipment L_{max}). Particularly with respect to construction impacts, impacts would not occur simultaneously along the entire line as the buffers suggest. Construction would move gradually along the line, exposing adjacent areas to high noise levels temporarily, then moving on incrementally. Nonetheless, in the absence of very detailed construction staging information, the buffers provide a way of understanding the potential impacts of the alternatives. To supplement the quantitative analysis based on L_{max}, the duration of construction noise exposure was evaluated qualitatively based on the location of the various alignments in relation to the park:

- Relative to the other transmission line routes, the duration of construction noise impacts in the park would be the highest for the FPL West Secondary Corridor because this route is surrounded by park land on either side of the FPL corridor.

- The duration of construction noise impacts would be the lowest for a transmission line on the east side of the West Consensus Corridor because this is the route most distant from the park.

- The west side of the West Consensus Corridor and the FPL West Preferred Corridor would have a relatively similar duration of construction noise impacts to the park because of their close alignment along the eastern edge of the park. The duration of impacts from construction on the west side of the West Consensus Corridor would be slightly less than the FPL West Preferred Corridor because the West Consensus Corridor alignment turns towards the east (making it farther from the park) south of U.S. 41 / Tamiami Trail.

Figure 46 summarizes corona noise and temporary construction noise impact buffers for the park. To simplify the presentation, figure 46 shows the 4.3-mile buffer for areas of the park experiencing a 10 dBA or greater increase in sound levels over the natural ambient during construction, and not the larger area experiencing a 3 dBA or greater temporary increase. Figure 46 also shows the area experiencing 3 dBA or greater increase in sound levels due to corona noise during precipitation events. Because all of the potential transmission line corridors have the same southern starting point for analysis purposes, all the alignments have a similar extent of impact in the park in the southern portion of the project area. Moving further north, the distinctions between the alignments become clearer. The FPL West Secondary Corridor would have the greatest impact and the eastern edge of the West Consensus Corridor would have the least.

Figure 47 compares the construction noise impacts of the FPL West Secondary Corridor and eastern edge of the West Consensus Corridor. The FPL West Secondary Corridor has a small number of impacts on residences located near the park in the southern portion of the project area. The majority of the FPL West Secondary Corridor in the park does not impact residential areas. In contrast, the eastern edge of the West Consensus Corridor impacts several dense residential areas. For clarity of presentation, the impacts of the other alignments are not shown, but are intermediate between the FPL West Secondary Corridor and eastern edge of the West Consensus Corridor in terms of residential impacts (table 25).

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, FPL retention of ownership of land in the EEEA would not have any impacts on soundscapes.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed. Therefore, there would be no construction-related impacts on soundscapes.

Cumulative Impacts – Alternative 1a

Because there would be no impacts on soundscapes under alternative 1a, there would be no cumulative impacts.

Conclusion – Alternative 1a

FPL retention of ownership of land in the EEEA would not have any impacts on soundscapes. Alternative 1a would not involve transmission line construction and therefore would have no impacts on soundscapes from transmission line construction or presence.

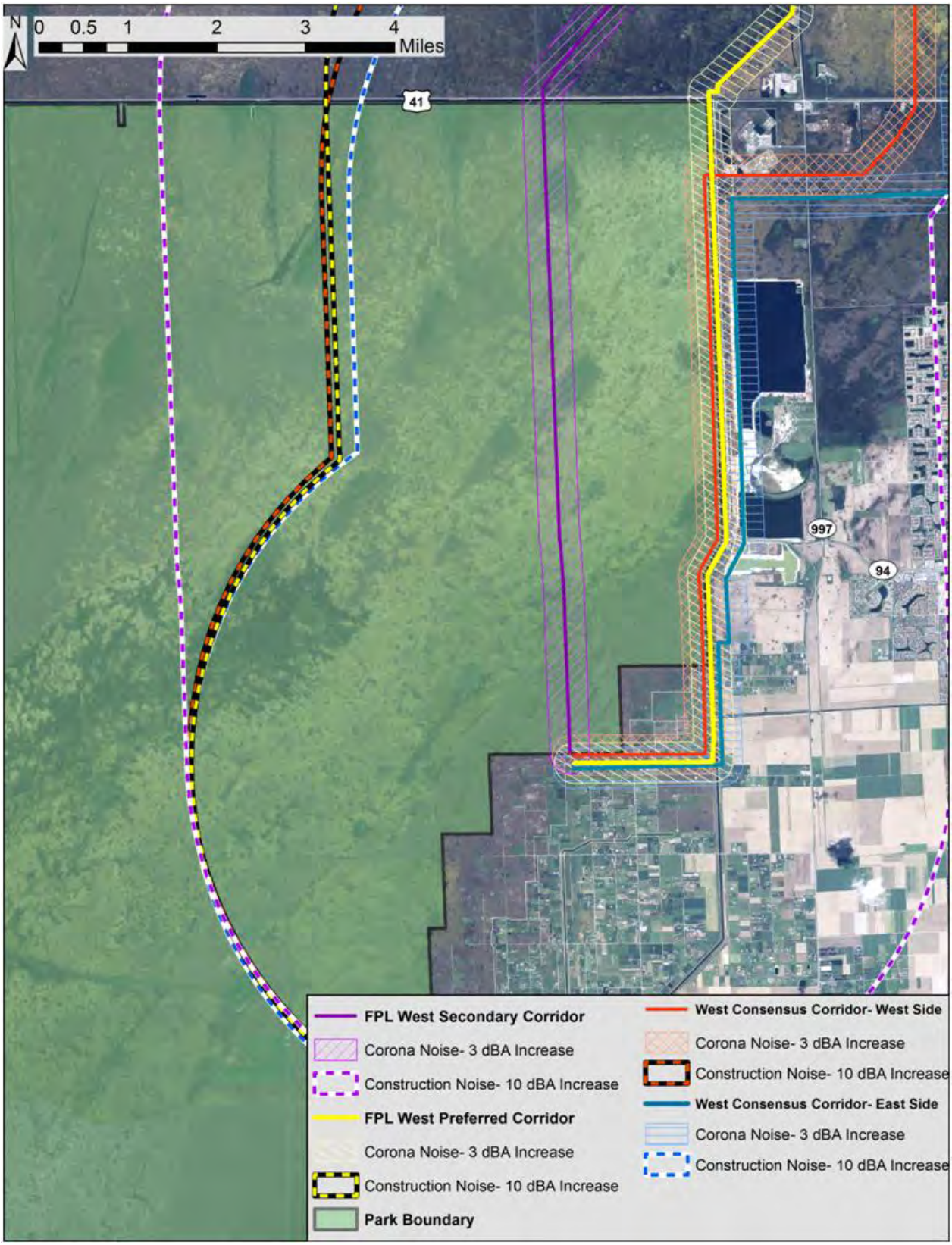


FIGURE 46: SOUNDSCAPES IMPACTS IN THE PARK – CORONA NOISE AND CONSTRUCTION NOISE

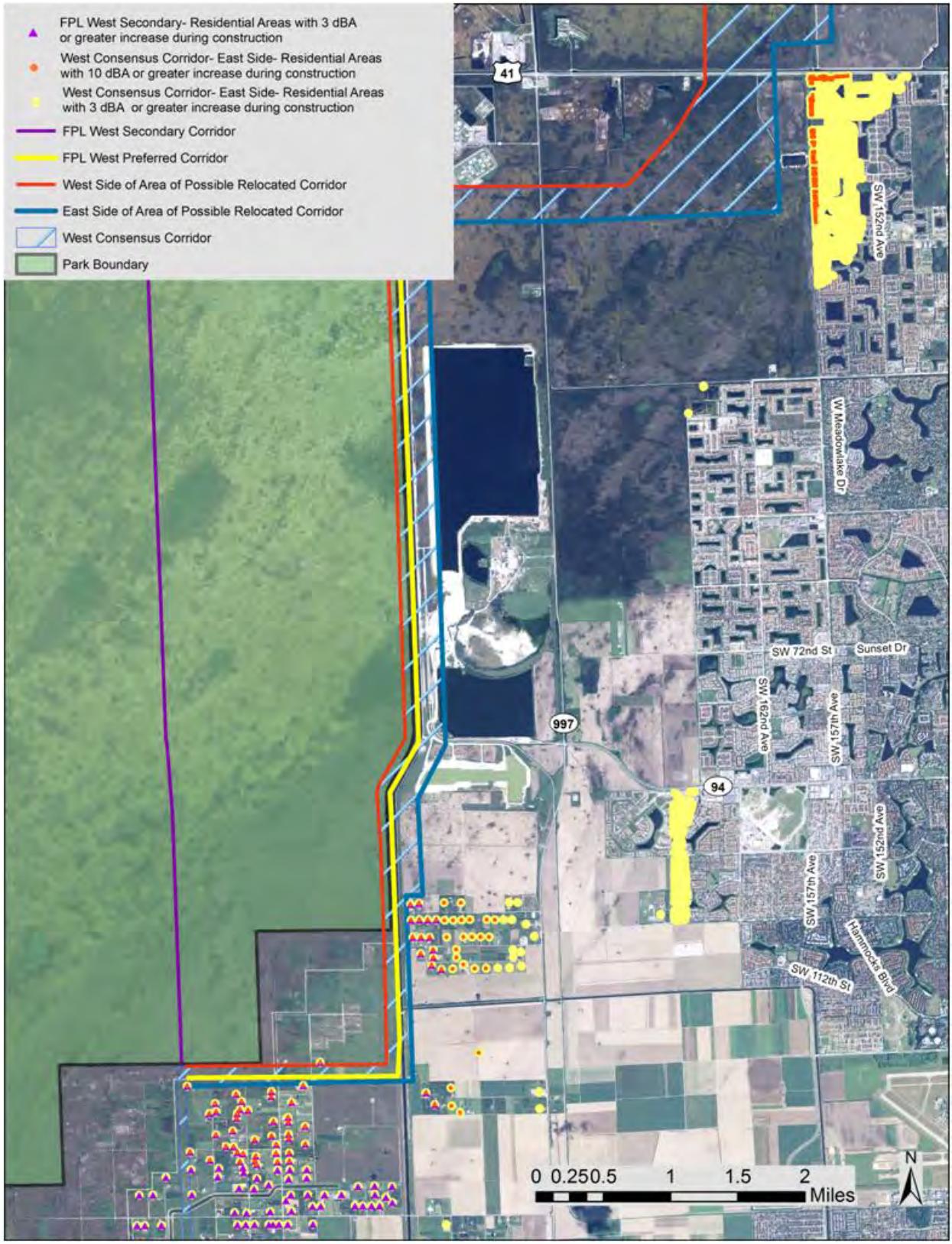


FIGURE 47: SOUNDSCAPES IMPACTS IN RESIDENTIAL AREAS – CONSTRUCTION IMPACTS OF FPL WEST SECONDARY CORRIDOR AND EAST SIDE OF WEST CONSENSUS CORRIDOR

IMPACTS OF ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

Under alternative 1b, FPL retention of ownership of land in the EEEA would not have any impacts on soundscapes.

Impacts of Transmission Line Construction

Under alternative 1b, it is assumed FPL would build a transmission line in the FPL West Secondary Corridor in the park. Heavy equipment used in the construction of the FPL West Secondary Corridor transmission lines (potentially including the use of helicopters in stringing the conductor) would result in short-term moderate adverse impacts on soundscapes in the park and on adjacent lands. Construction noise would be intense (over 90 dBA within 50 feet), but would also be intermittent and would not occur for long periods in one location as crews move along the transmission line alignment. No nighttime construction is anticipated in the park. The audibility of construction would vary day to day depending on factors such as the number of pieces of equipment in use at any one time and level of natural sounds (such as wind), which can mask human-caused sounds. Construction noise impacts would be the greatest in the winter when the natural ambient is the lowest (28.4 dBA), at which time the construction activity could equal the natural ambient out to a distance of 13.7 miles, thereby reducing listening area for wildlife and visitors. Approximately 227.6 square miles of the park are within 13.7 miles of the FPL West Secondary Corridor. Impacts would be greatest within 4.3 miles of the construction activity, where sound levels would be 10 dBA or higher than the natural ambient. Approximately 52.9 square miles of the park are within 4.3 miles of the FPL West Secondary Corridor.

Short-term construction impacts would also occur in the rural residential area to the east of where the FPL West Secondary Corridor enters the park. Approximately 109 residences could experience a 3 dBA increase in ambient levels at some point, and 11 residences could experience a 10 dBA increase as a result of construction.

Corona discharge from the FPL West Secondary Corridor transmission lines would result in long-term minor adverse impacts on soundscapes in the park because the natural soundscape would be mostly maintained, with localized impacts on soundscapes from corona noise. Corona noise would be greatest during foul weather (49 dBA at 50 feet from the lines), at which time it could increase ambient levels in the park by 3 dBA or more out to a distance of 0.23 miles. Approximately 3.3 square miles of the park would be affected by corona noise from the FPL West Secondary Corridor. Both inside and outside the park, predominantly natural areas would be within the corona noise effect zone—no residential areas would be impacted. During dry weather the corona noise would be less than during wet weather, and would be barely audible within the transmission line corridor and inaudible outside the corridor.

Long-term transmission line maintenance is assumed to include periodic inspections, primarily utilizing trucks, but also aerial surveys by helicopters or airplanes, and vegetation maintenance would likely take place periodically and involve trimming and mowing. The magnitude and geographic extent of maintenance-related soundscapes impacts would be similar to the temporary construction impacts described above. Because maintenance related activities would only occur in one place for a few days per year, overall soundscapes impacts on the park and adjacent residential areas would be long-term, negligible, and adverse.

Cumulative Impacts – Alternative 1b

There would be long-term minor adverse impacts on park soundscapes from operational activities (airboats, helicopter landings and overflights) and visitor use activities (private and commercial airboats), the use of heavy equipment for management activities, commercial aircraft overflights, and traffic on adjacent roadways; rock mining, and construction of seepage barrier along the L-31N canal. Impacts would vary substantially by geographic location, season, and time of day. Traffic, watercraft, and aircraft are accounted for in the soundscapes existing conditions assessment and are expected to continue in the future. As discussed in chapter 3, aircraft (general aviation, commercial jet, or military, not air tours) were audible 37 percent of the daytime during the summer, and 17 percent during the winter, at the EVER002 site south of the Shark Valley Visitor Center. Sounds from visitors (e.g., motor vehicles, conversation, music, and watercraft use) were audible 27 percent of the daytime during the summer, and 39 percent during the winter (NPS 2012d).

Construction of a transmission line in the park would result in long-term minor adverse impacts in the park due to corona noise, and short-term moderate adverse impacts from construction equipment use. Long-term negligible adverse impacts would result from periodic line maintenance. Alternative 1b would contribute noticeable adverse effects to cumulative impacts on soundscapes in the park, but little to no long-term cumulative impacts in residential areas.

Conclusion – Alternative 1b

Under alternative 1b, there would be no impacts on soundscapes from the FPL retention of property in the EEEA. Indirect impacts in the park resulting from the construction of the transmission lines in the FPL West Secondary Corridor would be short term, moderate, and adverse as a result of construction activities and long term, minor, and adverse from corona discharge during wet weather. There would be short-term moderate adverse construction-related impacts in residential areas. Long-term impacts from maintenance activities would be negligible and adverse. Actions under alternative 1b would contribute noticeable adverse effects to cumulative impacts on soundscapes in the park, but little to no long-term cumulative impacts in residential areas.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

Under alternative 2, the NPS would acquire the FPL property in the EEEA. No impacts would be expected from the acquisition of FPL land in the EEEA.

Impacts of Transmission Line Construction

Under alternative 2, it is assumed FPL would build a transmission line in the West Consensus Corridor east of the park. Heavy equipment used in the West Consensus Corridor would result in short-term moderate adverse impacts on soundscapes in the park and on adjacent lands. Construction noise would be intense (over 90 dBA within 50 feet), but would also be intermittent and would not occur for long periods in one location as crews move along the transmission line alignment. No nighttime construction is anticipated. The audibility of construction would vary day to day depending on factors such as the number of pieces of equipment in use at any one time and level of natural sounds (such as wind), which can mask human-caused sounds. Construction noise impacts would be the greatest in the winter when the natural ambient is the lowest (28.4 dBA), at which time the construction activity could equal the natural ambient in the park out to a distance of 13.7 miles, thereby reducing listening area for wildlife and visitors. Transmission lines on the eastern or western side of the West Consensus Corridor would result in

relatively similar areas of potential impact in the park within 13.7 miles (221 to 222 square miles). Impacts within 4.3 miles of construction activity would also be similar for the east and west sides of the West Consensus Corridor.

Short-term construction impacts would also occur in residential areas adjacent to the West Consensus Corridor. The potential for construction noise impacts on soundscapes in residential areas is substantially higher with transmission lines on the eastern side of the West Consensus Corridor (which passes closer to dense development) compared to the western side. Approximately 2,197 residences could experience a 3 dBA increase in ambient levels from a line on the eastern side of the West Consensus Corridor, compared to 592 residences for the western side of the West Consensus Corridor. Construction on the eastern side of the West Consensus Corridor could result in a 10 dBA increase in sound levels at 203 residences, compared to 58 residences on the western side of the West Consensus Corridor. Corona discharge from transmission lines in the West Consensus Corridor would result in long-term negligible to minor adverse impacts on soundscapes in the park. Corona noise would be greatest during foul weather (49 dBA at 50 feet from the lines), at which time it could increase ambient levels in the park by 3 dBA or more, out to a distance of 0.23 miles. Approximately 0.1 square mile of the park would be affected by corona noise from transmission lines on the eastern edge of the West Consensus Corridor, compared to 1.8 square miles that would be impacted by transmission lines on the western side of the West Consensus Corridor. No residential areas would be impacted, based on elevated background noise levels and proximity to homes. During dry weather the corona noise would be less than during wet weather, and would be barely audible within the transmission line corridor and inaudible outside the West Consensus Corridor.

As described under alternative 1a, long-term transmission line maintenance is assumed to include periodic inspections, primarily utilizing trucks, but also aerial surveys by helicopters or airplanes, and use of mowers and trimmers. And the magnitude and geographic extent of maintenance-related soundscapes impacts would be similar to the temporary construction impacts described above. Because maintenance related activities would only occur in one place for a few days per year, overall soundscapes impacts on the park or residences would be long-term, negligible, and adverse.

Cumulative Impacts

The cumulative impacts on soundscapes from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1b. Construction of a transmission line in the West Consensus Corridor would result in long-term minor adverse impacts, and construction noise would generate short-term moderate adverse impacts. Periodic line maintenance would result in long-term negligible adverse impacts. The contribution of these impacts on the overall cumulative effects in the park and residential areas would be imperceptible in the long term, but noticeable in the short-term. In addition, alternative 2 would not contribute noticeable long-term cumulative impacts in residential areas.

Conclusion

Under alternative 2, there would be no impacts on soundscapes from the acquisition of FPL property in the EEEA. Indirect impacts resulting from the construction of the transmission lines in the West Consensus Corridor would be short term, moderate, and adverse as a result of construction activities and long term, negligible to minor, and adverse from corona discharge during wet weather. There would be short-term moderate adverse construction-related impacts in residential areas. Long-term impacts from maintenance activities would be negligible and adverse. The geographic extent of impacts in the park and in residential areas would vary considerably depending on the exact route alignment. Alternative 2 would contribute imperceptible impacts to overall cumulative impacts in soundscapes in the park in the long

term, but noticeable adverse impacts in the short-term; alternative 2 would not contribute noticeable long–term adverse cumulative impacts in residential areas.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 3, there would be no impacts on soundscapes from the exchange of FPL and NPS lands in the EEEA. The terms and conditions of the land exchange under alternative 3 do not address transmission line noise requirements.

Impacts of Transmission Line Construction

Heavy equipment used in the construction of the FPL West Preferred Corridor transmission lines (potentially including the use of helicopters in stringing the conductor) would result in short-term moderate adverse impacts on soundscapes in the park and on adjacent lands. Construction noise would be intense (over 90 dBA within 50 feet), but would also be intermittent and would not occur for long periods in one location as crews move along the transmission line alignment. No nighttime construction is anticipated in the park. The audibility of construction would vary day to day depending on factors such as the number of pieces of equipment in use at any one time and level of natural sounds (such as wind), which can mask human-caused sounds. Construction noise impacts would be the greatest in the winter when the natural ambient is the lowest (28.4 dBA), at which time the construction activity could equal the natural ambient out to a distance of 13.7 miles, thereby reducing listening area for wildlife and visitors. Approximately 221 square miles of the park are within 13.7 miles of the FPL West Preferred Corridor. Impacts would be greatest within 4.3 miles of the construction activity, where sound levels would be 10 dBA or higher than the natural ambient (perceived by humans as a doubling of loudness). Approximately 43 square miles of the park are within 4.3 miles of the FPL West Preferred Corridor.

Short-term construction impacts would also occur in the residential areas. Approximately 155 residences could experience a 3 dBA increase in ambient levels at some point, and 70 residences could experience a 10 dBA increase as a result of construction.

Corona discharge from the FPL West Preferred Corridor transmission lines would result in long-term minor adverse impacts on soundscapes in the park. Corona noise would be greatest during foul weather (49 dBA at 50 feet from the lines), at which time it could increase ambient levels in the park by 3 dBA or more out to a distance of 0.23 miles. Approximately 1.4 square miles of the park would be affected by corona noise from the FPL West Preferred Corridor. No residential areas would be impacted. During dry weather the corona noise would be less than during wet weather, and would be barely audible within the transmission line corridor and inaudible outside the corridor.

Long-term transmission line maintenance is assumed to include periodic inspections, primarily utilizing trucks, but also aerial surveys by helicopters or airplanes including trimming and mowing. The terms and conditions under alternative 3 would allow other infrastructure to be located in the corridor, potentially increasing the amount maintenance activity and associated noise relative to alternative 4. The magnitude and geographic extent of maintenance-related soundscapes impacts would be similar to the temporary construction impacts described above. Because maintenance related activities would only occur in one place for several days per year, overall soundscapes impacts on the park would be long-term, negligible, and adverse. Terms and conditions are found in appendices G and H.

Cumulative Impacts

The cumulative impacts on soundscapes from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1b. Construction of a transmission line in the exchange corridor would result in long term negligible to minor adverse impacts on soundscapes from corona noise and periodic line maintenance, and short term moderate adverse impacts in the vicinity of the from construction noise. The contribution of these impacts on the overall cumulative impacts in the park would be somewhat noticeable. In addition, alternative 3 would not contribute noticeable long-term cumulative impacts in residential areas.

Conclusion

Under alternative 3, there would be no impacts on soundscapes from the fee for fee land exchange of FPL and NPS property within the EEEA. Indirect impacts in the park resulting from the construction of the transmission lines in the FPL West Preferred Corridor would be short term, moderate, and adverse as a result of construction activities and long term, minor, and adverse from corona discharge during wet weather. There would be short-term moderate adverse construction-related impacts on residential areas. Long-term impacts from maintenance activities would be negligible and adverse. Alternative 3 would contribute somewhat noticeable impacts to the overall cumulative impacts on soundscapes in the park; alternative 3 would not contribute noticeable long –term adverse cumulative impacts in residential areas.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 4, FPL would construct the transmission lines in the FPL West Preferred Corridor in the park. There would be no impacts on soundscapes from the easement for fee land exchange under alternative 4. As with alternative 3, the terms and conditions of the land exchange under alternative 4 do not address transmission line noise requirements. However, under the terms and conditions for alternative 4, no other utilities could be built in the corridor, which would lessen the risk of additional noise-related impacts of construction of these facilities. Terms and conditions are found in appendices G and H.

Impacts of Transmission Line Construction

Although FPL would not own the property, impacts on soundscapes would generally be the same as described under alternative 3. Heavy equipment used in the construction of the FPL West Preferred Corridor transmission lines (potentially including the use of helicopters in stringing the conductor) would result in short-term moderate adverse impacts on soundscapes in the park and on adjacent lands. Corona discharge from the FPL West Preferred Corridor transmission lines would result in long-term minor adverse impacts on soundscapes in the park and on adjacent lands. Transmission line maintenance activity would result in long-term negligible adverse impacts and other types of utility infrastructure would not be allowed in the corridor under the terms and conditions (unlike alternative 3, which would allow other utilities).

Cumulative Impacts

Cumulative impacts to soundscapes under alternative 4 would be the same as alternative 3. The contribution of the impacts of alternative 4 to the overall cumulative impacts in the park would be somewhat noticeable. In addition, alternative 3 would not contribute noticeable long-term cumulative impacts in residential areas.

Conclusion

Under alternative 4, there would be no impacts on soundscapes from the easement for fee land exchange with FPL in the EEEA. Construction of the transmission lines in the FPL West Preferred Corridor would have short-term moderate adverse impacts in the park as a result of construction activities and long-term minor adverse impacts from corona discharge during wet weather. Periodic line maintenance would have long-term negligible adverse impacts. No other utilities could be built in the corridor, which would lessen the risk of additional noise-related impacts of construction of these facilities.

There would be short-term moderate adverse impacts in residential areas. Maintenance activities would result in long-term negligible adverse impacts in residential areas. Alternative 4 would contribute somewhat noticeable adverse impacts to the overall cumulative impacts on soundscapes in the park; alternative 4 would not contribute noticeable long-term adverse cumulative impacts in residential areas.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

Under alternative 5, FPL retention of ownership of land in the EEEA would not have any impacts on soundscapes.

Impacts of Transmission Line Construction

Indirect adverse impacts on soundscapes under alternative 5 would be the same as described under alternative 1b. Heavy equipment used in the construction of the FPL West Secondary Corridor transmission lines (potentially including the use of helicopters in stringing the conductor) would result in short-term moderate adverse impacts on soundscapes in the park and on adjacent lands. Corona discharge from the FPL West Secondary Corridor transmission lines would result in long-term minor adverse impacts on soundscapes in the park and on adjacent lands. Maintenance-related impacts would be the same as alternative 1b (long term, negligible, adverse).

Cumulative Impacts

Cumulative impacts to soundscapes under alternative 5 would be the same as under alternative 1b. Alternative 5 would contribute noticeable adverse effects to cumulative impacts to soundscapes in the park, but little to no long-term cumulative impacts in residential areas.

Conclusion

Under alternative 5, there would be no impacts on soundscapes from the long-term flowage easement on FPL property. Construction of the transmission lines in the FPL West Secondary Corridor would have indirect, short-term moderate adverse impacts in the park as a result of construction activities and long-term minor adverse impacts from corona discharge during wet weather.

Construction would have short-term moderate adverse impacts in residential areas. Maintenance activities would have long-term negligible adverse impacts. Alternative 5 would contribute noticeable adverse effects to cumulative impacts to soundscapes in the park, but little to no long-term cumulative impacts in residential areas.

WILDLIFE

GUIDING REGULATIONS AND POLICIES

The NPS Organic Act of 1916 and the NPS *Management Policies 2006* (NPS 2006a) directs parks to provide for the protection of park resources. The NPS *Management Policies 2006* states, "The National Park Service will maintain as parts of the natural ecosystems of parks all plants and animals native to park ecosystems. The term "plants and animals" refers to all five of the commonly recognized kingdoms of living things and includes such groups as flowering plants, ferns, mosses, lichens, algae, fungi, bacteria, mammals, birds, reptiles, amphibians, fishes, insects, worms, crustaceans, and microscopic plants or animals. The Service will successfully maintain native plants and animals by

- preserving and restoring the natural abundances, diversities, dynamics, distributions, habitats, and behaviors of native plant and animal populations and the communities and ecosystems in which they occur;
- restoring native plant and animal populations in parks when they have been extirpated by past human-caused actions; and
- minimizing human impacts on native plants, animals, populations, communities, and ecosystems, and the processes that sustain them."

The landmark Everglades Restoration Act, which President Clinton signed on December 11, 2000, authorized federal spending to begin work projects under the CERP. Implementation of the plan greatly improves the quality, quantity, timing, and distribution of flows into the park and in doing so, restores and supports the natural wildlife of the park. Provisions in the plan support the return of the large nesting rookeries of wading birds to the park and the recovery of several endangered species.

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

Information from park staff and publications was used to identify baseline conditions for wildlife. Available information was also taken from other NPS and non-NPS entities to describe these resources in more detail. In general, it was assumed that there would be impacts on wildlife during the construction phase, as well as post-construction effects. The primary steps taken in assessing impacts on wildlife included determining the following:

1. Which species are found in areas likely to be affected by management actions described in the alternatives
2. Habitat/vegetation loss or alteration caused by the alternatives
3. Displacement and disturbance potential of the actions and the species' potential to be affected by construction or future use and management activities.

Analysis of possible impacts on wildlife was based on review of existing literature and maps, information provided by the NPS and other agencies, experience related to effects of transmission line construction, and professional judgment.

The following definitions were used to determine the magnitude of adverse impacts on wildlife:

- **Negligible**: There would be no observable or measurable impacts on native species, their habitats, or the natural processes sustaining them. Impacts would be well within natural fluctuations.
- **Minor**: A change in effects on wildlife would be localized within a small area. The change would be measurable or perceptible in terms of abundance, distribution, quantity, or quality of populations. While the mortality of individual animals might occur, the viability of wildlife populations would not be affected and the community, if left alone, would recover. Impacts would be detectable and are expected to be outside the natural range of variability.
- **Moderate**: A change in effects on wildlife would occur over a relatively large area. The change would be readily measurable in terms of abundance, distribution, quantity, or quality of populations. Impacts would be outside the natural range of variability. Disruptions to key ecosystem processes that would be outside natural variation might occur, but the ecosystem would soon return to natural conditions. Mitigation measures would probably be necessary to compensate for adverse effects and would likely be successful.
- **Major**: A change in effects on wildlife would be readily apparent, and would substantially change wildlife populations over a large area in and out of the park. Impacts on native species, their habitats, or the natural processes sustaining them would be detectable, and would be expected to be outside the natural range of variability or be permanent. Key ecosystem processes might be disrupted. Loss of habitat might affect the viability of at least some native species. Extensive mitigation would be needed to compensate for adverse effects, and its success would not be ensured.

ANALYSIS AREA

The area of analysis for wildlife (except avian species) includes the general project area. This includes the NESRS in the EEEA, the 8.5-square-mile area east of the park, WCA 3B and the Pennsuco wetlands north of the park, and extending to the urban development boundary to the east of the park (see “Figure 4: General Project Area,” in chapter 1). The area of analysis for wildlife is focused on areas of disturbance along the possible transmission line corridors plus adjacent areas likely to experience adverse effects from noise of equipment and construction crews (see the “Soundscapes” section). For avian species, the area of analysis extends to the nearby foraging areas for wading birds, including areas around the coast to the southeast and the Pennsuco wetlands to the northeast, which includes the FPL corridor extending from Clear Sky to Pennsuco substations.

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, there would be no legal changes to the property’s status or ownership and FPL would not grant NPS a flowage easement. Therefore, there would be no physical change to the land, so there would be no direct impacts on wildlife. Alternative 1a would result in continued indirect, long-term moderate to major adverse impacts on wildlife, depending on the species being impacted, due to continued habitat degradation from altered hydrology. Impacts on wetland dependent species are expected to be major adverse, while impacts on non-wetland dependent species are expected to be moderate adverse. Habitat restoration and wildlife management efforts within the park would be hindered by FPL ownership of the parcel and the lack of a flowage easement, or sufficient interests in these properties, to

flow additional water across the FPL West Secondary Corridor. Alternative 1a would result in negative impacts on wildlife.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed. Therefore, there would be no construction-related impacts on wildlife.

Cumulative Impacts – Alternative 1a

The past, present, and reasonably foreseeable future actions impacting wildlife include the acquisition of lands in the expansion area under the Expansion Act and all present and future actions aimed at restoring habitat and delivering additional freshwater to the park. These projects would not all be completed as planned due to the inability to flow enough water over the FPL West Secondary Corridor to establish hydrologic restoration goals, a long-term moderate to major adverse impact. The overall direction of the GMP to preserve park resources would indirectly benefit the wildlife in the park. Other projects in the area of analysis with adverse effects on wildlife include ongoing urban development, road construction and use (car collisions), ongoing mining (minor to moderate adverse from habitat loss and direct mortality). Park plans and projects that can affect wildlife include periodic prescribed burns (short-term adverse impacts from the burning; long-term benefits from reduction in extreme wildfire risk), and vegetation (exotic plant) management, which benefits wildlife by eliminating nonnative plants and improving natural habitat. Alternative 1a would result in moderate to major adverse impacts because of the lack of flowage and would contribute appreciable adverse impacts to the overall cumulative effects on wildlife in this area.

Conclusion – Alternative 1a

There would be no direct impacts on wildlife from the land acquisition action. Long term, moderate to major, indirect adverse impacts are expected to wildlife due to continued FPL ownership of land within the park and the lack of a flowage easement. FPL ownership of land within the park and the inability to increase water levels across the FPL West Secondary Corridor is expected to hinder habitat restoration efforts. Since construction of transmission lines are not included as part of this alternative, there would be no impacts on wildlife from construction. Alternative 1a would contribute appreciable adverse impacts to the overall cumulative effects on wildlife in this area.

IMPACTS OF ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

Impacts would be the same as alternative 1a, with no direct impacts but with continued long-term moderate to major adverse impacts on wildlife, depending on the species being impacted, due to continued habitat degradation from altered hydrology.

Impacts of Transmission Line Construction

General Construction-related Impacts

During construction, there would be construction equipment and associated noise in the vicinity of the construction area which may disrupt wildlife behaviors and travel patterns. If helicopters are needed during construction, they would introduce additional noise and disruption. The construction noise and activity may also temporarily drive some species out of the vicinity during the construction period.

Impacts would also occur due to ground disturbance and vegetation removal or treatment in work areas outside the access road and pad areas (see the “Vegetation and Wetlands” section) during the construction period; this would result in a temporary loss of nesting, resting, and foraging habitat along the corridor. Impacts on wildlife behavior from construction noise and activity and temporary ground disturbance are anticipated to be short term and adverse. The magnitude of these temporary adverse impacts would range from minor (if they are in non-critical periods) to moderate (occurring in breeding or nesting season). Less motile species may not be able to move out of the construction area and may be injured or killed during construction activities. Impacts from death of individual animals would be adverse, temporary, and minor as death of individual animals is not expected to have population impacts on non-special-status species.

Construction of access roads and structure pads would result in permanent loss of habitat for some species (see the “Soils” and “Vegetation and Wetlands” sections for details on acres lost). These activities may also fragment habitat, creating more edge habitat. The creation of edge habitat can allow nonnative species to invade an area and further reduce habitat quality. The loss or modification of habitat due to construction of the transmission lines and associated access roads would have long term minor to moderate adverse impacts, depending on the type of habitat impacted and the species that use the habitat.

General Line Maintenance–related Impacts

Line maintenance would be done about once every 2 years and would consist of line surveys conducted by helicopter and/or vehicle using the access road that was constructed. Noise from these activities would cause impacts similar to those from vehicle use and helicopter use during construction, but there would be less equipment used and lower noise levels for ground work. Therefore, there would be short-term minor to moderate adverse impacts.

Fish and Other Aquatic Species

Impacts on fish and other aquatic species from construction activities should be short term and minor adverse. Appropriate erosion and sedimentation control measures would be implemented during construction to prevent degradation of adjacent water bodies. Transmission line construction stormwater discharges released into waters of the state would be addressed through compliance with Rule 62-621.300(4) (Generic Permit for Stormwater from Large and Small Construction Activities). Culvert sizing for the access roads and structure pads in extensive wetland areas would be based on appropriate hydrological studies and comply with applicable codes and requirements. Where construction of access roads and structure pads is required in wetlands, turbidity screens and erosion control devices would be used to minimize construction impacts on wetlands and water bodies and ensure that state water quality standards for turbidity are met. Species using wetland environments would experience a permanent loss of habitat due to filling of wetlands for structure pads and access roads. Impacts related to wetland habitat loss are expected to be long term, moderate, and adverse. The filling of wetlands for access roads may create a barrier for movement of certain species. This impact can be mitigated by proper culvert design to accommodate wildlife passage. The impacts of access roads on movement of aquatic wildlife are expected to be long term, moderate adverse depending on culvert or wildlife crossing design. The lack of a flowage easement is expected to have continued adverse impacts on aquatic fauna since the inability to flow additional water across the FPL property is expected to hinder habitat restoration efforts.

Amphibians and Reptiles

Amphibians and reptiles are most vulnerable during colder or drier periods when they go into a dormant condition. During these periods, the animals are not able to quickly react to changing conditions. If construction activities were to take place during a period when amphibians and reptiles were dormant,

many individuals would not be able to flee and would be injured or killed. This would represent a short term minor to moderate adverse impact. Construction activities may also temporarily disrupt amphibian and reptile behavior resulting in short term minor to moderate adverse impacts. Amphibians and reptiles may experience a loss of habitat due to construction of structure pads and access roads. This is a long-term moderate adverse impact. The lack of a flowage easement is expected to have continued adverse impacts on amphibians and reptiles since the inability to flow additional water across the FPL property is expected to hinder habitat restoration efforts.

Birds

The behavior of bird species may be impacted by construction noise and traffic. The greatest impacts on avian species would occur if construction took place during breeding and nesting periods. Impacts on avian behavior related to construction noise and traffic are expected to be short term, minor to moderate, adverse depending on the season. Construction of structure pads and access roads would also result in a loss of foraging and nesting habitat for avian species. The loss of these habitats would have long-term moderate adverse impacts. The lack of a flowage easement is expected to have continued adverse impacts on birds since the inability to flow additional water across the FPL property is expected to hinder habitat restoration efforts. This effect may be more impactful on bird species whose main prey is aquatic species. Many bird species known in this area are also listed as endangered or threatened by USFWS and the state; these impacts are discussed in more detail in the “Special-status Species” section.

Construction of the transmission lines would create a permanent electrocution and strike hazard for bird species from structures, lines, and guy wires and can result in injury or death to individuals (APLIC and USFWS 2005). Although birds from a wide range of taxa and feeding guilds are exposed to these direct risks, wading birds (such as herons, egrets, storks, and cranes) are of particular concern because they make up such a large and important component of the birds found in Everglades region of South Florida. Wading birds are behaviorally predisposed to collision due to their large size, which makes it difficult for them to take evasive action when confronted with flight obstacles. Raptors (especially snail kites, hawks, falcons, vultures, and owls) are known to experience direct mortality from collision and electrocution (Madders and Whitfield 2006). Specifically, waders and raptors are both morphologically and behaviorally more vulnerable than many other birds and have greater risk of electrocution and collision from electric utility structures, lines, and guy wires (APLIC 2006; Hunting 2002). However, all birds that fly in flocks (such as songbirds, plovers, gulls, ducks, geese, and cranes) near lines and structures are susceptible to collisions due to their reduced ability to see and avoid obstacles (Exponent 2013, amended 2015). In the southeast United States, birds of prey (raptors, eagles, and owls) are especially vulnerable to electrocution because of their size, relative rarity as top-of-the-food chain predators, hunting behavior that can entail soaring at heights that can correspond to the height of transmission and distribution towers and lines, or hunting from perched positions on transmission and distribution structures. Electrocution may occur when a bird or other organism completes an electric circuit by simultaneously touching two energized parts or an energized part and a grounded part of electrical equipment. Most electrocutions occur on medium-voltage distribution lines (4 to 34.5 kV), in which the spacing between conductors may be small enough to be bridged by birds. Poles with energized hardware, such as transformers, can be especially hazardous, even to small birds, because poles contain numerous, closely spaced energized parts (APLIC and USFWS 2005). Even with adequate separation distances on utility structures, scavengers and predatory species that may perch on transmission line structures, such as vultures and herons, can be electrocuted when they expel large streams of excrement, called streamers that span from an energized conductor to another transmission line structure (APLIC 2006).

The risk of electrocution to raptors and other birds that perch and nest on transmission structures can be reduced, but not eliminated, by incorporating avian-safe design measures (increased separation between energized and/or grounded structures, conductors, hardware, etc.) and avian protection devices (perch

diverters, etc.). Similarly, line strikes may be reduced, but not eliminated, by installation of line markers to enhance the visibility of the transmission lines to avian species. However, proximity to transmission lines is a major risk factor for birds and the key recommendation for minimizing risk of collision mortality of flying birds or electrocution from birds landing on wires or tower is to avoid siting new transmission lines on or near to important bird flight paths (APLIC and USFWS 2005; APLIC 2006).

In 2010, the NPS conducted an evaluation of the potential impacts of placing FPL transmission lines in Everglades National Park. The report identified nine risk factors at Everglades National Park for avian injury and mortality resulting from contact with transmission lines:

1. Abundance and diversity of species that produce streamers
2. Transmission line crosses major wetland system
3. Transmission line crosses foraging, roosting, or nesting sites
4. Transmission line crosses migratory route
5. Abundance and diversity of roosting and/or breeding/nesting birds
6. Abundance and diversity of juvenile avian species
7. Abundance and diversity of nocturnal and crepuscular species
8. Abundance and diversity of birds with morphology susceptible to transmission line collisions (i.e., high wing loading ratio, such as wading birds and waterfowl)
9. Presence of federally and state-listed threatened and endangered avian species and special-status species.

An ARA was conducted as part of this EIS to attempt to estimate the relative risk to avian species from each of the alternatives (Exponent 2013, amended 2015). This ARA was completed at the time of the draft EIS and does not include analysis for the West Consensus Corridor route, which was developed after the draft EIS had been released. The Relative Risk Model and method as described by Landis and Wiegers (2004) was used to perform the assessment. The Relative Risk Model methodology integrated the following information:

- Proximity of each transmission corridor (a hypothetical corridor was chosen in the area of possible relocated corridor evaluated in the draft EIS for comparison purposes) to a particular species and/or group of birds.
- Linkage of bird species with particular habitat types and/or known locations of concentration areas (foraging, resting, breeding areas etc.) in order to identify preferred habitats.
- Estimation of preferred avian habitats potentially impacted by each of the three corridors under consideration.

The analysis relied upon a variety of existing avian survey data from both the scientific literature as well as data provided by the NPS. Because proximity to transmission lines and towers is a known risk factor for birds (APLIC and USFWS 2005; APLIC 2006), the approach to quantify relative risk among the three corridors was to focus on the spatial juxtaposition of avian resources relative to the location of each corridor. As such, a transmission corridor that is closest to a particular avian resource, such as a multispecies colony, an individual nest of a critical species, or an important foraging habitat, was construed as posing a greater risk of collision or electrocution than a corridor that is further from a resource (APLIC and USFWS 2005; APLIC 2006). For all three corridors, quantified risks were

associated with the entire corridor of each lines, which included the corridor sections that were unique to each line ***plus*** the sections referred to as "Common to All" (figure 48).

In the ARA (Exponent 2013, amended 2015), the relative risk of three potential transmission lines to 47 species from 23 different avian families was compared. The transmission lines are in the vicinity of the park and Biscayne National Park and are located in the FPL West Secondary and FPL West Preferred Corridors and a hypothetical route in an area of possible relocated corridor east of the park. Some focal species had multi-year survey data available, which included locations and number of birds either nesting or foraging (snail kite, wood stork, multiple waterbird species). For these species, relative risk was determined based on the available GIS data, comparing the distance and number of birds associated with each location to the three potential corridors. A habitat-based risk assessment was also conducted based on the GIS data, such that average distances from preferred foraging habitats, as identified by the GIS data, to each potential transmission corridor, was calculated. Risks to wood stork and Everglade snail kite were examined separately and the results of the assessment are presented in the "Special-status Species" section and in appendix J.

The data-based relative risk assessment looked found that for all 16 species included in this portion of the ARA, a hypothetical corridor in the area of possible relocated corridor (Route A corridor in the ARA) presented the least risk to birds, and the FPL West Secondary Corridor posed the most risk. However, for brown pelican, double crested cormorant, and reddish egret, there were no differences in relative risk between the three corridors, because only one data point was available for each. Therefore, the data-based relative risk assessments were not reliable for these three species. The relative risk of the West Consensus Corridor would be intermediate between the risks attributed to the FPL West Preferred Corridor, which it parallels east of the canal to about one mile south of the Tamiami Trail, and Route A, which it generally follows east of the park as the corridor approaches the Levee substation. For most species, the West Consensus Corridor would present a moderate risk to birds, and specific risks to wood stork and Everglade snail kite are addressed in the "Special-status Species" section.

The data-based relative risk assessment results were based on past survey data that included both locations and number of birds present at each location. This data set was limited, however, to the park and Biscayne National Park areas—very few studies included data outside the park boundary, although potential habitat does exist in those places. To address this lack of data outside the park boundary, the historical survey data set was linked in GIS to land use / landcover data. Each location was counted, to determine in which preferred habitats each species was found most often. The results based on preferred habitats were similar to those discussed above, such that for all focal species, the hypothetical corridor (Route A) within the area of possible relocated corridor posed the least risk to birds, while the FPL West Secondary Corridor posed the most risk. The exception was the reddish egret, for which the limited data suggested that the FPL West Secondary Corridor posed the least risk, and the hypothetical corridor posed the most risk. The West Consensus Corridor would be expected to have risks intermediate between the risks of Route A and the FPL West Preferred Corridor, with increased risks for the reddish egret because of its nesting location southeast of the park.

The remaining 31 focal species used in the ARA did not have specific data sets available for analysis, so a habitat-based approach to relative risk was used. This analysis considered all potential habitats within the 30-mile radius of the transmission corridors. The average distance of preferred habitats to each of the transmission corridors was calculated in GIS. For 25 of the 31 focal species, the habitat-based assessment indicated that the hypothetical corridor in the area of possible relocated corridor posed the least risk, and the FPL West Secondary Corridor posed the most risk. For the remaining 6 birds (bobolink, eastern meadowlark, loggerhead shrike, barn owl, crested caracara, and northern harrier), the opposite was true: the FPL West Secondary Corridor posed the least risk, the FPL West Preferred Corridor posed intermediate risk, while the hypothetical corridor posed the most risk, based on potential habitat analysis.

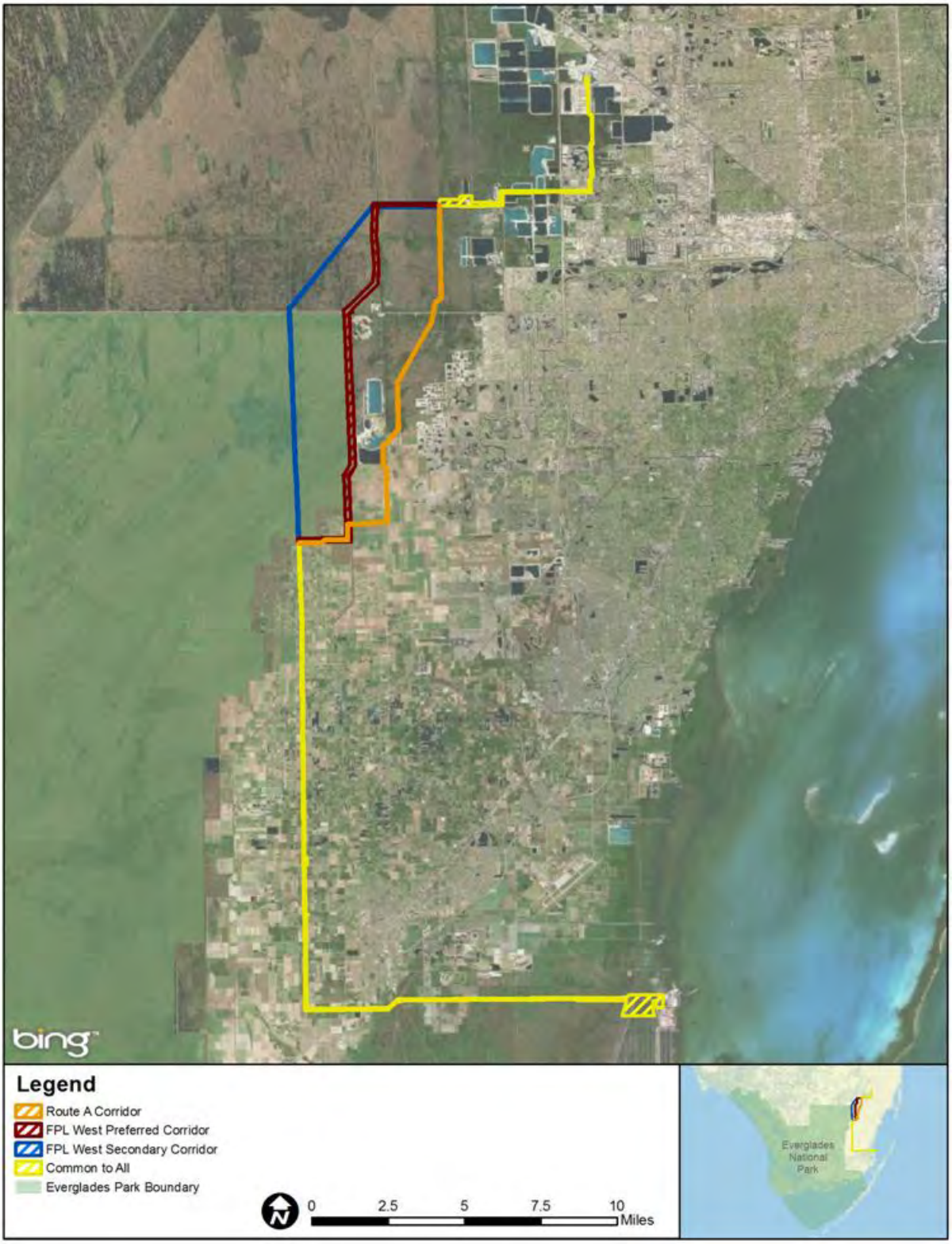


FIGURE 48: CORRIDORS EXAMINED IN THE AVIAN RISK ASSESSMENT

Species that use wetlands and associated water-based habitats are more likely to be found closer to the FPL West Secondary Corridor, and therefore experience higher risk as a result. In contrast, birds that use upland habitats to a greater extent would be at higher risk due to the proximity of the hypothetical corridor to those types of habitats. In all instances, the FPL West Preferred Corridor posed the intermediate in risk to all species. The West Consensus Corridor would be expected to have risks intermediate between the risks of Route A in the area of possible relocated corridor and the FPL West Preferred Corridor.

Avian electrocutions and strikes on transmission lines and guy wires are considered long-term adverse impacts. The magnitude of the impact would vary from minor to moderate (for non-special-status species) depending on the species and the avian protection measures employed during design of the lines.

Mammals

Construction noise and traffic may impact mammal behavior. Impacts on behavior would likely be greatest during breeding and birthing seasons. There would be short-term minor to moderate adverse impacts depending on when construction takes place. Large mammals, such as white-tailed deer, are expected to move out of the area of construction due to the noise and traffic, and re-enter the area after construction is completed. This temporary displacement would have a short term minor to moderate adverse impact. Small mammals may be less likely to disperse from the construction area during periods of torpor or hibernation when their physiological processes are slowed down due to colder temperatures. If there is construction during these periods, small mammals may be injured or killed. This is considered a short-term moderate adverse impact. The permanent loss of habitat associated with construction of the transmission lines would result in long-term moderate adverse impact on mammals.

Cumulative Impacts – Alternative 1b

The cumulative impacts on wildlife from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 1b would contribute short- and long-term moderate to major adverse impacts from lack of a flowage easement and from construction of the transmission line without a flowage easement in the FPL corridor; these impacts would contribute appreciable adverse impacts to the overall cumulative effects on wildlife in this area.

Conclusion – Alternative 1b

Under alternative 1b, the lack of a flowage easement is expected to have moderate to major adverse impacts on wildlife since the inability to increase water levels across the FPL property is expected to hinder habitat restoration efforts. Short- to long-term minor to moderate adverse impacts would be expected on wildlife (fish and other aquatic species, amphibians and reptiles, birds, and mammals) from construction and operation of transmission lines and associated access roads within the FPL West Secondary Corridor. Short-term impacts would typically be related to construction or maintenance activities and would generally be minor adverse. Long-term moderate adverse impacts would be from permanent habitat loss due to transmission line structure pads and access roads. Avian collisions with transmission lines, guy wires, and structures as well as electrocution would be additional sources of long-term moderate adverse impacts. Certain groups of birds are more susceptible to collision and electrocution due to their behavior or morphology and may be impacted more from the construction and operation of the transmission lines than other groups of birds. Alternative 1b would contribute appreciable adverse impacts to the overall cumulative effects on wildlife in this area.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

Under alternative 2, land acquisition would remove a large area of non-NPS ownership of land in the interior of the park, ensuring that no other development would be proposed in this area and that the various Everglades ecosystem restoration projects could occur without any obstacles relating to the presence of this parcel. This would result in indirect long-term benefits to wildlife. The connectivity of the EEEA wetlands would be ensured and a potential source of nonnative vegetation not under NPS control would be removed. Placing ownership of this area solely with the NPS would enhance the ability to provide more natural water flows to the park, which in turn would enhance the conservation of the resources and values of the park, including wildlife, a long-term beneficial impact. The park would realize a net gain of 320 acres of land within the park boundary, which would result in a long-term beneficial direct impact on wildlife.

Impacts of Transmission Line Construction

Under alternative 2, FPL would build two 500-kV lines and one 230-kV line to the east of the park in the West Consensus Corridor. Similar to alternative 1b, there would be minor to moderate adverse impacts on wildlife, depending on the species and duration; however, impacts on wetland habitats are expected to be less in the West Consensus Corridor; therefore, impacts on species that use these habitats would be less if construction took place outside the EEEA. In general, there are fewer wetland areas in the West Consensus Corridor than in the EEEA and the wetlands are of lower quality due to hydrologic alteration and the presence of nonnative species. Impacts on wading birds are expected to be less than under alternative 1b due the increased distance of the lines from known colonies (Exponent 2013, amended 2015). The West Consensus Corridor alignment turns east about one mile south of the Tamiami Trail, and this change in direction avoids proximity to many of the wading bird nesting locations just to the west of the FPL West Preferred Corridor and along the FPL West Secondary Corridor further west and north. Impacts on wildlife within the park would be lessened under this alternative, but species that also utilize habitat outside the park may still experience impacts. There would be some risk for those birds that prefer croplands, pasturelands, and drier upland habitats in the southern portion of the corridor along the eastern edge of the canal, and risk similar to the FPL West Preferred Corridor where it crossed wetlands near the canal as it heads north toward the Tamiami Trail. However, the West Consensus Corridor would remain east of the park and within wetlands that are near mining operations and associated noise and disturbance, which would decrease its attractiveness to birds.

Cumulative Impacts

The cumulative impacts on wildlife from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 2 would allow flowage/implementation of the restoration projects and benefit wildlife, but would also result in short and long term minor to moderate adverse impacts from construction of the transmission line in areas outside the park; these impacts would contribute appreciable beneficial and noticeable adverse impacts to the overall cumulative effects on wildlife in this area.

Conclusion

Under alternative 2, there would be benefits of the acquisition of the FPL-owned land within the park boundary due to removal of a large area of non-NPS ownership of land in the interior of the park. This would ensure that no other development would be proposed in this area and that the various Everglades ecosystem restoration projects could occur without any obstacles relating to the presence of this parcel,

which would be a benefit to wildlife. Adverse impacts would result from the construction of the transmission lines in the West Consensus Corridor along the L-31 canal and east of the park and would range from short to long-term minor to moderate adverse impacts on wildlife. Impacts on species dependent on wetland habitats and impacts on wading birds are expected to be less in the West Consensus Corridor compared to construction within the park because of the reduced quality of the wetlands compared to those within the park and the avoidance of nesting locations in the park, but species that utilize habitat outside the park would be adversely affected. Alternative 2 contribute appreciable beneficial and noticeable adverse impacts to the overall cumulative effects on wildlife in this area.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Long-term indirect beneficial impacts would accrue from alternative 3 similar to alternative 2. As a result of the exchange, the park would realize a net gain of 60 acres of higher value wetlands. The exchange corridor given to FPL would be 260 acres of mostly wetlands located at the edge of the park, close to developed areas, with high coverage of nonnative plants, which thereby reduces its value as wildlife habitat. The FPL corridor gained by the park would be 320 acres that is further from developed areas and has fewer nonnative species.

Although the park would realize a net gain of 60 acres from the exchange, alternative 3 would result in the loss of 260 acres of habitat in exchange corridor. The loss of park habitat (260 acres) and the loss of ability to maintain the habitat in the exchange corridor per NPS standards is considered a long-term major adverse impact on wildlife.

Impacts of the Transmission Line Construction

Impacts on wildlife under alternative 3 with construction of the transmission lines along the FPL West Preferred Corridor would generally be similar to those described for alternative 1b, but impacts would be lessened due to implementation of the terms and conditions of the land exchange (appendix G). Impacts on wading bird species are also expected to be less than alternative 1b because of the increased distance from the transmission lines to known nesting colonies. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in that area. NPS will no longer own or control the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange would minimize impacts on wildlife to the maximum extent practicable.

Impacts on wildlife from vegetation management in the nonnative vegetation management easement would occur due to access and vegetation management activities. Impacts would include disturbance from equipment and access by foot. Intensity would depend on frequency of treatment, area treated, and type of equipment and chemicals used for vegetation management activities.

Impacts on wildlife species would likely be reduced, especially for avian and bat species, due to requirements imposed by the terms and conditions of the land exchange (appendix G). Terms and conditions applicable to wildlife include:

- The FPL Fee Property will be subject to a perpetual flowage easement. FPL will allow the perpetual right, power, privilege and easement in, upon, over, and across the property for the purposes of overflowing, flooding, and submerging said property lying at a level consistent with hydrologic restoration requirements.

- Requirement to allow future use of the FPL Fee Property in furtherance of ecosystem restoration and/or environmental projects that would not interfere with FPL's proposed use of the property for utility-related facilities.
- Requirement for a construction work plan. The initial construction work plan shall address management of the FPL Fee Property and specifically efforts by FPL to avoid and minimize impacts on park resources to the maximum extent practicable. The construction work plan shall address topics such as control of nonnative and exotic species, fire management, provisions allowing ecosystem restoration activities to go forward, natural resource monitoring, impacts on visitor use and recreational opportunities on adjacent park property, access control, and visitor and resource protection activities.
- Requirement for plans to avoid or minimize impacts on wetlands; manage pollution, contaminants, hazardous materials; control erosion and sedimentation; and control exotic and invasive species.
- Requirement for an avoidance, minimization, and mitigation plan for impacts on special-status species.
- Requirement for avian protection:
    1. All utility-related infrastructure shall be constructed, operated, and maintained utilizing state-of-the-art practices to eliminate or reduce injury/mortality of avian species to the maximum extent practicable. These practices shall include mitigation measures that follow appropriate guidelines, including but not limited to Avian Power Line Interaction Committee guidelines, both during and after construction, including operations and maintenance activities. In locations where NPS determines, in consultation with FPL, that maximizing the level of protection of avian species is warranted, guy wires will not be used to the maximum extent practicable. Transmission structure spacing and sizing will be varied to lower certain structures or stagger the normal span distances in areas in proximity of wading bird colonies to minimize possible interactions. Other design alternatives may also be available in certain locales. Measures for eliminating or reducing injury/mortality of avian species would all be evaluated in consultation with appropriate agency personnel prior to implementation.
    2. Prior to commencing any construction, FPL shall develop a detailed pre- and post-construction avian and bat protection plan with concurrence of NPS and input from other appropriate federal and state agencies. The plan shall reflect the requirements for avian protection required by appropriate regulatory authorities. The plan will include pre- and post-construction monitoring to address avian and bat flight presence, flight level, position, and frequency in flight in relation to the transmission line configurations. The plan will focus on federal- and state-listed species in the vicinity of the proposed transmission route and assess impacts of transmission infrastructure on their populations. The pre-construction study will be conducted during an appropriate time period agreed upon by NPS and other appropriate federal and state agencies prior to initiating construction to address data variations related to inter-annual variation in the location and quality of habitat and food resources, and climatic variability. The study will be conducted throughout the year to address seasonal migratory species and flight patterns. The plan will be reviewed and updated on an annual basis.

The implementation of the terms and conditions represent an attempt at minimization of the overall impacts on wildlife by requiring FPL to avoid, minimize, and mitigate impacts on park resources during the construction and operation of the transmission lines within the FPL West Preferred Corridor.

Cumulative Impacts

The cumulative impacts on wildlife from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Although, alternative 3 would allow flowage/implementation of the ecosystem restoration projects and benefit wildlife, the land exchange and construction of the transmission line in the exchange corridor would result in short- and long-term minor to moderate adverse impacts. These impacts would contribute noticeable adverse and appreciable beneficial impacts to the overall cumulative effects on wildlife in this area.

Conclusion

Under alternative 3, there would be long-term benefits to wildlife because the exchange would remove a large area of non-NPS ownership of land in the interior of the park, ensuring that no other development would be proposed in the FPL corridor and that the various Everglades ecosystem restoration projects could be implemented without any obstacles relating to the presence of this parcel. However, there would be a long-term major adverse effect of removing 260 acres of habitat from the park. Impacts on wildlife from transmission line construction under alternative 3 would be similar to those described for alternative 1b. However, impacts on wildlife would be reduced by moving the construction of the transmission lines from the relatively unimpacted contiguous wetlands in the interior of the park (FPL West Secondary Corridor), to the edge of the park (FPL West Preferred Corridor). The FPL West Preferred Corridor is generally less desirable habitat due to its proximity to already disturbed upland and wetland areas outside the park. Impacts on wading bird species are also expected to be less than alternative 1b because of the increased distance from the transmission lines to known nesting colonies. NPS acquisition of the FPL West Secondary Corridor would allow for application of NPS policies and procedures in this area. NPS would no longer control the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange would minimize impacts on wildlife to the maximum extent practicable. Alternative 3 would contribute noticeable adverse and appreciable beneficial impacts to the overall cumulative effects on wildlife in this area.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 4, the NPS would acquire fee title to the FPL property (FPL West Secondary Corridor) through an exchange for an easement on NPS property (exchange corridor). The indirect impacts on wildlife would be long term beneficial as described under alternative 3, but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance or removal of habitat. Unlike alternative 3, alternative 4 would not have a major adverse impact due to loss of habitat because there is no loss of park acreage. Terms and conditions are found in appendices G and H.

Impacts of Transmission Line Construction

While FPL would not own the property, impacts on wildlife would be the same as described under alternative 3. There are no substantial differences in the terms and conditions for species protection under this alternative and no expected differences in how wildlife would be treated under an easement as opposed to under fee ownership, given the mitigation that FPL included in its SCA and expected conditions in the required resource stewardship plan.

Cumulative Impacts

The cumulative impacts on wildlife from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 3. Alternative 4 would allow flowage/implementation of the ecosystem restoration projects and benefit wildlife, but the land exchange and construction of the transmission line in the exchange corridor would result in short and long term minor to moderate adverse impacts; these impacts would contribute a noticeable adverse and appreciable beneficial impacts to the overall cumulative effects on wildlife in this area.

Conclusion

Under alternative 4, there would be benefits to wildlife as described under alternative 3, but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance or removal of wildlife habitat. Overall impacts on wildlife would be short- to long-term, minor to moderate adverse, and impacts on wildlife species may be reduced, especially for avian and bat species, due to requirements imposed by the terms and conditions of the land exchange. Alternative 4 would contribute noticeable adverse and appreciable beneficial impacts to the overall cumulative effects on wildlife in this area.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

There would be minor to moderate direct adverse effects from the continued inability to manage the corridor as NPS lands (i.e., FPL ownership of the parcel would hinder habitat restoration and wildlife management efforts within the park), thereby negatively impacting wildlife. However, alternative 5 would have a flowage easement on the FPL parcel in the EEEA, resulting in indirect long-term benefits to wildlife. With this flowage easement, there would be no impediments to ecosystem restoration projects from future use of this parcel, which would benefit park resources, including wildlife, by allowing for habitat restoration.

Impacts of Transmission Line Construction

Impacts of transmission line construction on wildlife under alternative 5 would be very similar to those described under alternative 1b, except NPS would acquire a perpetual flowage easement over the FPL property within the park (FPL West Secondary Corridor). This could result in some differences in construction and impacts, but it is not known at this time what the differences would be, since design is at a very preliminary stage.

Cumulative Impacts

The cumulative impacts on wildlife from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 5 would provide beneficial impacts because flowage easement would allow the ecosystem restoration projects to proceed. However, minor to long-term moderate adverse impacts would result from transmission line construction in the park with no gain of park protected habitat. These impacts would contribute both appreciable adverse and appreciable beneficial impacts to the overall cumulative effects on wildlife in this area; the benefits would not be as extensive as those under the alternatives that result in the acquisition of the FPL corridor in the park.

Conclusion

Under alternative 5, impacts would be similar to those described under alternative 1b, but there would be long-term benefits from having a flowage easement that would allow ecosystem restoration projects that benefit park resources to proceed over time. However, there would be long-term minor to moderate adverse effects from the continued inability to manage the corridor as NPS lands. Short and long-term minor to moderate adverse impacts would result from the construction of the transmission lines in the FPL West Secondary Corridor. Alternative 5 would contribute both appreciable adverse and appreciable beneficial impacts to the overall cumulative effects on wildlife in this area; the benefits would not be as extensive as those under the alternatives that result in the acquisition of the FPL corridor in the park.

SPECIAL-STATUS SPECIES

GUIDING REGULATIONS AND POLICIES

The primary regulation governing this topic is the Endangered Species Act (ESA), 16 USC 1531-1543. The purpose of the ESA is to conserve "the ecosystem upon which endangered and threatened species depend" and to conserve and recover listed species. The ESA is a comprehensive conservation law administered by the USFWS and National Oceanic and Atmospheric Administration National Marine Fisheries Service. This act mandates that all federal agencies protect listed species and preserve their habitats.

The state of Florida also has regulations for the protection of threatened and endangered species. The Florida Endangered and Threatened Species Act (Title 28, Florida Statutes, Natural Resources Conservation, Reclamation, and Use, Chapter 372, Wildlife, Section 372.072) is the primary regulation in the state, and sets the policy to conserve and wisely manage these resources, as well as provide for research and management to conserve and protect these species as a natural resource. This act also emphasizes coordination with state agencies, and outlines annual reporting requirements as well the development of specific biological goals for manatees.

The Endangered Species Protection Act (Florida Statutes Section 372.0725) prohibits the intentional wounding or killing of any fish or wildlife species designated by the Florida Fish and Wildlife Conservation Commission (FFWCC) as "endangered," "threatened," or of "special concern." This prohibition also extends to the intentional destruction of the nests or eggs of any such species.

The protection of endangered, threatened, or "commercially exploited" plants is addressed in the Preservation of Native Flora of Florida Act (Florida Statutes Section 581.185). Commercially exploited plants are defined as species native to the state which are subject to being removed in substantial numbers from native habitats in the state and sold or transported for sale. This act sets the policy for the state of Florida relating to these species, and includes several prohibitions covering the "willful destroying or harvesting" of such plants. It also contains an exemption for agricultural and silviculture uses.

NPS *Management Policies 2006* (NPS 2006a, Section 4.4.2.3) provides specific guidance for management of threatened or endangered plants and animals. These policies dictate that the NPS would survey for, protect, and strive to recover all species native to national park system units that are listed under the ESA. The NPS would fully meet its obligations under the NPS Organic Act and the ESA to both proactively conserve listed species and prevent detrimental effects on these species. This section also states that the NPS would inventory, monitor, and manage state and locally listed species in a manner similar to its treatment of federally listed species to the greatest extent possible. In addition, the NPS would inventory other native species that are of special management concern to parks (such as rare,

declining, sensitive, or unique species and their habitats) and would manage them to maintain their natural distribution and abundance.

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

The USFWS and National Oceanic and Atmospheric Administration National Marine Fisheries Service guidance for implementing Section 7 consultation under the ESA uses the following terminology to assess impacts on federally listed species (USFWS and NMFS 1998):

> **No Effect**: This conclusion is reached if the proposed action and its interrelated and interdependent actions will not directly or indirectly affect listed species or destroy/adversely modify designated critical habitat. Formal Section 7 consultation is not required when the no effect conclusion is reached.
>
> **May Affect, but is not likely to adversely affect**: This conclusion is appropriate when effects to the species or critical habitat are expected to be beneficial, discountable, or insignificant. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact (and should never reach the scale where take occurs), while discountable effects are those that are extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur. If the project scientist making the determination and the project manager agree that the project "is not likely to adversely affect" listed species or critical habitat, the intra-Service Section 7 consultation process is completed.
>
> **May Affect, and is likely to adversely affect**: This conclusion is reached if any adverse effect to listed species or critical habitat may occur as a direct or indirect result of the proposed Service action or its interrelated or interdependent actions, and the effect is not discountable or insignificant (see definition of "is not likely to adversely affect"). In the event the overall effect of the proposed action is beneficial to the listed species or critical habitat, but may also cause some adverse effect on individuals of the listed species or segments of the critical habitat, then the determination should be "is likely to adversely affect." Such a determination requires formal Section 7 consultation.

Based on these impact levels, the following definitions were used to determine the magnitude of adverse impacts on special-status species:

- **Negligible***:* There would be no observable or measurable impacts on special-status species, their habitats, or the natural processes sustaining them in the proposed project area. This impact intensity would equate to a determination of "no effect" under Section 7 of the ESA.
- **Minor***:* Individuals may temporarily avoid areas. Impacts would not affect critical periods (e.g., breeding, nesting, denning, feeding, resting) or habitat. This impact intensity would equate to a determination of "may affect, not likely to adversely affect" under Section 7 of the ESA. Critical habitat may be affected, but the essential physical and biological features of the critical habitat would not be affected.
- **Moderate***:* Individuals may be impacted by disturbances that interfere with critical periods (e.g., breeding, nesting, denning, feeding, resting) or habitat; and the level of impact may result in physical injury or mortality of individuals, but would not be expected to affect the population's likelihood of persistence, or lead to extirpation or declines. This impact intensity would equate to

a determination of "may affect, likely to adversely affect" under Section 7 of the ESA. Critical habitat may be affected and the essential physical and biological features of the critical habitat could be minimally affected.

- **Major***:* Individuals may suffer physical injury or mortality such that populations may decline, perhaps even substantially, or be extirpated from the park. Critical habitat and the essential physical and biological features may be affected. This impact intensity would equate to a determination of "may affect, likely to adversely affect" under Section 7 of the ESA.

ANALYSIS AREA

The area of analysis for special-status species is the same as for wildlife (except for selected avian species): it includes the general project area. This includes the NESRS within the EEEA, the 8.5-square-mile area east of the park, WCA 3B and the Pennsuco wetlands north of the park, and extending to the urban development boundary to the east of the park (see "Figure 4: General Project Area," in chapter 1). The analysis is focused on areas of disturbance along the possible transmission line corridors plus adjacent areas that are likely to experience adverse effects from noise of equipment and construction crews. For avian species, the area of analysis extends to the foraging areas for wading birds in surrounding areas, including to the coast to the southeast and to the Pennsuco wetlands to the northeast and the FPL corridor extending from Clear Sky to Pennsuco substations. For special-status plant species, the area of analysis is limited to the construction disturbance area and long-term transmission line corridor along any of the corridor options in or outside of the parks and associated new access (if any).

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, there would be no legal changes to the property's status or ownership and FPL would not grant NPS a flowage easement. Therefore, there would be no physical change to the land, so there would be no direct impacts on special-status species. Alternative 1a would result in continued long-term negligible to major indirect adverse impacts on special-status species, depending on the species being impacted and its level of wetland dependence, due to continued habitat degradation from altered hydrology. However, because there is no federal action associated with this alternative (the no-action alternative), Everglades National Park would not consult with USFWS under Section 7 of the ESA on this alternative. Accordingly, the NPS does not make Section 7 determinations for this alternative, but the impacts on each of the species are described relative to the impact definitions to allow comparison with other alternatives. FPL ownership of the parcel and the lack of a flowage easement, or sufficient interests in these properties, to flow additional water across the FPL West Secondary Corridor are expected to hinder habitat restoration and wildlife management efforts within the park, thereby negatively impacting special-status species. Impacts on special-status species from the lack of a flowage easement, or sufficient interests in these properties, to flow additional water across the FPL West Secondary Corridor are discussed in detail below.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed. Therefore, there would be no construction-related impacts on special-status species.

Federally Listed Species

Six federally listed wildlife species potentially occur in the area of analysis: West Indian manatee, Florida Panther, Florida bonneted bat, wood stork, Everglade snail kite, and eastern indigo snake. Four federally listed plant species may occur in the area of analysis for the project, but surveys have not been carried to determine if they are present or not. For the purposes of this document, these species are considered to be potentially present.

West Indian Manatee—The West Indian Manatee may occasionally be found in the SFWMD canals crossed by the FPL West Secondary Corridor. FPL's continued ownership of land within the EEEA and the lack of a perpetual flowage easement or sufficient interest or sufficient rights, on FPL's property in the EEEA to implement higher water levels needed for ecosystem restoration projects, is expected to have little impact on water levels within the canals in the project area where manatee are found and no effect on the manatee.

Florida Panther—The Florida panther is known from the area of analysis, and the FPL West Secondary Corridor is within the Primary Zone of the Panther Focus Area. Prey species of the Florida panther that are more tolerant of continued drier conditions may become more abundant, while species that are more wetland-dependent become less abundant. Alternative 1a is expected to have long-term negligible adverse impacts on the Florida panther due to possible changes in prey species abundance and diversity in the EEEA.

Florida Bonneted Bat—There is a moderate probability of Florida bonneted bat roosting in the park in the vicinity of the FPL West Secondary Corridor on tree islands and in other areas with trees. The lack of flowage rights is not expected to reduce the acreage of tree cover within the area of analysis, but there may be increase in tree cover or a change in tree community composition due to continued drier conditions in the EEEA. Long-term negligible adverse impacts may occur to the Florida bonneted bat due to FPL's continued ownership of land within the EEEA and the lack of a perpetual flowage easement or sufficient interest or sufficient rights, on FPL's property in the EEEA to implement higher water levels for ecosystem restoration projects.

Wood Stork—Four wood stork colonies are known from within 5 miles of the corridors in the vicinity of Tamiami Trail. The corridors are within the Core Foraging Area of these four colonies and other colonies. Table 26 presents the distance from the colonies to the corridors and the range of the number of nests present in the colonies over the last 5 years (South Florida Natural Resources Center at Everglades National Park 2011; NPS 2010b; Frederick, Simon, and Borkhataria 2009; USACE 2009, 2010; USACE and USGS 2010; USGS 2011).

Alternative 1a is expected to have a long-term major adverse impact on wood stork due to degradation and loss of foraging habitat. Without the supplemented water levels, the EEEA will continue to be subjected to dry periods which will result in soil loss and continuing poor quality wood stork foraging habitat during dry periods and reduced fledging success. These impacts could cause a population level decline in wood storks within the park.

TABLE 26: WOOD STORK COLONIES WITHIN FIVE MILES OF THE CORRIDORS (MILES ARE DISTANCE FROM COLONIES TO THE CLOSEST LOCATION ON THE CORRIDOR BOUNDARY)

Wood Stork Colonies	FPL West Preferred Corridor (miles)	FPL West Secondary Corridor (miles)	Hypothetical Corridor (miles)	West Consensus Corridor	Number of Nests Present in the last 5 Years
Tamiami East 1	0.51	1.25	2.91	0.80	10–15[a]
Tamiami East 2	1.53	0.25	3.87	1.72	20–30[a]
Tamiami West (Coopertown)	2.81	0.96	4.94	2.90	50–1,300[b]
3B Mud East	0.30	0.21	2.49	2.20	7[c]

[a]No nests observed in 2007, 2008, and 2011.

[b]No nests observed in 2008.

[c]No nests observed in 2007, 2008, 2010, and 2011.

Everglade Snail Kite—The Everglade snail kite is known to nest in the eastern portion of the park near the FPL West Preferred Corridor and likely forages on apple snails in wetlands in the FPL West Secondary Corridor and throughout the EEEA. A continuation of limited and poor quality foraging habitat due to continuing dry conditions is expected to result in continuing poor reproductive success. Alternative 1a would have long-term major adverse impacts on the Everglade snail kite from continued poor reproductive success, including potential population declines within the park.

Eastern Indigo Snake—The eastern indigo snake may occasionally occur in tree inlands and other upland areas within and adjacent to the FPL West Secondary Corridor. The eastern indigo snake may also forage within wetland areas within and adjacent to the FPL West Secondary Corridor. Alternative 1a is expected to have negligible adverse impacts on eastern indigo snakes. Because eastern indigo snakes use a wide variety of habitats and consume a wide variety of prey, the eastern indigo snake is expected to adapt to the continuing dry condition of the EEEA.

Blodgett's Silverbush, Garber's Spurge, Sand Flax, and Tiny Polygala—These species do not occur within the FPL West Secondary Corridor due to lack of habitat. No effects on these species from FPL's continued ownership of land within the EEEA and the lack of a perpetual flowage easement or sufficient interest or sufficient rights, on FPL's property in the EEEA to implement higher water levels are expected since these species are not known to occur in this portion of the EEEA.

State-listed Species

Everglades Mink—The Everglades mink is likely to forage in wetland areas within and adjacent to the FPL West Secondary Corridor. FPL's continued ownership of land within the EEEA and the lack of a perpetual flowage easement or sufficient interest or sufficient rights, on FPL's property in the EEEA to implement higher water levels, is expected to have a long-term moderate adverse impact on Everglades mink due to continued degradation and loss of foraging habitat. Without the supplemented water levels, the EEEA will continue to be drier than its historical norm and fewer areas will support the prey species needed to sustain the Everglades mink. Alternative 1a would have long-term moderate adverse impacts on the Everglades mink due to continued degradation and loss of foraging habitat.

Florida Sandhill Crane—The Florida sandhill may occasionally forage within the FPL West Secondary Corridor, but does not nest in the EEEA. Since the Florida sandhill crane is known to forage within both

wetland and upland habitats, alternative 1a is expected to have no impact on the Florida sandhill crane since the species is known to use both wetland and upland areas.

White-crowned Pigeon—The white-crowned pigeon may forage on the fruit of poisonwood trees (*Metopium toxiferum*) in the FPL West Secondary Corridor and in the rest of the EEEA, but it is not known to nest in the EEEA. Impacts on white-crowned pigeons from alternative 1a, FPL's continued ownership of land within the EEEA and the lack of a perpetual flowage easement or sufficient interest or sufficient rights, on FPL's property in the EEEA to implement higher water levels, are expected to be negligible adverse since poisonwood trees are found in both wetland and upland areas.

Limpkin, Little Blue Heron, Snowy Egret, Tricolored Heron, and Roseate Spoonbill—These wading birds are likely to forage in wetland areas within the park in the vicinity of the FPL West Secondary Corridor. Mixed rookeries of wading birds also occur in the vicinity of the FPL West Secondary Corridor. FPL's continued ownership of land within the EEEA and the lack of a perpetual flowage easement or sufficient interest or sufficient rights, on FPL's property in the EEEA to implement higher water levels, is expected to have a long-term major adverse impact on these species due to continued degradation and loss of foraging habitat. Without the supplemented water levels, the EEEA will continue to be dry and fewer areas will support the forage fish needed to sustain these colonies during drier periods of the year. Alternative 1a is expected to have long-term moderate adverse impacts on wading birds from degradation and loss of foraging habitat. These impacts are not expected to result in population level changes for the species or in species being extirpated from the park.

Florida Burrowing Owl and Gopher Tortoise—Due to their preference for dry sandy habitats such as longleaf pine xeric oak sandhills, the Florida burrowing owl, and gopher tortoise are not likely to occur in the FPL West Secondary Corridor or to be adversely impacted from drier conditions in the EEEA; therefore, alternative 1a is expected to have no effect on the Florida burrowing owl or gopher tortoise due to their preference for xeric habitats.

Pineland Jacquemontia, Eaton's Spikemoss, Florida Royal Palm, Rockland-Painted Leaf—These species are found within disturbed wetlands and uplands, marl prairie, mesic flatwoods, floodplain forest, rockland hammock, strand swamp, and pine rocklands. These species have not been observed within the FPL West Secondary Corridor and have a low likelihood of occurrence in the FPL West Secondary Corridor. Alternative 1a is expected to have negligible adverse impacts on these plant species due to their low likelihood of occurrence within the FPL West Secondary Corridor and EEEA.

Southern Frog Fruit, Bahama Ladder Brake, Pineland Allamanda, Everglades (or Pinelands) Pencil Flower, Meadow Joint-vetch—These species are known to occur in or near the EEEA, with a few species known from the FPL West Secondary Corridor. Most of these species occupy a range of habitats from wetland to pine rocklands; therefore the impacts of the drying of the EEEA are expected to vary from moderate to major adverse depending on the degree of wetland dependence of the species. Alternative 1a is expected to have long-term moderate to major adverse impacts on these plant species because they are known to occur within the FPL West Secondary Corridor or the EEEA and many are found only within wetland habitat types.

Bahama Saschia and Pineland Noseburn—These species are found in disturbed uplands and pine rocklands. These species are not expected to occur within the FPL West Secondary Corridor. Due to their low likelihood of occurrence and preference for upland habitats, there will be no impact on these species from alternative 1a.

Small's Flax—There is a low likelihood that Small's flax could occur in disturbed uplands and disturbed wetlands, such as margins of canals, within the FPL West Secondary Corridor. Adverse impacts on this species from FPL's continued ownership of land within the EEEA and the lack of a perpetual flowage easement or sufficient interest or sufficient rights, on FPL's property in the EEEA to implement higher water levels are expected to be negligible adverse since this species is known to utilize both upland and wetland habitats.

Cumulative Impacts – Alternative 1a

The past, present, and reasonably foreseeable future actions impacting special-status species include the acquisition of lands in the expansion area under the Expansion Act and all present and future actions aimed at restoring habitat and delivering additional freshwater to the park. These projects would not all be completed as planned due to the inability to flow enough water over the FPL West Secondary Corridor to establish hydrologic restoration goals, a long-term negligible to major adverse impact depending on the species. The overall direction of the GMP to preserve park resources would indirectly benefit special-status species in the park. Other projects in the area of analysis with adverse effects on these species include ongoing urban development, road construction and use (car collisions), road expansion, ongoing mining (minor to major adverse from habitat loss and direct mortality). Other projects and actions in the park would be expected to have mostly beneficial effects on special-status species, including prescribed burns that decrease the risk of extreme wildfires and exotic plant management that improves natural habitat. Conduct of research and surveys to monitor park resources often focuses on special-status species and provides long-term benefits from the knowledge gained, with short-term adverse effects of the monitoring itself (noise and disturbance from use of helicopters and airboats). Alternative 1a would result in moderate to major adverse impacts because of the lack of flowage and would contribute appreciable adverse impacts to the overall cumulative effects on special-status species in this area.

Conclusion – Alternative 1a

Alternative 1a would result in a wide range of impacts on special-status species, as described for the individual species in the above analysis. Impacts on these species that could potentially occur in the area of analysis are summarized for this and other alternatives in tables 27 and 28 at the end of this section. In general, the lack of a flowage easement or sufficient rights to increase water levels over the FPL West Secondary Corridor would have effects on many listed species in the area. Due to the potential degradation and loss of foraging habitat from the lack of hydrologic restoration in the EEEA, alternative 1a would have moderate to major adverse impacts on many avian species, especially wood storks and Everglade snail kites. There would be no impacts related to transmission line construction under this alternative.

The park would continue to coordinate with the USFWS and state resource agencies, to participate in the Turkey Point Power Plant Units 6 and 7 project, and work to mitigate adverse impacts on these species. However, some losses may be unavoidable. Alternative 1a would contribute appreciable adverse impacts to the overall cumulative effects on special-status species in this area.

IMPACTS OF ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

Under alternative 1b, there would be continued long term negligible to major adverse impacts on special-status species, depending on the species being impacted and its degree of wetland dependence, due to continued habitat degradation from altered hydrology as described under alternative 1a.

Impacts of Transmission Line Construction

Adverse impacts would result from the construction of transmission lines within the park, as described earlier in the "Wildlife" section of this chapter. Short- and long-term, negligible to potentially major adverse impacts would occur under alternative 1b and will vary by species. Construction of transmission lines in this corridor would have a high risk to avian species because of the proximity to nesting and foraging locations.

A general discussion of the indirect impacts of construction and maintenance of the transmission lines are presented below, with a discussion of the ARA conducted for this project and a more specific discussion by species presented in the following paragraphs. There is no NPS action under this alternative, so ESA Section 7 consultation rules would not apply to this alternative. However, the effects determinations listed under this alternative represent the effect determinations that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

General Construction-related Impacts

During construction, there would be construction equipment and associated noise in the vicinity of the construction area which may disrupt wildlife behaviors and travel patterns. If helicopters are needed during construction, they would introduce additional noise and disruption. The construction noise and activity may also temporarily drive some species out of the vicinity during the construction period. Impacts would also occur due to ground disturbance and vegetation removal or treatment in work areas outside the access road and pad areas (see the "Vegetation and Wetlands" section) during the construction period; this would result in a temporary loss of nesting, resting, and foraging habitat along the corridor. Impacts on wildlife behavior from construction noise and activity and temporary ground disturbance are anticipated to be short term and adverse. The magnitude of these temporary impacts would range from minor (if they are in non-critical periods) to major (occurring in breeding or nesting season). Less motile species may not be able to move out of the construction area and may be injured or killed during construction activities. Construction of access roads and structure pads would result in permanent loss of habitat for some species (see the "Soils" and "Vegetation and Wetlands" sections for details on acres lost). These activities may also fragment habitat, making more edge habitat. The creation of edge habitat can allow nonnative species to invade an area and further reduce habitat quality. The impacts due to loss or modification of habitat due to construction of the transmission lines and associated access roads would be long term and adverse, and would range from minor to moderate depending on the type of habitat impacted and what species use it.

General Line Maintenance–related Impacts

Line maintenance would be done about once every 2 years and consist of line surveys conducted by helicopter and/or vehicle, using the access road that was constructed. Noise from these activities would cause impacts similar to those from vehicle use and helicopter use during construction, but there would be less equipment used and lower noise levels for ground work, resulting in short-term negligible to minor adverse impacts due to the frequency and limited nature of the vegetation management activities.

Avian Risk Assessment

Impacts on avian species from transmission lines include habitat loss, collision, and electrocution. These impacts are discussed in detail in the "Wildlife" section in this chapter. An ARA was conducted as part of this EIS to attempt to estimate the relative risk to avian species from each of the alternatives (Exponent 2013, amended 2015). This ARA was completed at the time of the draft EIS and does not include analysis for the West Consensus route, since that was developed after the draft EIS had been released. The ARA

Report and the appendix to the report are included as appendix J of this document. The Relative Risk Model and method as described by Landis and Wiegers (2004) was used to perform the assessment. The Relative Risk Model methodology integrated the following information:

1. Proximity of each transmission corridor (a hypothetical corridor was chosen within the area of relocated corridor for comparison purposes in the draft EIS) to a particular species and/or group of birds
2. Linkage of bird species with particular habitat types and/or known locations of concentration areas (foraging, resting, breeding areas etc.) in order to identify preferred habitats
3. Estimation of preferred avian habitats potentially impacted by each of the three corridors under consideration

The analysis relied on a variety of existing avian survey data from both the scientific literature as well as data provided by the NPS. Because proximity to transmission lines and towers is a known risk factor for birds (APLIC and USFWS 2005; APLIC 2006), the approach to quantify relative risk among the three corridors was to focus on the spatial juxtaposition of avian resources relative to the location of each corridor. As such, a transmission corridor that is closest to a particular avian resource, such as a multispecies colony, an individual nest of a critical species, or an important foraging habitat, was construed as posing a greater risk of collision or electrocution than a corridor that is farther from a resource (APLIC and USFWS 2005; APLIC 2006). For all three corridors, quantified risks were associated with the entire corridor of each line within the study area, which included the corridor sections that were unique to each line plus the sections referred to as “Common to All” (figure 48).Two types of relative risk assessments were conducted. The data-based relative risk assessment used actual locations and numbers of birds associated with each location within the 30-mile boundary of the study area. The relative risk was calculated by summing the risks associated with each nesting location, which were assessed based on the inverse of the distance to the nesting location from the corridor squared, multiplied by the number of individuals of the species found in the nesting location (see appendix J). As an example of how relative risk was calculated using these methods, if there was a colony of 100 birds located 1 mile away from a transmission corridor, versus a colony of 1000 birds located 10 miles away from a transmission corridor, the difference in relative risk would be 100 (100 birds × $[1/1^2]$; or 100 × 1) versus 10 (1000 birds × $[1/10^2]$; or 1000 × 0.01). The higher risk would be attributed to the colony of 100 birds located 1 mile away from the transmission corridor.

Because the survey data are biased for within the park boundary, an additional habitat-based relative risk assessment was conducted using the data for preferred habitats that were available in the GIS data sets. However, as mentioned above, these specific multi-year data were available only for snail kites, wood storks, and some waterbirds. For all other species for which GIS data were not available, only a habitat-based relative risk assessment was conducted. For these species, the Florida Breeding Bird Atlas was used to determine which types of habitats are preferred by each species. The average distance of each preferred habitat to each potential transmission corridor was calculated and compared.

The risk assessment findings for special-status avian species are incorporated in the following analysis.

Federally Listed Species

West Indian Manatee—The West Indian Manatee may occasionally be found in the SFWMD canals crossed by the FPL West Secondary Corridor. No in-water work in the canals is anticipated during construction of the transmission lines. Appropriate erosion control measures would be implemented during construction to prevent degradation of adjacent waterbodies. Transmission line construction stormwater discharges released into waters of the state will be addressed through compliance with Rule

62-621.300(4) (Generic Permit for Stormwater from Large and Small Construction Activities). In the event of inadvertent equipment or vehicle fluid release during construction, construction crews will be equipped with spill containment and absorption materials. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

Section 7 Determination of Effect—Alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA, would have no impact on the manatee since no in-water work in the canals is expected, appropriate sedimentation and erosion controls will be implemented during construction, and the lack of a flowage easement is expected to have minimal impacts on canal water levels. This would equate to a “no effect” determination. There is no NPS action under this alternative, so ESA Section 7 consultation rules would not apply to this alternative. However, the effects determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Florida Panther—The Florida panther is known from the area of analysis, and the FPL West Secondary Corridor is within the Primary Zone of the Panther Focus Area. Panthers have been known to occur in the park in the vicinity of the FPL West Secondary Corridor. Construction traffic and noise and line maintenance activities are is likely to cause short-term changes to the travel patterns and hunting behaviors of panthers in this area. These impacts are considered short-term, minor, and adverse. Increases in connectivity between habitat types and areas due to the transmission corridor may have long-term minor adverse impacts on the Florida panther if they encourage movement between more developed areas where panther injury or mortality is more likely to occur. The loss of native wetland foraging habitat due to road and pad fill is considered a long-term moderate adverse impact. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. FPL will work with USFWS/FFWCC to mitigate any potential impacts on Florida panther habitat once a corridor is certified and a specific right-of-way is designed.

Section 7 Determination of Effect—Alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA, would have short- and long-term minor to moderate adverse impacts on Florida panther due to potential short-term behavior changes and long-term changes in prey abundance and diversity and habitat loss. This would equate to a “may affect, likely to adversely affect” determination. There is no NPS action under this alternative, so ESA Section 7 consultation rules would not apply to this alternative. However, the effects determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Florida Bonneted Bat—There is a moderate probability of Florida bonneted bat occurring in the park in the vicinity of the FPL West Secondary Corridor. Right-of-way and access road clearing activities may result in loss of small amounts of roosting habitat (palm and other tree foliage), but there is relatively little amount of wetland forest or tree cover along this corridor; most is sawgrass wetland. If bats are roosting in the areas when clearing takes place, bat injury or mortality may occur. The loss of roosting habitat is considered a long-term moderate adverse impact on Florida bonneted bats. Injury or mortality to Florida bonneted bats from right-of-way or access road clearing would be considered short term, moderate, and adverse. For any species documented within the proposed right-of-way as a result of post-certification

surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

Section 7 Determination of Effect—Alternative 1b, t the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA, would have short- and long-term moderate adverse impacts on the Florida bonneted bat due to the loss of potential roosting trees and the potential for mortality to occur during tree clearing. This would equate to a "may affect, and is likely to adversely affect" determination. There is no NPS action under this alternative, so ESA Section 7 consultation rules would not apply to this alternative. However, the effects determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Wood Stork—Transmission line and access road construction would result in the loss or alteration of foraging habitat for this species when wetlands are filled to create access roads and structure pads and if the hydrology of wetlands adjacent to construction areas is altered. This loss of foraging habitat is considered a long-term moderate adverse impact on the species. Foraging and nesting behavior may also be altered during the construction period due to the construction noise and equipment traffic. These impacts are considered short term, moderate, and adverse. Minor adverse impacts may also result from line maintenance activities. The presence of the two 500-kV and one 230-kV transmission lines present a strike hazard that could result in wood stork injury or mortality. The impact of birds striking the lines is long term, major, and adverse.

Four wood stork colonies are known from within 5 miles of the corridors in the vicinity of Tamiami Trail (see "Figure 13: Wood Stork Colony and Nesting Data" in chapter 3). The corridors are within the Core Foraging Area of these four colonies and other colonies. The number of breeding birds present in the colonies varies from year to year (table 26).

The Tamiami West (Coopertown) wood stork colony is the largest colony within 5 miles of the corridors where they cross the Tamiami Trail. Over the past 5 years, 50 to 1,300 wood storks have been observed within the colony during an active nesting season. The colony is approximately 0.96 mile from the edge of the FPL West Secondary Corridor. Two smaller colonies, Tamiami East 2 and 3B Mud East, are located approximately 0.25 and 0.21 mile from the FPL West Secondary Corridor, respectively. Over the last 5 years, 20 to 30 nests were observed Tamiami East 2 during nesting seasons when the colony was active. Only 7 nests have been observed during an active nesting season at the 3B Mud East colony. Tamiami East 1, with 10 to 15 nests in an active nesting season, is located 1.25 miles from the FPL West Secondary Corridor. The proximity of the colonies to the corridor increases the likelihood that adults and fledglings from this colony will interact (collisions or electrocutions) with the transmission structures, guy wires, or lines as they are going back and forth from the colony to foraging areas.

According to the ARA (Exponent 2013, amended 2015), the relative risk to wood storks (based on number of birds present) is greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for the hypothetical corridor within the area of possible relocated corridor (figure 49). The relative risk of the West Consensus Corridor would be intermediate between the risks attributed to the FPL West Preferred Corridor, which it parallels east of the canal to about one mile south of the Tamiami Trail, and Route A (the hypothetical corridor along the eastern edge of the area of possible relocated corridor), which it generally follows east of the park as the corridor approaches the Levee substation.

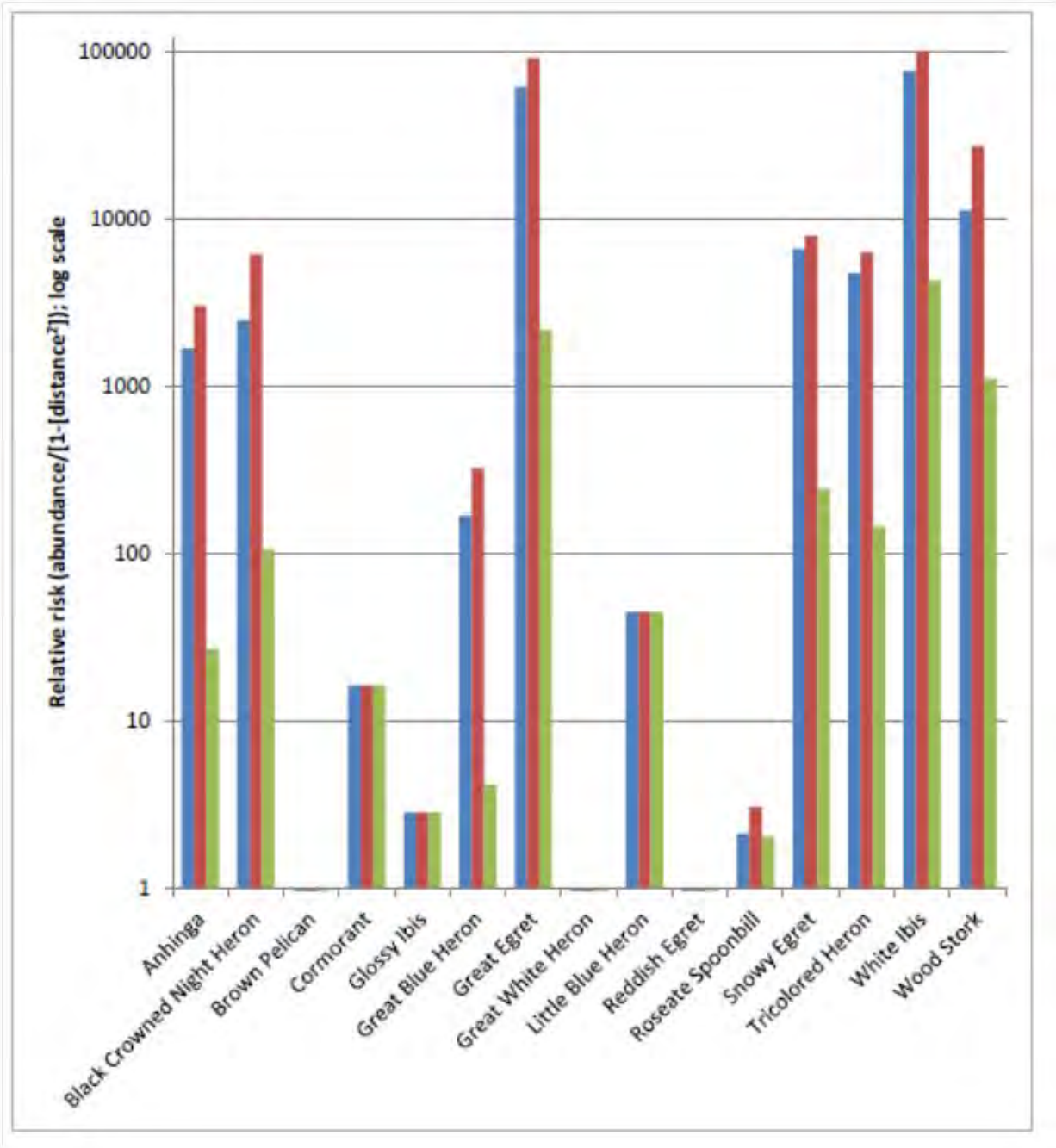
The data-based relative risk assessment used actual locations and numbers of birds associated with each location within the 30-mile boundary of the study area. The relative risk was calculated as a function of the distance from any nest or nesting colony to a particular line segment for each species, and accounting for the number of individual birds in each colony, as described in the ARA in appendix J.

The preferred habitat for the wood stork was freshwater marshes, followed by mangrove swamps, mixed shrubs, embayments, saltwater marshes, tidal flats, cypress stands, wet prairies, natural waterways, and mixed wetland hardwoods (Exponent 2013, amended 2015) (figure 50).

The ARA found that the relative risk to wood storks, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for the hypothetical corridor within the area of possible relocated corridor (figure 51). The West Consensus Corridor would be expected to have risks intermediate between the risks of Route A in the area of possible relocated corridor and the FPL West Preferred Corridor. FPL will comply with any federal permit conditions regarding wood stork colonies, including those related to mitigation for lost foraging habitat. The FPL construction designs would include features to minimize impacts on avian species including the wood stork. For example, the spacing between transmission conductors (wires) for the proposed 230- and 500-kV lines would be far greater than the 61-inch wingspan for the wood stork, greatly minimizing the threat for electrical harm to the bird. These designs would be consistent with FFWCC-recommended Conditions of Certification to install flight diverters on overhead ground wires to minimize bird interactions with the lines in areas within 1/2 mile of active wood stork colonies and the FPL design standard of installing perch discouragers on all new 230- and 500-kV transmission line structures. The FPL designs would be consistent with the Mitigation Concepts document FPL provided to the NPS (FPL 2010). However, these measures are not expected to eliminate all impacts on wood storks.

Further, an Avian Protection Plan specifically for this project, consistent with the Mitigation Concepts document and Avian Power Line Interaction Committee guidelines, would be developed in consultation with USFWS. In the mitigation concepts document, FPL suggested that various mitigation options are available in certain areas to reduce potential impacts on wading birds. These options include wildlife and wading bird colony surveys to document which species and in what areas of the right-of-way alignment potential impacts are possible in addition to the design features, such as perch discouragers on the towers and flight diverters mentioned above.

Subsequent to submission of that document to the NPS, FPL has been negotiating proposed Conditions of Certification with the FFWCC and SFWMD. Included in those proposed Conditions of Certification are requirements for pre-construction listed species surveys all along the right-of-way and ground and follow-flight surveys of wading bird usage along the right-of-way in areas of known wading bird colonies. The proposed Conditions of Certification also require potential design alternatives such as perch discouragers and flight diverters in areas of those known colonies. FPL would also work with FFWCC to design a post-construction mitigation effectiveness monitoring study. Based on the results of such a study, FPL may be required to implement further mitigation measures, such as additional flight diverters. A specific design has not yet been selected, so these measures are not specifically incorporated into the analysis in this EIS.



Legend: Blue = FPL West Preferred Corridor, Red = FPL West Secondary Corridor, Green = Hypothetical Corridor

FIGURE 49: RELATIVE RISK OF NUMBER OF BIRDS LOCATED AT DISTANCES FROM THE THREE POTENTIAL TRANSMISSION CORRIDORS

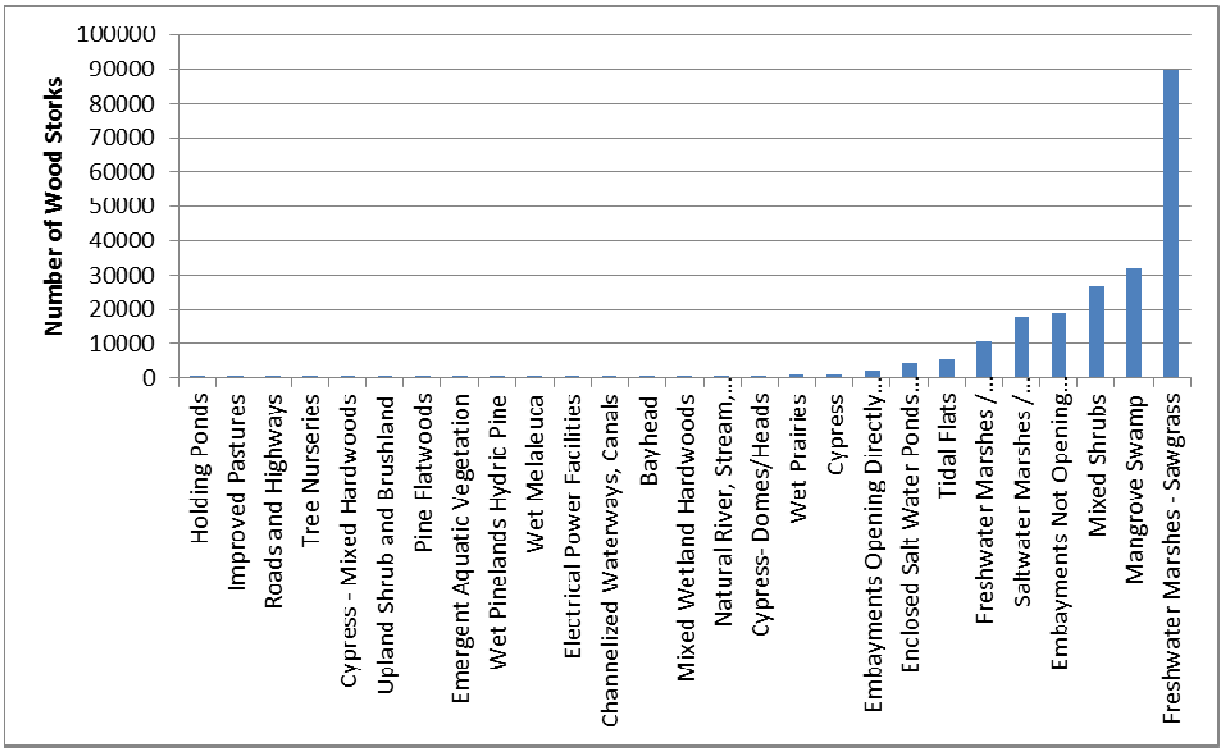
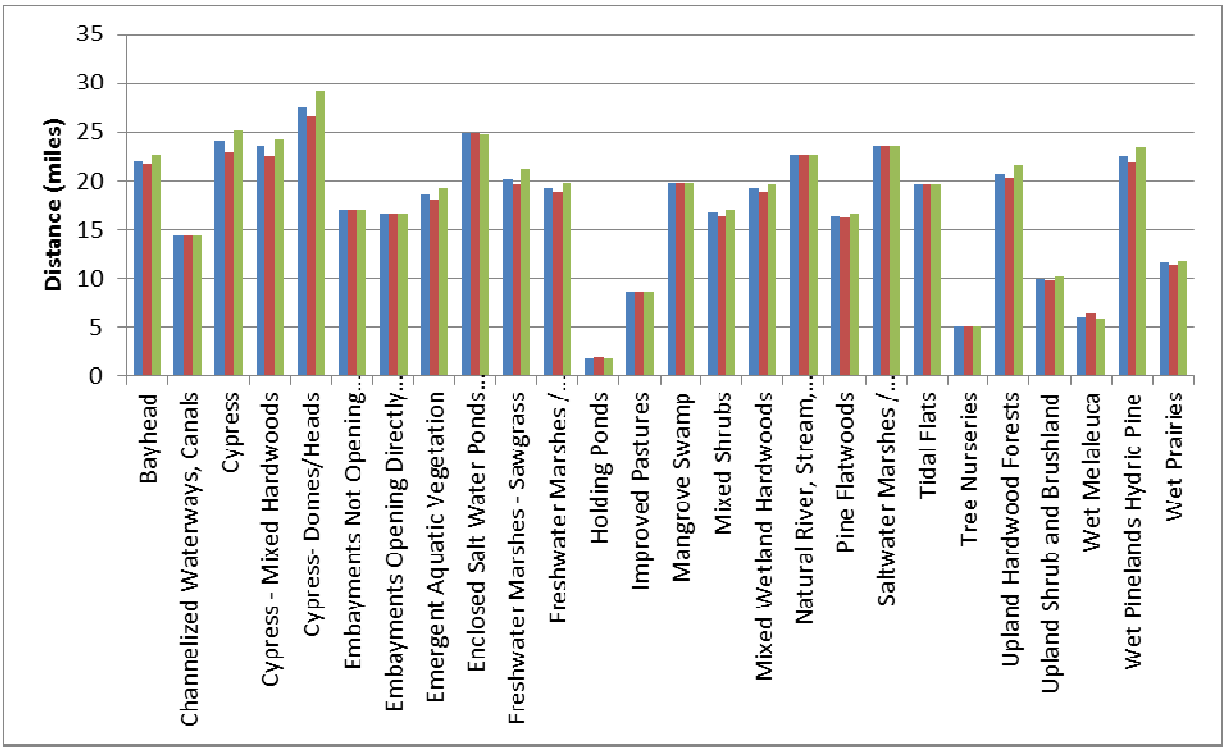


FIGURE 50: NUMBER OF WOOD STORKS ASSOCIATED WITH EACH LEVEL 3 LAND USE LAND COVER CATEGORY IN THE GIS DATABASE WITHIN THE 30-MILE BOUNDARY THAT SURROUNDS THE STUDY AREA



Legend: Blue = FPL West Preferred Corridor, Red = FPL West Secondary Corridor, Green = Hypothetical Corridor

FIGURE 51: RELATIVE RISK IN TERMS OF DISTANCE OF WOOD STORK PREFERRED HABITAT TO EACH POTENTIAL TRANSMISSION CORRIDOR WITHIN THE 30-MILE BOUNDARY THAT SURROUNDS THE STUDY AREA

Section 7 Determination of Effect—Alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA, would have short- and long-term moderate to major adverse impacts on locally significant colonies or aggregations of wood storks due primarily to loss and degradation of foraging habitat and the risk of line strikes and electrocutions. The impacts may result in population-level declines of wood storks as a result of the population-wide significance of the affected colonies to the wood stork population. This would equate to a "may affect, likely to adversely affect" determination. The findings of the Exponent Risk Assessment (Exponent 2013, amended 2015) and the NPS risk assessment (NPS 2010e) are incorporated by reference into this EIS. There is no NPS action under this alternative, so ESA Section 7 consultation rules would not apply to this alternative. However, the effects determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Everglade Snail Kite—The Everglade snail kite is known to nest in the eastern portion of the park near the FPL West Preferred Corridor and likely forages on apple snails in wetlands in the FPL West Secondary Corridor. The noise and vehicular traffic associated with construction of the transmission lines and access road construction is likely to cause changes in Everglade snail kite behaviors such as foraging, breeding, and nesting. These impacts would be considered short term, moderate, and adverse. Minor adverse impacts may also result from line maintenance activities. Filling of wetlands for structure pads and access roads would also result in loss or alteration of foraging and nesting habitat for Everglade snail kite. The loss of foraging and nesting habitat would be considered a long-term moderate adverse impact. Snail kites may also be injured or killed by collisions with transmission structures, guy wires, and lines, especially during the breeding season when birds may be distracted by aerial displays. Impacts from collision with the transmission line are considered long term, major, and adverse.

The risk assessment conducted by Exponent (2013, amended 2015), found that the FPL West Secondary Corridor posed the highest risk to snail kite nests, while the FPL West Preferred Corridor posed an intermediate risk, and the hypothetical corridor within the area of possible relocated corridor posed the least risk. Snail kite habitat preferences include freshwater marshes, lakes, emergent aquatic wetlands, mixed shrubs, and cypress stands (Exponent 2013, amended 2015) (figure 52).

The ARA found relative risk to snail kites, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for the hypothetical corridor (figure 53). This is because preferred habitats are closer to the two FPL corridors than to the hypothetical corridor within the area of possible relocated corridor. The West Consensus Corridor would be expected to have risks intermediate between the risks of Route A in the area of possible relocated corridor and the FPL West Preferred Corridor.

The FPL construction designs would include features to minimize impacts on avian species including the Everglade snail kite. The FPL designs would be consistent with the Mitigation Concepts document FPL provided to the NPS (FPL 2010). However, these measures are not expected to eliminate all impacts on the Everglade snail kite. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

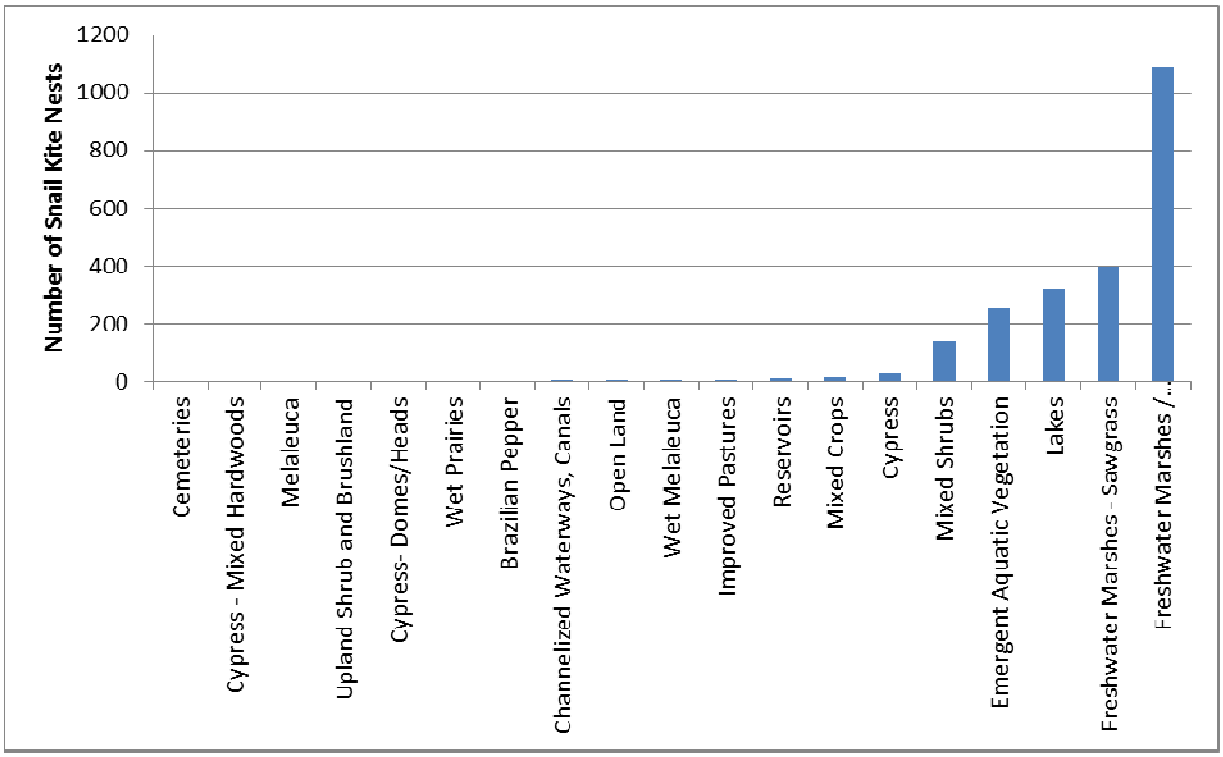
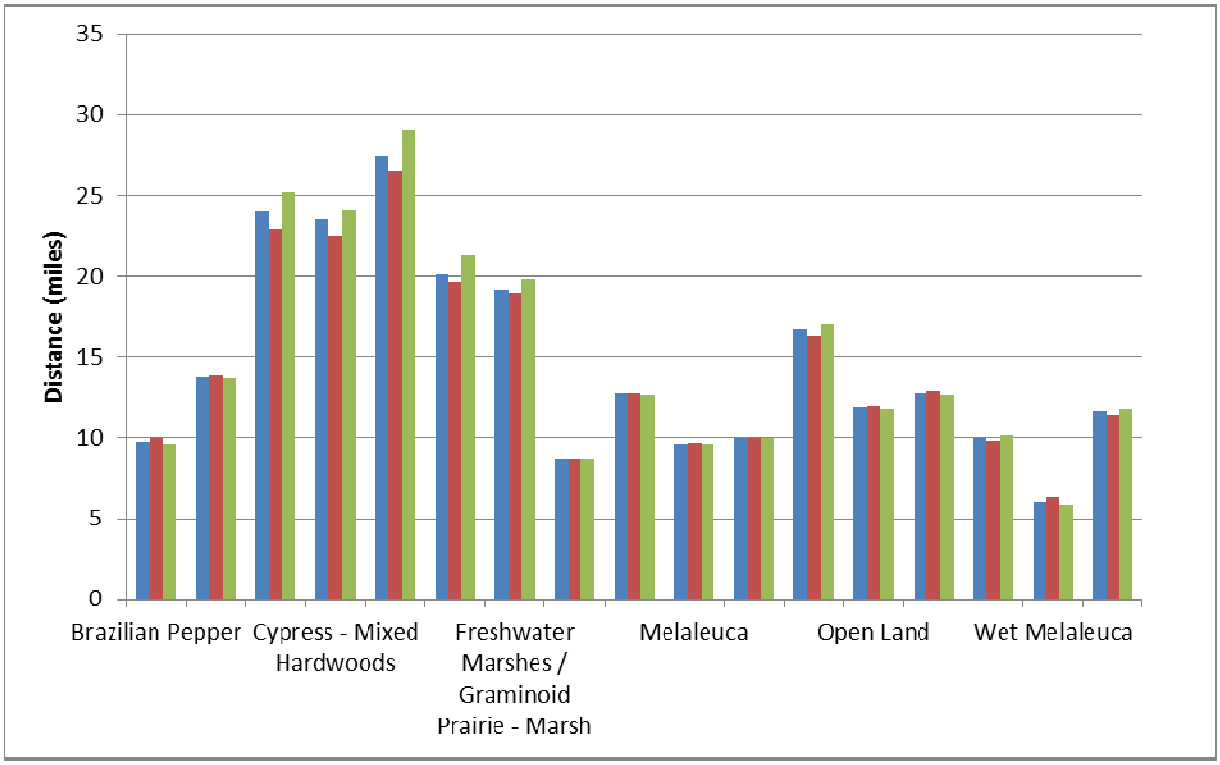


FIGURE 52: NUMBER OF SNAIL KITE NESTS ASSOCIATED WITH EACH LEVEL 3 LAND USE LAND COVER CATEGORY IN THE GIS DATABASE WITHIN THE 30-MILE BOUNDARY THAT SURROUNDS THE STUDY AREA



Legend: Blue = FPL West Preferred Corridor, Red = FPL West Secondary Corridor, Green = Hypothetical Corridor

FIGURE 53: RELATIVE RISK IN TERMS OF DISTANCE OF SNAIL KITE PREFERRED HABITAT TO EACH POTENTIAL TRANSMISSION CORRIDOR WITHIN THE 30-MILE BOUNDARY THAT SURROUNDS THE STUDY AREA

Section 7 Determination of Effect—Alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA, would have short- and long-term moderate to major adverse impacts on the Everglade snail kite due primarily to loss and degradation of foraging habitat, and the risk of line strikes and electrocutions. These impacts may result in declines in the snail kite population due to the highly imperiled condition of this species and its use of wetlands in the project area. This would equate to a "may affect, and is likely to adversely affect" determination. The findings of the Exponent Risk Assessment (Exponent 2013, amended 2015) and the NPS risk assessment (2010) are incorporated by reference into this EIS. There is no NPS action under this alternative, so ESA Section 7 consultation rules would not apply to this alternative. However, the effects determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Eastern Indigo Snake—The eastern indigo snake may occasionally occur in tree inlands and other upland areas within and adjacent to the FPL West Secondary Corridor. Construction noise and vehicle traffic may result in changes in eastern indigo behavior. These impacts are considered short term, minor, and adverse. Indigo snakes may be killed or injured during clearing and construction activities if they are present. These impacts would be considered short to long term, moderate, and adverse. Construction of structure pads and access roads would also eliminate habitat for indigo snakes. These impacts would be considered long term, moderate, and adverse. There is a low probability that eastern indigo snakes will be present in this area, so consequently there is a low level of expected impacts relative to the population. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

Section 7 Determination of Effect—Alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA, would have short- and long-term minor to moderate adverse impacts on the eastern indigo snake. Impacts related to the lack of a flowage easement or sufficient rights to flow additional water over the FPL property are expected to be negligible adverse. Impacts from transmission line construction and maintenance are expected to be minor to moderate adverse. This would equate to a "may affect, and is likely to adversely affect" determination. There is no NPS action under this alternative, so ESA Section 7 consultation rules would not apply to this alternative. However, the effects determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Blodgett's Silverbush, Garber's Spurge, Sand Flax, and Tiny Polygala—These species are unlikely to occur within the FPL West Secondary Corridor due to lack of habitat. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Effects on these species from construction, operation, and maintenance of the transmission lines are expected to be discountable since these species are not known to occur in this portion of the EEEA.

Section 7 Determination of Effect—Alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA, would have adverse impacts on Blodgett's silverbush, Garber's spurge, sand flax, and tiny polygala since these species are not expected to occur within the FPL West Secondary Corridor or EEEA. This would equate to a "no effect" determination. There is no NPS action under this alternative, so ESA Section 7 consultation rules would not apply to this

alternative. However, the effects determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

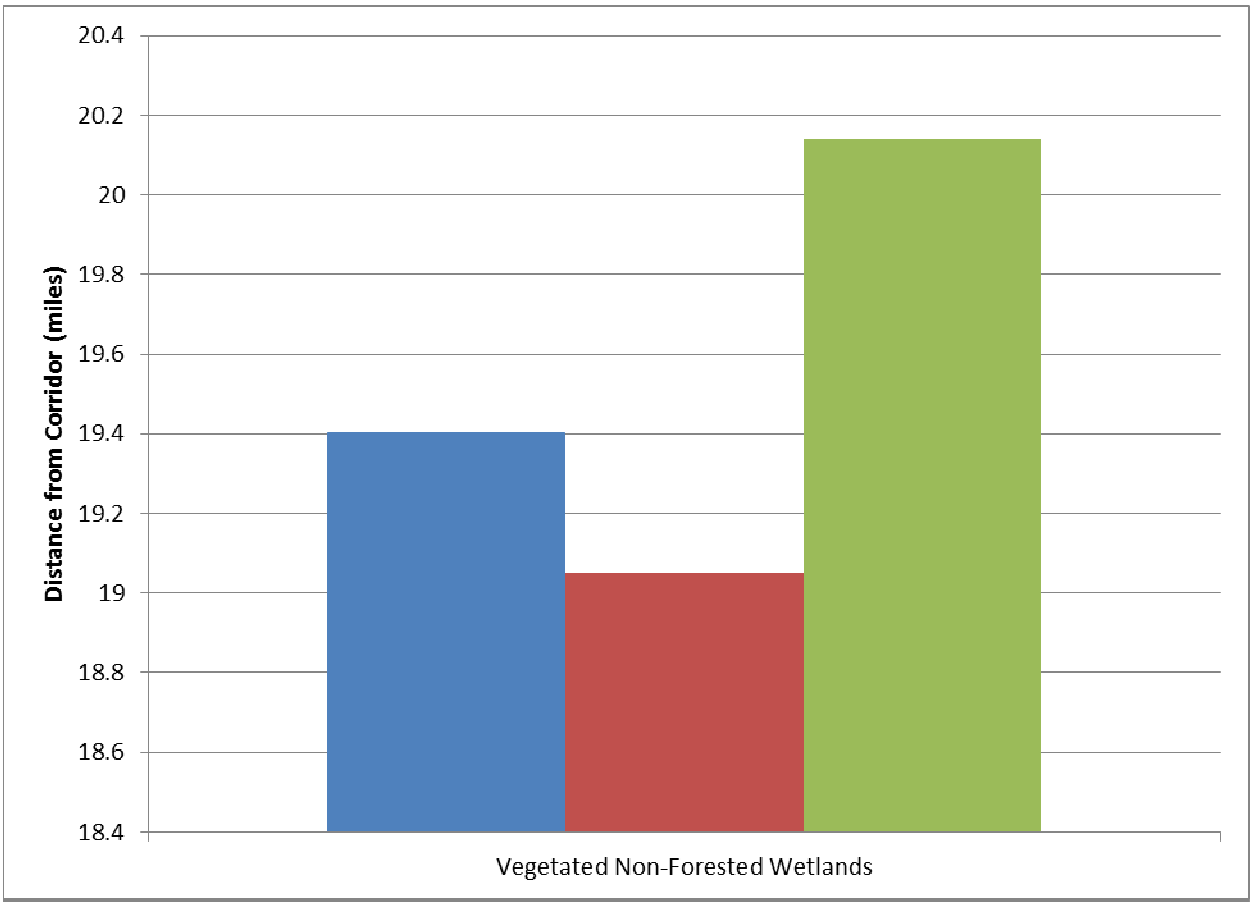
State-listed Species

Everglades Mink—The Everglades mink is likely to forage in wetland areas within and adjacent to the FPL West Secondary Corridor. The impacts of the land acquisition would be the same as under alternative 1a. Construction noise and traffic may alter the behavior of Everglades mink in the area during the construction period. This would also be true for maintenance activities. These impacts would be considered short term, minor, and adverse. Filling of wetlands for structure pads and access roads would result in long-term moderate adverse impacts. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow water over the FPL property in the EEEA, would have short- and long-term minor to moderate adverse impacts on the Everglades mink.

Florida Sandhill Crane—The Florida sandhill may occasionally forage within the FPL West Secondary Corridor. The impacts of the land acquisition would be the same as under alternative 1a. Construction noise and traffic may impact Florida sandhill crane behavior during the construction period. This would also be true for maintenance activities. These impacts are considered short term, minor and adverse. Construction of the access roads and structure pads may result in a loss of foraging habitat for this species. These impacts are considered long term, minor, and adverse. In addition, construction of the transmission lines, including poles, lines and guy wires, would create a strike hazard for Florida sandhill crane. Impacts from Florida sandhill crane line strikes are considered long term, moderate, and adverse.

Preferred habitats of the Florida sandhill crane include freshwater herbaceous wetlands (Exponent 2013, amended 2015). According to the ARA, relative risk to cranes was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for the hypothetical corridor within the area of possible relocated. This is because preferred habitats were closer to the FPL corridors than the hypothetical corridor within the area of possible relocated corridor (Exponent 2013, amended 2015) (figure 54). The West Consensus Corridor would be expected to have risks intermediate between the risks of Route A in the area of possible relocated corridor and the FPL West Preferred Corridor.

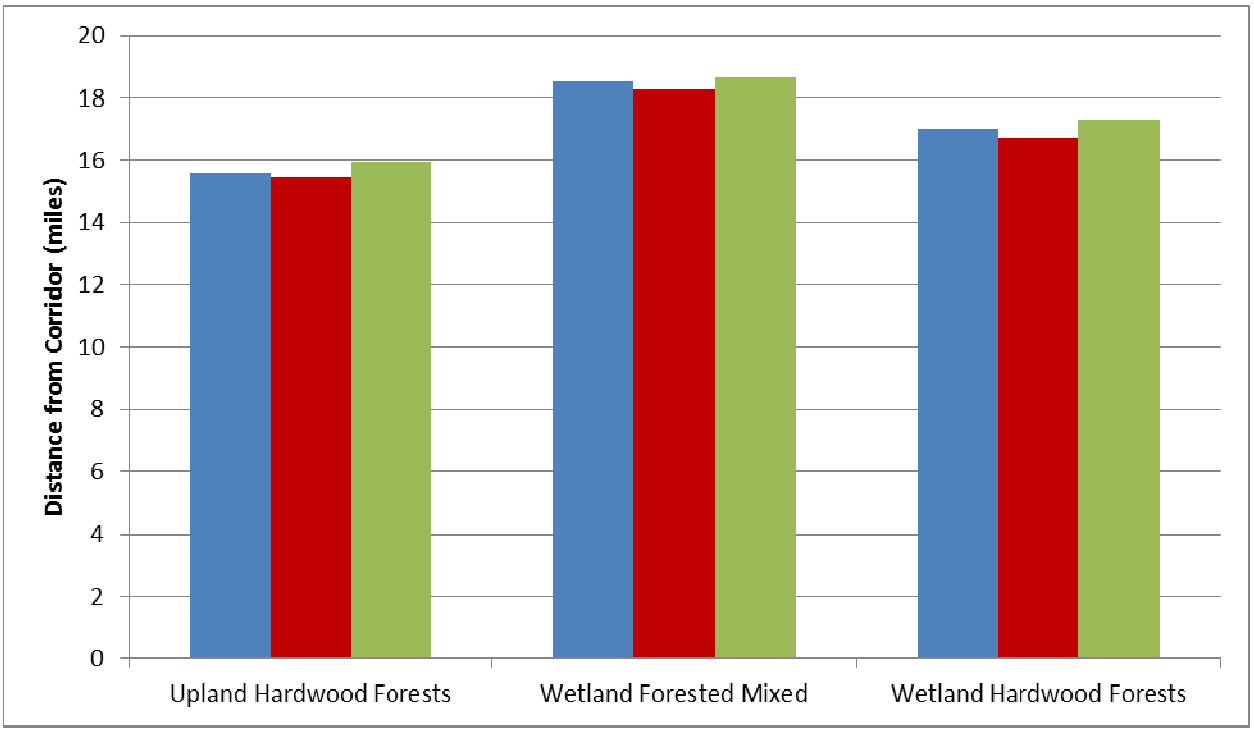
For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with the FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA, would have short- and long-term minor to moderate adverse impacts on the Florida sandhill crane.



Legend: Blue = FPL West Preferred Corridor, Red = FPL West Secondary Corridor, Green =Hypothetical Corridor

FIGURE 54: RELATIVE RISK IN TERMS OF DISTANCE OF FLORIDA SANDHILL CRANE PREFERRED HABITAT TO EACH POTENTIAL TRANSMISSION CORRIDOR WITHIN THE 30-MILE BOUNDARY THAT SURROUNDS THE STUDY AREA

White-crowned Pigeon—The white-crowned pigeon may forage on the fruit of poisonwood trees (Metopium toxiferum) in the FPL West Secondary Corridor and in the rest of the EEEA, but it is not known to nest in the EEEA. The impacts of the land acquisition would be the same as under alternative 1a. The ARA found that the relative risk to white-crowned pigeons was generally greatest for FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for the hypothetical corridor within the area of possible relocated corridor. This is because preferred habitats were generally closer to the FPL corridors than to the hypothetical corridor within the area of possible relocated corridor (figure 55), although the difference among the corridors is relatively small. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with the FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Alternative 1b would result in minor adverse impacts on white-crowned pigeons because poisonwood trees are found throughout the Everglades region in both wetland and upland habitats.



Legend: Blue = FPL West Preferred Corridor, Red = FPL West Secondary Corridor, Green = Hypothetical Corridor

FIGURE 55: RELATIVE RISK IN TERMS OF DISTANCE OF WHITE CROWNED PIGEON PREFERRED HABITAT TO EACH POTENTIAL TRANSMISSION CORRIDOR WITHIN THE 30-MILE BOUNDARY THAT SURROUNDS THE STUDY AREA

Limpkin, Little Blue Heron, Snowy Egret, Tricolored Heron, and Roseate Spoonbill—These wading birds are likely to forage within the park in the vicinity of the FPL West Secondary Corridor. Mixed rookeries of wading birds also occur in the vicinity of the FPL West Secondary Corridor. The impacts of the land acquisition would be the same as under alternative 1a. The ARA found that the relative risk to these wading bird species was generally greatest for FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for the hypothetical corridor. This is because preferred habitats were generally closer to the FPL corridors than to the hypothetical corridor within the area of possible relocated corridor (Exponent 2013, amended 2015). The West Consensus Corridor would be expected to have risks intermediate between the risks of Route A in the area of possible relocated corridor and the FPL West Preferred Corridor, and the change in route to the east about one mile south of the Tamiami Trail avoids many of the wading bird nesting locations further to the north.

The behavior of these birds is likely to be impacted by the increased noise and vehicle levels during the construction period. This is also true for line maintenance activities. These impacts are considered short term, moderate, and adverse. Construction of access roads and structure pads would result in loss or alteration of wetland foraging habitats. The impact of the lost habitat is expected to be long term, moderate, and adverse. Construction of the transmission lines would create a strike hazard for the wading birds. The impact of bird injury and mortality due to line strikes is considered long term, moderate, and adverse. The FPL construction designs would include features to minimize impacts on avian species. The FPL designs would be consistent with the Mitigation Concepts document FPL provided to the NPS (FPL 2010). However, these measures are not expected to eliminate all impacts on avian species. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with the FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize,

mitigate, or otherwise appropriately address impacts on the species. Adverse impacts on wading birds from alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA, are expected to be short to long term, minor to moderate, and adverse. These impacts are not expected to result in population level changes for the species or in species being extirpated from the park.

Florida Burrowing Owl and Gopher Tortoise—Due to their preference for dry sandy habitats such as longleaf pine xeric oak sandhills, the Florida burrowing owl and gopher tortoise are not likely to occur in the FPL West Secondary Corridor. The impacts of the land acquisition would be the same as under alternative 1a. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with the FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Adverse impacts on Florida burrowing owl and gopher tortoise from alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA, are expected to be negligible adverse.

Pineland Jacquemontia, Eaton's Spikemoss, Florida Royal Palm, Rockland-Painted Leaf—These species have a low likelihood of occurrence in the FPL West Secondary Corridor. The impacts of the land acquisition would be the same as under alternative 1a. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with the Florida Department of Agriculture and Consumer Services (FDACS) (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Adverse impacts on these plant species from alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA, are expected to be negligible adverse.

Southern Frog Fruit, Bahama Ladder Brake, Pineland Allamanda, Everglades (or Pinelands) Pencil Flower, and Meadow Joint-vetch—These species are known to occur in or near the EEEA, with a few species known from the FPL West Secondary Corridor. The impacts of the land acquisition would be the same as under alternative 1a. Individuals of these species may be harmed or killed during construction of the transmission lines if they are present in the right-of-way. Also, habitat for these species may be lost during construction of the transmission lines. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Impacts on these plant species from alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA, are expected to be long-term negligible to moderate adverse.

Bahama Saschia and Pinelands Noseburn – are found in disturbed uplands and pine rocklands. These species are not expected to occur within the FPL West Secondary Corridor within the park or in the area of analysis. The impacts of the land acquisition would be the same as under alternative 1a. Due to their low likelihood of occurrence, there will be no impact on these species from alternative 1b, the retention of ownership of land within the EEEA by FPL and the resulting transmission line construction and the lack of an easement or sufficient rights to flow additional water over the FPL property in the EEEA. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

Small's Flax—There is a low likelihood that Small's flax could occur in disturbed uplands and disturbed wetlands, such as margins of canals, within the FPL West Secondary Corridor or the EEEA. The impacts of the land acquisition would be the same as under alternative 1a. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Adverse impacts on this species from construction, operation, and maintenance of the transmission lines are not expected.

Cumulative Impacts – Alternative 1b

The cumulative impacts on special-status species from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 1b would have short-and long term negligible to major adverse impacts (dependent on the species) from construction of the transmission line without a flowage easement in the FPL corridor. These impacts would contribute appreciable adverse impacts to the overall cumulative effects on special-status species. The cumulative contribution to adverse effects on avian species would be high under alternative 1b because of the proximity to nesting and foraging locations.

Conclusion – Alternative 1b

Impacts on special-status species would be varied as noted in the analysis above. The Section 7 determinations for the federally listed species and the impacts on the state-listed species that could potentially occur in the area of analysis are summarized for this and other alternatives in tables 27 and 28 at the end of this section. In general, construction and operation of transmission lines in the FPL West Secondary Corridor would have effects on many listed species in the area and have high risks to avian species, especially wood storks and Everglade snail kites, due to proximity of the lines to nesting and foraging locations. Impacts from the lack of a flowage easement or sufficient rights to increase water levels over the FPL West Secondary Corridor would be the same as described for alternative 1a.

The park would continue to coordinate with the USFWS and state resource agencies, to participate in the Turkey Point Power Plant Units 6 and 7 project, and work to mitigate adverse impacts on these species. However, some losses may be unavoidable. Alternative 1b would contribute appreciable adverse impacts to the overall cumulative effects on special-status species. The cumulative contribution to adverse effects on avian species would be high under this alternative because of the proximity to nesting and foraging locations.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

Under alternative 2, the park would realize a net gain of 320 of land within the park boundary. Alternative 2 would have long-term indirect benefits to special-status species because acquisition of the FPL corridor would remove a large area of non-NPS ownership of land in the interior of the park. This would ensure that no other development would be proposed in this area and that the various Everglades ecosystem restoration projects could occur without any obstacles relating to the presence of this parcel. The connectivity of the EEEA wetlands would be ensured, and a potential source of nonnative vegetation not under NPS control would be removed. Placing ownership of this area solely with the NPS would enhance the ability to provide more natural water flows to the park, which in turn would enhance the conservation of the resources and values of the park, including special-status species, a long-term beneficial impact. A detailed discussion of the impacts of the land acquisition on individual species is provided in the discussion below.

Impacts of Transmission Line Construction

In general, construction and operation of transmission lines in the West Consensus Corridor east of the park would have effects on many listed species similar to other alternatives but would have lower risks to wood storks and Everglade snail kites due to the location of the lines farther away from nesting and foraging locations than the FPL corridors. Impacts on species that are known to inhabit disturbed or more upland areas would be expected to be higher due to the land uses in the West Consensus Corridor along the canal and in the pasture and agricultural areas in the south. Impacts on special-status species within the park would be minimized under this alternative. In general, impacts on avian species using wetland habitats would be less under this alternative since the wetlands impacted are considered to be of lower quality based on connectivity and integrity. The West Consensus Corridor alignment turns east about one mile south of the Tamiami Trail, and this change in direction avoids proximity to many of the nesting locations of several state and federally listed wading birds just to the west of the FPL West Preferred Corridor and along the FPL West Secondary Corridor further west and north.

A detailed discussion of the impacts of the transmission line construction on individual species is provided below.

Federally Listed Species

West Indian Manatee—The West Indian Manatee may occasionally be found in the SFWMD canals in West Consensus Corridor and in the EEEA. The NPS acquisition of the FPL West Secondary Corridor within the park and subsequent water flows for habitat restoration projects are not anticipated to have a noticeable effect on water levels or water quality within the canals. No in-water work in the canals is anticipated during construction of the transmission lines. Appropriate erosion control measures will be implemented during construction to prevent degradation of adjacent waterbodies. Transmission line construction stormwater discharges released into waters of the state will be addressed through compliance with Rule 62-621.300(4) (Generic Permit for Stormwater from Large and Small Construction Activities). In the event of inadvertent equipment or vehicle fluid release during construction, construction crews will be equipped with spill containment and absorption materials. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

Section 7 Determination of Effect—Under alternative 2, NPS acquisition of the FPL West Secondary Corridor and construction of the transmission lines outside the EEEA, there may be a discountable, short-term adverse effect on the manatee from construction and maintenance of the transmission lines. There would be no impacts on manatee from NPS acquisition of the FPL West Secondary Corridor within the park. This would equate to a “no effect” determination. The effect determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Florida Panther—The Florida panther is known from the area of analysis. Panthers have been known to occur along the Tamiami Trail. NPS acquisition of the FPL West Secondary Corridor within the park is expected to have a long-term beneficial impact on the Florida Panther because it will prevent the fragmentation and loss of habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership.

Construction traffic and noise is likely to cause short-term changes to the travel patterns and hunting behaviors of panthers in the West Consensus Corridor. This is also true for line maintenance activities. These impacts are considered short term, minor, and adverse. Increases in connectivity between habitat

types and areas due to the transmission corridor may have long-term minor adverse impacts on the Florida panther if they encourage movement between more developed areas where panther injury or mortality is more likely to occur. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. FPL will work with USFWS/FFWCC to mitigate any potential impacts on Florida panther habitat once a corridor is certified and a specific right-of-way is designed.

Section 7 Determination of Effect—Under alternative 2, NPS acquisition of the FPL West Secondary Corridor and construction of the transmission lines outside the EEEA, would have minor short- and long-term adverse impacts on the Florida panther from transmission line construction and operation. Long-term beneficial impacts would accrue from NPS acquisition of the FPL West Secondary Corridor within the park. This would equate to a "may affect, not likely to adversely affect" determination. The effect determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Florida Bonneted Bat—NPS acquisition of the FPL West Secondary Corridor may have a long-term beneficial effect on the Florida bonneted bat by protecting tree islands that may be used for roosting from clearing for transmission line construction.

There is a moderate probability of Florida bonneted bat occurring in the West Consensus Corridor. Right-of-way and access road clearing activities in the West Consensus Corridor may result in the loss of roosting habitat (palm and other tree foliage). If bats are roosting in the areas when clearing takes place, bat injury or mortality may occur. The loss of roosting habitat is considered a long-term moderate adverse impact on Florida bonneted bats. Injury or mortality to Florida bonneted bats from right-of-way or access road clearing would be considered short term, moderate, and adverse. These impacts could also occur during line maintenance activities. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

Section 7 Determination of Effect—Alternative 2, NPS acquisition of the FPL West Secondary Corridor and construction of the transmission lines outside the EEEA, would have short- and long-term moderate adverse impacts on Florida bonneted bat from construction, operation, and maintenance of the transmission lines with some long term benefits from the acquisition of the FPL West Secondary Corridor within the park. This would equate to a "may affect, likely to adversely affect" determination. The effect determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Wood Stork—NPS acquisition of the FPL West Secondary Corridor within the park would have long-term benefits to wood stork. NPS acquisition of the FPL West Secondary Corridor would prevent the fragmentation and loss of high quality foraging and potential nesting habitat that would occur if a transmission line was built in this corridor. Acquisition of the FPL West Secondary Corridor by NPS would also remove the risk of line strikes and electrocution associated with transmission lines built within the FPL West Secondary Corridor. In addition, NPS acquisition of the FPL West Secondary Corridor would allow for the additional flow of water across this corridor as needed for ecosystem restoration projects. Ecosystem restoration is expected to significantly benefit wood storks and other wading birds in the area by restoring the natural seasonal patterns of flow and improving prey availability across the landscape.

Transmission line and access road construction would result in the loss of foraging habitat for this species when wetlands are filled to create access roads and structure pads and if the hydrology of wetlands adjacent to construction areas is altered. This loss of foraging habitat within the West Consensus Corridor is considered a long term, moderate, adverse impact on the species. Foraging and other behavior may also be altered during the construction period due to the construction noise and equipment traffic. These impacts are considered short term, moderate, and adverse. Minor impacts may also occur from line maintenance activities. The presence of the two 500-kV and one 230-kV transmission lines in the West Consensus Corridor present a strike hazard that could result in wood stork injury or mortality. The impact of birds striking the structures, lines, or guy wires in the West Consensus Corridor is long term, moderate, and adverse.

Four wood stork colonies are known from within 5 miles of the FPL corridors and the West Consensus Corridor in the vicinity of Tamiami Trail (see figure 14). The corridors are within the Core Foraging Area of these four colonies and other colonies. However, the colonies are not within West Consensus Corridor. The closest colony to the West Consensus Corridor is the Tamiami East 1 colony, which is 0.8 miles away (table 26). About 10–15 wood stork nests have been observed at this colony during nesting periods over the last 5 years. The Tamiami East 2 colony is 1.72 miles away from the West Consensus Corridor; 20–30 wood stork nests have been observed during nesting periods at this colony over the last 5 years. The Tamiami West (Coopertown) colony is the largest colony in the 5-mile radius and the furthest away from the West Consensus Corridor (2.90 miles). Over the last 5 years, 50 to 1,300 wood stork nests have been observed at this colony during nesting periods. The risk assessment conducted by Exponent (2013, amended 2015) found that construction in the area of possible relocated corridor poses the least risk to wood stork when compared to the FPL West Secondary and FPL West Preferred Corridors (figures 49 and 52). This is also true of the West Consensus Corridor, although the corridor is closer to the wood stork colonies than the area of possible relocated corridor, because it follows the canal to a point about one mile south of the Tamiami Trail. It turns east about one mile south of the Tamiami Trail, and this change in direction keeps the West Consensus Corridor at a distance farther from the wood stork nests than the FPL West Preferred Corridor.

FPL will comply with any federal permit conditions regarding wood stork colonies, including those related to mitigation for lost foraging habitat. The FPL construction designs would include features to minimize impacts on avian species including the wood stork. For example, the spacing between transmission conductors (wires) for the proposed 230- and 500-kV lines would be far greater than the 61-inch wingspan for the wood stork, greatly minimizing the threat for electrical harm to the bird. These designs would be consistent with the FFWCC-recommended Conditions of Certification to install flight diverters on overhead ground wires to minimize bird interactions with the lines in areas within 1/2 mile of active wood stork colonies and the FPL design standard of installing perch discouragers on all new 230- and 500-kV transmission line structures. The FPL designs would be consistent with the Mitigation Concepts document FPL provided to the NPS (FPL 2010). However, these measures are not expected to eliminate all impacts on wood storks.

Further, an Avian Protection Plan specifically for this project, consistent with the Mitigation Concepts document and Avian Power Line Interaction Committee guidelines, would be developed in consultation with USFWS. In the mitigation concepts document, FPL suggested that various mitigation options are available in certain areas to reduce potential impacts on wading birds. These options include wildlife and wading bird colony surveys to document which species and in what areas of the right-of-way alignment potential impacts are possible in addition to the design features, such as perch discouragers on the towers and flight diverters mentioned above.

Subsequent to submission of that document to the NPS, FPL has been negotiating proposed Conditions of Certification with the FFWCC and SFWMD. Included in those proposed Conditions of Certification are

requirements for pre-construction listed species surveys all along the right-of-way and ground and follow-flight surveys of wading bird usage along the right-of-way in areas of known wading bird colonies. The proposed Conditions of Certification also require potential design alternatives such as perch discouragers and flight diverters in areas of those known colonies. FPL would also work with FFWCC to design a post-construction mitigation effectiveness monitoring study. Based on the results of such a study, FPL may be required to implement further mitigation measures, such as additional flight diverters. A specific design has not yet been selected, so these measures are not specifically incorporated into the analysis in this EIS.

Section 7 Determination of Effect—Alternative 2 NPS acquisition of the FPL West Secondary Corridor and construction of the transmission lines outside the EEEA, would have short- and long-term minor to moderate adverse impacts on the wood stork from construction, operation, and maintenance of the transmission lines along with long-term benefits from NPS acquisition of the FPL West Secondary Corridor within the park. This would equate to a "may affect, likely to adversely affect" determination. The findings of the Exponent Risk Assessment (Exponent 2013, amended 2015) and the NPS risk assessment (2010) are incorporated by reference into this EIS, and the West Consensus Corridor would have effects that fall between those assessed for the FPL West Preferred Corridor and the hypothetical corridor addressed in the risk assessment. The effect determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Everglade Snail Kite—The Everglade snail kite is known to nest in the eastern portion of the park in the area of analysis and may forage within herbaceous wetland areas in the area of analysis. There are no known nesting sites in the West Consensus Corridor. The closest nesting site is 0.16 miles to the west of the corridor, just west of the park boundary where the corridor turns to the east. The rest of the snail kite nests are to the north and west in the park, ranging from 0.74 to 2.06 miles from the closest location on the corridor boundary (see figure 16). NPS acquisition of the FPL West Secondary Corridor would provide long-term benefits to the Everglade snail kite. NPS acquisition of the FPL West Secondary Corridor would prevent the fragmentation and loss of high quality foraging and nesting habitat that would occur if a transmission line was built in this corridor. Acquisition of the FPL West Secondary Corridor by NPS would also remove the risk line of strikes and electrocution associated with transmission lines built within the FPL West Secondary Corridor. In addition, NPS acquisition of the FPL West Secondary Corridor would allow for the flow of water across this corridor as needed for wetland habitat and hydrologic restoration projects. Hydrologic restoration would result in beneficial effects to kites through habitat improvement in EEEA.

The noise and vehicular traffic associated with the construction of the transmission lines and access road construction within the West Consensus Corridor may cause changes in Everglade snail kite behaviors such as foraging, breeding, and nesting. This would also be true for line maintenance activities. These impacts would be considered short term, minor, and adverse. Filling of wetlands for structure pads and access roads within the West Consensus Corridor would also result in loss of foraging habitat for Everglade snail kite. The loss of foraging habitat in the West Consensus Corridor would be considered a long-term moderate adverse impact.

The risk assessment conducted by Exponent (2013, amended 2015), found that construction in the area of possible relocated corridor poses the least risk to Everglade snail kite when compared to the FPL West Secondary and FPL West Preferred Corridors (figure 53). The West Consensus Corridor would represent a risk that is higher than a route in the area of possible relocated corridor due to the proximity of nests to the northern section of the corridor along the canal, where the corridor turns to the east, but a reduced risk compared to the FPL West Preferred Corridor, which continues directly north and passes close to several snail kite nest locations (see figures 15 and 16).

The FPL construction designs would include features to minimize impacts on avian species including the Everglade snail kite. The FPL designs would be consistent with the Mitigation Concepts document FPL provided to the NPS (FPL 2010) and the Avian Power Line Interaction Committee guidelines. However, these measures are not expected to eliminate all impacts on the Everglade snail kite. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

Section 7 Determination of Effect—Alternative 2, NPS acquisition of the FPL West Secondary Corridor and construction of the transmission lines outside the EEEA in the West Consensus Corridor, would have short- and long-term minor to moderate adverse impacts on the Everglade snail kite from construction, operation, and maintenance of the transmission lines along with long term benefits from NPS acquisition of the FPL West Secondary Corridor within the park. This would equate to a "may affect, likely to adversely affect" determination. The findings of the Exponent Risk Assessment (Exponent 2013, amended 2015) and the NPS risk assessment (2010) are incorporated by reference into this EIS, and the West Consensus Corridor would have effects that fall between those assessed for the FPL West Preferred Corridor and the hypothetical corridor addressed in the risk assessment. The effect determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Eastern Indigo Snake—The eastern indigo snake may occasionally occur in upland and wetland areas within the area of analysis. The NPS acquisition of the FPL West Secondary Corridor is expected to have long-term benefits to the eastern indigo snake from protection of potential foraging habitat from development.

Construction noise and vehicle traffic in the West Consensus Corridor may result in changes in eastern indigo behavior. These impacts are considered short term, minor, and adverse. Indigo snakes may be killed or injured during clearing and construction activities in the West Consensus Corridor. These impacts would be considered short to long term, moderate, and adverse. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

Section 7 Determination of Effect—Alternative 2 NPS acquisition of the FPL West Secondary Corridor and construction of the transmission lines outside the EEEA, would have short- and long-term minor to moderate adverse impacts on the eastern indigo snake from construction, operation, and maintenance of the transmission lines along with long term benefits from NPS acquisition of the FPL West Secondary Corridor within the park. This would equate to a "may affect, likely to adversely affect" determination. The effect determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Blodgett's Silverbush, Garber's Spurge, Sand Flax, and Tiny Polygala—Blodgett's Silverbush, Garber's spurge, sand flax, and tiny polygala are unlikely to occur within the FPL West Secondary Corridor; therefore, no impacts are expected to these species from NPS acquisition of the FPL West Secondary Corridor. These species have a low likelihood of occurrence in disturbed uplands in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Effects to these species from construction, operation, and maintenance of the transmission lines in the West Consensus Corridor are expected to be negligible adverse.

Section 7 Determination of Effects—Alternative 2, NPS acquisition of the FPL West Secondary Corridor and construction of the transmission lines outside the EEEA, would have no impacts on Blodgett's Silverbush, Garber's spurge, sand flax, and tiny polygala. This would equate to a "no effect" determination. The effect determination listed here represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

State-listed Species

Everglades Mink— The Everglades mink is likely to forage in wetland areas within the FPL West Secondary Corridor. NPS acquisition of the FPL West Secondary Corridor would provide long-term benefits by protecting Everglades mink habitat from loss or degradation resulting from construction of transmission lines in this corridor. In addition, NPS acquisition of the FPL West Secondary Corridor would allow for the flow of water across this corridor as needed for ecosystem restoration projects.

The Everglades mink is also likely to forage in wetland areas within the West Consensus Corridor. Construction noise and traffic may alter the behavior of Everglades mink in the area during the construction period. These impacts would be considered short term, minor, and adverse. Filling of wetlands for structure pads and access roads would result in long term, moderate, adverse impacts. Alternative 1b, construction of the transmission lines outside the EEEA, would have short- and long-term moderate adverse impacts on the Everglades mink. FPL will work with FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Alternative 2, NPS acquisition of the FPL West Secondary Corridor and construction of the transmission lines outside the EEEA, would have short- and long- minor to moderate adverse impacts on the Everglades mink.

Florida Sandhill Crane—The Florida sandhill crane may occasionally forage within the FPL West Secondary Corridor. Since the Florida sandhill crane is known to forage within both wetland and upland habitats within the region, NPS acquisition of the FPL West Secondary Corridor is expected to have limited long-term benefits on the species.

The Florida sandhill may occasionally forage within the West Consensus Corridor. Construction noise and traffic in the West Consensus Corridor may impact Florida sandhill crane behavior during the construction period. Similar impacts may occur during line maintenance. These impacts are considered short term, minor, and adverse. Construction of the access roads and structure pads in the West Consensus Corridor may result in a loss of foraging habitat for this species. These impacts are considered long term, minor, and adverse. In addition, construction of the transmission lines in the West Consensus Corridor would create a strike hazard for Florida sandhill crane. Impacts from Florida sandhill crane line strikes are considered long term, moderate, and adverse. Preferred habitats of the Florida sandhill crane include freshwater herbaceous wetlands (Exponent 2013, amended 2015). According to the ARA, relative risk to cranes, based on distance of the preferred focal habitats from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for the hypothetical corridor within the area of possible relocated (Exponent 2013, amended 2015) (figure 54).Risk for the West Consensus Corridor would be intermediate between the risk for the FPL West Preferred Corridor and the area of possible relocated corridor, but risk along the area that parallels the canal near the mining operation would be minimal due to the limited extent and disturbed condition of wetlands in that area.

FPL will work with FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Alternative 2, NPS acquisition of the

FPL West Secondary Corridor and construction of the transmission lines outside the EEEA, would have short- and long-term minor to moderate adverse impacts on the Florida sandhill crane.

White-crowned Pigeon—The white-crowned pigeon may forage on the fruit of poisonwood trees in the FPL West Secondary Corridor and in the rest of the EEEA, but it is not known to nest in the EEEA. Since poisonwood trees are known to occur in wetlands and uplands throughout south Florida, NPS acquisition of the FPL West Secondary Corridor is expected to have limited long-term beneficial impacts on white-crowned pigeon.

The white-crowned pigeon is has a moderate likelihood of foraging within the West Consensus Corridor, but is not known to nest in this area. The ARA found that the relative risk to white-crowned pigeons, based on distance of the preferred habitats from the transmission corridors, was generally greatest for FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for the hypothetical corridor within the area of possible relocated corridor (figure 55), although the difference among the corridors is minimal. Risk related to the West Consensus Corridor would be similar to the FPL West Preferred Corridor, but minimal because of the lack of forested wetlands and forests along the path of the corridor. FPL will work with FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. The behavior of these birds is may be impacted by the increased noise and vehicle levels within West Consensus Corridor during the construction period. Similar impacts are expected to occur during line maintenance activities. These impacts are considered short term, minor, and adverse. Construction of access roads and structure pads would result in loss of foraging habitats. The impact of the lost habitat is expected to be long term, minor, and adverse. Construction of the transmission lines would create a strike hazard for white crowned pigeons. The impact of injury and mortality due to line strikes is considered long term, minor, and adverse. Alternative 2, NPS acquisition of the FPL West Secondary Corridor and construction of the transmission lines outside the EEEA, would have short- and long-term minor adverse impacts on the white-crowned pigeon.

Limpkin, Little Blue Heron, Snowy Egret, Tricolored Heron, and Roseate Spoonbill—These wading birds are likely to forage within the park in the vicinity of the FPL West Secondary Corridor. Mixed rookeries of wading birds also occur in the vicinity of the FPL West Secondary Corridor. NPS acquisition of the FPL West Secondary Corridor would provide long-term benefits to these wading bird species. NPS acquisition of the FPL West Secondary Corridor would prevent the fragmentation and loss of high quality foraging and nesting habitat that would occur if a transmission line was built in this corridor. Acquisition of the FPL West Secondary Corridor by NPS would also remove the risk line strikes and electrocution associated with transmission lines built within the FPL West Secondary Corridor. In addition, NPS acquisition of the FPL West Secondary Corridor would allow for the flow of water across this corridor as needed for wetland habitat and hydrologic restoration projects.

Limpkin, little blue heron, snowy egret, tricolored heron, and roseate spoonbill are also likely to forage within freshwater wetland areas in the West Consensus Corridor. Mixed rookeries of wading birds also occur in the park west of the West Consensus Corridor, although the turn to the east about one mile south of the Tamiami Trail helps to reduce proximity to known nest locations of most of these state-listed wading birds in the park and to the north of the park (see figures 18, 19, 20, and 21). The behavior of these birds is likely to be impacted by the increased noise and vehicle levels during the construction period. Similar impacts are expected to occur during line maintenance activities. These impacts are considered short term, minor, and adverse. Construction of access roads and structure pads would result in loss of wetland foraging habitats. The impact of the lost habitat is expected to be long term, moderate, and adverse. Construction of the transmission lines would create a strike hazard for the wading birds. The impact of bird injury and mortality due to line strikes is considered long term, moderate, and adverse. The ARA found that. the relative risk to these wading bird species, based on distance of the preferred habitats

from the transmission corridors, was generally greatest for FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for the hypothetical corridor within the area of possible relocated corridor (Exponent 2013, amended 2015). The West Consensus Corridor would represent a moderate risk to wading birds that is higher than a route in the area of possible relocated corridor due to the proximity of nests to its northern section along the park boundary, but a reduced risk compared to the FPL West Preferred Corridor, which continues directly north and passes close to several known nest locations. FPL will work with FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Alternative 2 is expected to have short- to long-term minor to moderate adverse impacts on these species. These impacts are not expected to result in population level changes for the species or in species being extirpated from the park.

Florida Burrowing Owl and Gopher Tortoise—Due to their preference for dry sandy habitats such as longleaf pine xeric oak sandhills, the Florida burrowing owl and gopher tortoise are not likely to occur in the FPL West Secondary Corridor. Therefore, NPS acquisition of the FPL West Secondary Corridor within the park is expected to have no effect on these species.

The Florida burrowing owl and gopher have a low likelihood of occurrence in xeric habitats in the West Consensus Corridor. FPL will work with FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Impacts on Florida burrowing owl and gopher tortoise from alternative 2, NPS acquisition of the FPL West Secondary Corridor and construction of the transmission lines outside the EEEA, are expected to be short- to long-term, negligible to minor, and adverse. Short-term impacts would be related to disturbance during construction or maintenance, while long-term impacts would be related to habitat loss.

Pineland Jacquemontia, Eaton's Spikemoss, Florida Royal Palm, Southern Frog Fruit, Bahama Ladder Brake, Pineland Allamanda, Rockland Painted Leaf, Pinelands (or Everglades) Pencil Flower, Bahama Saschia, Pineland Noseburn, and Meadow Joint-vetch—Most of these species are have a low to moderate likelihood of occurrence within the FPL West Secondary Corridor. Southern frog-fruit is known from the FPL West Secondary Corridor. Acquisition of the FPL West Secondary Corridor by NPS is expected to have long-term beneficial impacts on these species due to preservation and restoration of habitat for these plant species.

These species have a low to moderate likelihood of occurrence in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Alternative 2 is expected to have short- to long-term negligible to minor adverse impacts on these plant species. Short-term impacts would be related to disturbance during construction or maintenance, whereas long-term impacts would be related to habitat loss.

Small's Flax—There is a low likelihood that Small's flax could occur in disturbed uplands and disturbed wetlands, such as margins of canals, within the FPL West Secondary Corridor. NPS acquisition of the FPL West Secondary Corridor is expected to have no impact on Small's flax. There is a moderate likelihood that Small's flax could occur in disturbed uplands and disturbed wetlands, such as margins of canals, within the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Effects to this species from construction and maintenance of the transmission lines are expected to be negligible to minor adverse.

Cumulative Impacts

The cumulative impacts on special-status species from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 2 would allow flowage/implementation of the ecosystem restoration projects and benefit some species. However, alternative 2 would also result in short- and long-term negligible to major adverse impacts from construction of the transmission line in areas outside the park. These impacts would contribute appreciable beneficial and noticeable adverse impacts to the overall cumulative effects on special-status species in this area. The cumulative contribution to adverse effects on avian species utilizing wetland habitats are generally less under this alternative than under other alternatives.

Conclusion

NPS acquisition of the FPL West Secondary Corridor would provide long-term benefits to special-status species since this would mean there would be no impediments to water restoration projects from future use of this parcel. Impacts on special-status species would be varied as noted in the alternative 2 analysis. The Section 7 determinations for the federally listed species and the impacts on the state-listed species that could potentially occur in the area of analysis are summarized for this and other alternatives in tables 27 and 28 at the end of this section. In general, construction and operation of transmission lines in the West Consensus Corridor east of the park would have effects on many listed species in the area. Alternative 2 would have lower risks to wood storks and Everglade snail kites than construction on the FPL corridors due to the location of the lines farther away from known nesting and foraging locations. The routing of the corridor east about one mile south of the Tamiami Trail helps to decrease (but not eliminate) the risk to wood stork, snail kite, and wading birds that nest in the northeast corner of the park. Impacts on species that are known to inhabit disturbed or open areas would be expected to be higher due to the land uses in the West Consensus Corridor.

The park would continue to coordinate with USFWS and state resource agencies to participate in the Turkey Point Power Plant Units 6 and 7 project, and work to mitigate adverse impacts on these species. However, some losses may be unavoidable. Alternative 2 would contribute appreciable beneficial and noticeable adverse impacts to the overall cumulative effects on special-status species in this area. The cumulative contribution to adverse effects on avian species using wetland habitats are generally less under this alternative than under other alternatives.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 3, there would be benefits to special-status species because the exchange would remove a large area of non-NPS ownership of land within the interior of the park, ensuring that no other development would be proposed in this area and that the various Everglades ecosystem restoration projects could occur without any obstacles relating to the presence of this parcel. The connectivity of the EEEA wetlands would be ensured, and a potential source of nonnative vegetation not under NPS control would be removed. Placing ownership of this area solely with the NPS would enhance the ability to provide more natural water flows to the park, which in turn would enhance the conservation of the resources and values of the park, including special-status species, a substantial long –term beneficial impact. In addition, as a result of the exchange, the park would realize a net gain of 60 acres of higher value wetlands. The exchange corridor given to FPL is 260 acres of mostly wetlands located at the edge of the park, close to developed areas, some of which are infested with nonnative species, which thereby reduces its value as wildlife habitat. The FPL corridor gained by the park is 320 acres that is farther from developed areas and generally has fewer nonnative species than the corridor gained by FPL. Impacts on

individual special-status species from NPS acquisition of the FPL West Secondary Corridor would the same as discussed under alternative 2 for this action and are not repeated in the species discussion below.

Impacts of Transmission Line Construction

Under alternative 3, impacts would result from the construction of transmission lines within the exchange corridor, directly adjacent to park lands on the eastern edge of the park, as described earlier in this chapter and appendix F. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will no longer own or control the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable. Terms and conditions are found in appendix G.

Indirect short- and long-term impacts, ranging from no effect / negligible to potentially major adverse impacts will accrue to special-status species from transmission line construction and presence along FPL West Preferred Corridor. Construction of transmission lines in this corridor would have a relatively high risk to avian species because of the proximity to nesting and foraging locations.

In addition to the mitigation measures included in the SCA, any construction in this corridor would need to adhere to all terms and conditions of the land exchange. Terms and conditions applicable to special-status species include:

1. Requirement for pre-construction and construction surveys for plants, wildlife, and habitat
2. Requirement for an avoidance, minimization, and mitigation plan for impacts on special-status species
3. Requirement for avian and bat protection:
    - All utility-related infrastructure shall be constructed, operated, and maintained utilizing state-of-the-art practices to eliminate or reduce injury/mortality of avian and bat species to the maximum extent practicable. These practices shall include mitigation measures that follow appropriate guidelines, including but not limited to Avian Power Line Interaction Committee guidelines, both during and after construction, including operations and maintenance activities. In locations where NPS determines, in consultation with FPL, that maximizing the level of protection of avian species is warranted, guy wires will not be used to the maximum extent practicable. Transmission structure spacing and sizing will be varied to lower certain structures or stagger the normal span distances in areas within proximity of wading bird colonies to minimize possible interactions. Other design alternatives may also be available in certain locales. Measures for eliminating or reducing injury/mortality of avian and bat species would all be evaluated in consultation with appropriate agency personnel prior to implementation.
    - Prior to commencing any construction, FPL shall develop a detailed pre- and post-construction avian and bat protection plan with concurrence of NPS and other appropriate federal and state agencies. The plan shall reflect the requirements for avian protection required by appropriate regulatory authorities. The plan will include pre- and post-construction monitoring to address avian and bat flight presence, flight level, position, and frequency in flight in relation to the transmission line configurations. The plan will focus on federal- and state-listed species in the vicinity of the proposed transmission route and assess impacts of transmission infrastructure on their populations. The pre-construction study will be conducted over an appropriate time period agreed upon by NPS and other appropriate federal and state agencies prior to initiating construction to address data variations related to inter-annual variation in the location

and quality of habitat and food resources, climatic variability. The study will be conducted throughout the year to address seasonal migratory species and flight patterns. The plan will be reviewed on an annual basis.

Since publication of the draft EIS, alternative 3 was modified to include the expectation that FPL would endeavor to locate transmission lines outside the current park boundary to the extent possible. Any of the NPS lands not needed for proposed transmission line construction would be reconveyed to the NPS. Based on this change, the NPS action under alternative 3 no longer results in a clear expectation that transmission lines would be built on exchanged lands and, consequently, the construction of transmission lines no longer meets the definition of an interrelated and interdependent action for Section 7 consultation. As a result, the NPS consultation for the preferred alternative, alternative 3, is limited to those effects resulting from the land exchange. The Section 7 determinations related to transmission line construction identified below are those the USACE would be expected to make when consulting on the issuance of permits for transmission line construction under the CWA. The Section 7 determinations were made as if the transmission line structures were constructed entirely within the FPL West Preferred Corridor for a conservative analysis; however, if the structures were constructed outside of the FPL West Preferred Corridor, Section 7 determinations would be similar to those described for alternative 2.

Impacts on special-status species are presented below.

Federally Listed Species

West Indian Manatee—The West Indian Manatee may occasionally be found in the SFWMD canals crossed by the FPL West Preferred Corridor. No in-water work in the canals is anticipated during construction of the transmission lines. Appropriate erosion control measures will be implemented during construction to prevent degradation of adjacent waterbodies. Transmission line construction stormwater discharges released into waters of the state will be addressed through compliance with Rule 62-621.300(4) (Generic Permit for Stormwater from Large and Small Construction Activities). In the event of inadvertent equipment or vehicle fluid release during construction, construction crews will be equipped with spill containment and absorption materials. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

Section 7 Determination of Effect—Under alternative 3, the exchange of FPL and NPS lands within the EEEA and subsequent construction of transmission lines in the FPL West Preferred Corridor, there would be no impacts on the manatee. This would equate to a, “no effect” determination.

Florida Panther—The Florida panther is known from the area of analysis and the FPL West Preferred Corridor is within the Primary Zone of the Panther Focus Area. Panthers have been known to occur in the park in the vicinity of the FPL West Preferred Corridor. Construction traffic and noise is likely to cause short-term changes to the travel patterns and hunting behaviors of panthers in this area. This would also be true for line maintenance activities. These impacts are considered short-term, minor, and adverse. The loss of native wetland foraging habitat due to road and pad fill is considered a long-term moderate adverse impact. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. FPL will work with USFWS/FFWCC to mitigate any potential impacts on Florida panther habitat once a corridor is certified and a specific right-of-way is designed.

Section 7 Determination of Effect— Alternative 3, the exchange of FPL and NPS lands within the EEEA may affect, but is not likely to adversely affect the Florida panther. Subsequent construction of transmission lines in the FPL West Preferred Corridor would have minor to moderate, short and long term, adverse impacts on Florida panther. This would equate to a "may affect, likely to adversely affect" determination. This represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Florida Bonneted Bat—The Florida bonneted bat has been recorded in the park in the vicinity of the FPL West Preferred Corridor. Right-of-way and access road clearing activities may result in loss of small amounts of roosting habitat (palm and other tree foliage). If bats are roosting in the areas when clearing takes place, bat injury or mortality may occur. These impacts may also occur during line maintenance activities. The loss of roosting habitat is considered a long-term, moderate, adverse impact on Florida bonneted bats. Injury or mortality to Florida bonneted bats from right-of-way or access road clearing would be considered short term, moderate, and adverse. Protection measures implemented as part of the Avian and Bat Protection Plan required under the terms and conditions of the land exchange may lessen the impacts on Florida bonneted bats, but mortality could still occur. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

Section 7 Determination of Effect— Alternative 3, the exchange of FPL and NPS lands within the EEEA may affect, but is not likely to adversely affect the Florida bonneted bat. Subsequent construction of transmission lines in the FPL West Preferred Corridor, would have moderate adverse impacts on Florida bonneted bat. This would equate to a "may affect, likely to adversely affect" determination. This represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Wood Stork—Four wood stork colonies are known from the vicinity of the FPL West Preferred Corridor and the corridor is within the Core Foraging Area of these four colonies and additional colonies. As shown in table 26, the largest colony (Tamiami West/Coopertown) within a five radius of where the corridors cross Tamiami Trail is closer to the FPL West Secondary Corridor than to either the FPL West Preferred Corridor or the West Consensus Corridor. The Tamiami West (Coopertown) is located 0.96 mile from the FPL West Secondary Corridor, while the colony is located 2.81 miles from the FPL West Preferred Corridor. Moving construction of the transmission line from the FPL West Secondary Corridor to the FPL West Preferred Corridor also increases the distance from the Tamiami East 2 and 3B Mud East colonies from the transmission lines (table 26). However, the distance from the Tamiami East 1 colony to the FPL West Preferred Corridor (0.51 mile) is less than that between the colony and the FPL West Secondary Corridor (1.25 miles). Overall, construction in the FPL West Preferred Corridor instead of the FPL West Secondary Corridor moves the transmission lines further away from a greater number of nesting wood storks. The results of the risk assessment indicate that the FPL West Preferred Corridor poses an intermediate risk to wood storks when compared to the other two corridors (Exponent 2013, amended 2015) (figures 49 and 52).

FPL will comply with any federal permit conditions regarding wood stork colonies, including those related to mitigation for lost foraging habitat. The FPL construction designs would include features to minimize impacts on avian species including the wood stork. For example, the spacing between transmission conductors (wires) for the proposed 230- and 500-kV lines would be far greater than the 61-inch wingspan for the wood stork, greatly minimizing the threat for electrical harm to the bird. These designs would be consistent with the FFWCC-recommended Conditions of Certification to install flight diverters on overhead ground wires to minimize bird interactions with the lines in areas within 1/2 mile of active wood stork colonies and the FPL design standard of installing perch discouragers on all new 230-

and 500-kV transmission line structures. The FPL designs would be consistent with the Mitigation Concepts document FPL provided to the NPS (FPL 2010). However, these measures are not expected to eliminate all impacts on wood storks.

Further, an Avian and Bat Protection Plan, consistent with the Mitigation Concepts document, and Avian Power Line Interaction Committee guidelines, and terms and conditions would be developed in consultation with USFWS. In the mitigation concepts document, FPL suggested that various mitigation options are available in certain areas to reduce potential impacts on wading birds. These options include wildlife and wading bird colony surveys to document which species and in what areas of the right-of-way alignment potential impacts are possible in addition to the design features, such as perch discouragers on the towers and flight diverters mentioned above.

Subsequent to submission of that document to NPS, FPL has been negotiating proposed Conditions of Certification with the FFWCC and SFWMD. Included in those proposed Conditions of Certification are requirements for pre-construction listed species surveys all along the right-of-way and ground and follow-flight surveys of wading bird usage along the right-of-way in areas of known wading bird colonies. The proposed Conditions of Certification also require potential design alternatives such as perch discouragers and flight diverters in areas of those known colonies. FPL would also work with FFWCC to design a post-construction mitigation effectiveness monitoring study. Based on the results of such a study, FPL may be required to implement further mitigation measures, such as additional flight diverters. A specific design has not yet been selected, so these measures are not specifically incorporated into the analysis in this EIS.

Transmission line and access road construction would result in the loss or alteration of foraging habitat for this species when wetlands are filled to create access roads and structure pads and if the hydrology of wetlands adjacent to construction areas is altered. This loss of foraging habitat is considered a long term, moderate, adverse impact on the species. Ecosystem restoration is expected to significantly benefit wood storks and other wading birds in the area by restoring the natural seasonal patterns of flow and improving prey availability across the landscape. Foraging and nesting behavior may also be altered during the construction period due to the construction noise and equipment traffic. These impacts are considered short term, moderate, and adverse. The presence of the two 500-kV and one 230-kV transmission lines (tower structures, guy wires, and electrical transmission cable lines) present a strike hazard that could result in wood stork injury or mortality. Avian protection devices, such as line markers may be installed on the lines as part of the terms and conditions of the land exchange, which could reduce the likelihood of line strikes, but will not eliminate all mortality. The impact of birds striking the lines is long term, major, and adverse. The impacts of powerline collisions may lead to population decline as a result of the population-wide significance of the affected colonies to the wood stork population.

Section 7 Determination of Effect— Alternative 3, the exchange of FPL and NPS lands within the EEEA may affect, but is not likely to adversely affect the wood stork. Subsequent construction of transmission lines in the FPL West Preferred Corridor would have moderate to major short- and long-term adverse impacts on the wood stork. This would equate to a “may affect, likely to adversely affect” determination. This represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit. The findings of the Exponent Risk Assessment (Exponent 2013, amended 2015) and the NPS risk assessment (2010) are incorporated by reference into this EIS.

Everglade Snail Kite—The Everglade snail kite is known to nest in the eastern portion of the park in the footprint of the FPL West Preferred Corridor and forages on apple snails in wetlands in the area of analysis. The noise and vehicular traffic associated with construction of the transmission lines and access road construction is likely to cause changes in Everglade snail kite behaviors such as foraging, breeding,

and nesting. These impacts would be considered short term, minor, and adverse. Filling of wetlands for structure pads and access roads would also result in loss or alteration of foraging and nesting habitat for Everglade snail kite. The loss of foraging and nesting habitat would be considered a long term, moderate, adverse impact. Avian protection measures implemented as part of the Avian and Bat Protection Plan required under the terms and conditions on the land exchange may lessen the impacts of the line construction and operation on snail kite.

The risk assessment conducted by Exponent (2013, amended 2015), found that the FPL West Preferred Corridor posed an intermediate risk to snail kites (figure 53). Snail kite collisions with powerlines may rarely occur, but are not expected to cause a decline in the population because of the low expected occurrence. Impacts on Everglade snail kite from line collisions and electrocutions are expected to be long term, moderate, and adverse. The FPL construction designs would include features to minimize impacts on avian species including the Everglade snail kite. The FPL designs would be consistent with the Mitigation Concepts document FPL provided to the NPS (FPL 2010) and the Avian Power Line Interaction Committee guidelines. However, these measures are not expected to eliminate all impacts on the Everglade snail kite. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

Section 7 Determination of Effect— Alternative 3, the exchange of FPL and NPS lands within the EEEA may affect, but is not likely to adversely affect the Everglade snail kite. Subsequent construction of transmission lines in the FPL West Preferred Corridor, would have minor to moderate short- and long-term adverse impacts on the Everglade snail kite. This would equate to a “may affect, and is likely to adversely affect” determination. This represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit. The findings of the Exponent Risk Assessment (Exponent 2013, amended 2015) and the NPS risk assessment (2010) are incorporated by reference into this EIS.

Eastern Indigo Snake—The eastern indigo snake may occasionally occur in tree inlands and other upland areas within and adjacent to the FPL West Preferred Corridor. Construction noise and vehicle traffic may result in changes in eastern indigo behavior. These impacts are considered short term, minor, and adverse. Indigo snakes may be killed or injured during clearing and construction activities if they are present. These impacts would be considered short term, moderate, and adverse. Terms and conditions may limit these impacts if surveys are conducted prior to construction. Construction of structure pads and access roads would also eliminate habitat for indigo snakes. These impacts would be considered moderate, long term, and adverse.

Section 7 Determination of Effect— Alternative 3, the exchange of FPL and NPS lands within the EEEA may affect, but is not likely to adversely affect the Eastern indigo snake. Subsequent construction of transmission lines in the FPL West Preferred Corridor would have moderate short term and long term adverse impacts on the eastern indigo snake. This would equate to a “may affect, likely to adversely affect” determination. This represents the effect determination that the NPS expects the USACE to make in consultation with the USFWS if or when FPL seeks issuance of a CWA Section 404 permit.

Blodgett’s Silverbush, Garber’s Spurge, Sand Flax, and Tiny Polygala—These species are unlikely to occur within the FPL West Preferred Corridor due to lack of habitat. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. No effects to these species from transmission line construction and maintenance are expected

Section 7 Determination of Effects— Alternative 3, the exchange of FPL and NPS lands within the EEEA will have no effect on these species. Subsequent construction of transmission lines in the FPL West Preferred Corridor, would have negligible adverse impacts on Blodgett's silverbush, Garber's spurge, sand flax, and tiny polygala. This would equate to a "no effect" determination.

State-listed Species

Everglades Mink—The Everglades mink is likely to forage in wetland areas within and adjacent to the FPL West Preferred Corridor. Construction noise and traffic may alter the behavior of Everglades mink in the area during the construction period. This is also likely true for line maintenance activities. These impacts would be considered short term, minor, and averse. Filling of wetlands for structure pads and access roads would result in long term, moderate, adverse impacts. FPL will work with FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Alternative 3, the exchange of FPL and NPS lands within the EEEA and subsequent construction of transmission lines in the FPL West Preferred Corridor, would have short- and long-term minor to moderate adverse impacts on the Everglades mink.

Florida Sandhill Crane—The Florida sandhill may occasionally forage within the FPL West Preferred Corridor. Preferred habitats of the Florida sandhill crane include freshwater herbaceous wetlands (Exponent 2013, amended 2015). According to the ARA, relative risk to cranes, based on distance of the preferred focal habitats from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for the hypothetical corridor within the area of possible relocated (Exponent 2013, amended 2015) (figure 54).

Construction noise and traffic may impact Florida sandhill crane behavior during the construction period. This would also be true for line maintenance activities. These impacts are considered short term, minor and adverse. Construction of the access roads and structure pads may result in a loss of foraging habitat for this species. These impacts are considered long term, minor, and adverse. In addition, construction of the transmission lines would create a strike hazard for Florida sandhill crane. Impacts from Florida sandhill crane line strikes are considered long term, moderate, and adverse. Avian protection measures implemented as part of the Avian and Bat Protection Plan required under the terms and conditions of the land exchange may lessen the impacts of the line construction and operation on Florida sandhill crane. FPL will work with FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Alternative 3, the exchange of FPL and NPS lands within the EEEA and subsequent construction of transmission lines in the FPL West Preferred Corridor would have short- and long-term minor to moderate adverse impacts on the Florida sandhill crane.

White-crowned Pigeon—The white-crowned pigeon is moderately likely to forage on the fruit of poisonwood trees in the FPL West Preferred Corridor, but is not known to nest in this area. The ARA found that the relative risk to white-crowned pigeons, based on distance of the preferred habitats from the transmission corridors, was generally greatest for FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for the hypothetical corridor within the area of possible relocated corridor (figure 55). Impacts on white-crowned pigeons from alternative 3, the exchange of FPL and NPS lands within the EEEA and subsequent construction of transmission lines in the FPL West Preferred Corridor, are expected to be minor adverse as poisonwood trees are found in wetland and upland areas throughout south Florida. Avian protection measures implemented as part of the Avian and Bat Protection Plan required under the terms and conditions on the land exchange may lessen the impacts of the line construction and operation on the white-crowned pigeon. FPL will work with FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.

Limpkin, Little Blue Heron, Snowy Egret, Tricolored Heron, and Roseate Spoonbill—These wading birds are likely to forage within the park in the vicinity of the FPL West Preferred Corridor. Mixed rookeries of wading birds also occur within the vicinity of the FPL West Preferred Corridor. The ARA found that the relative risk to these wading bird species, based on distance of the preferred habitats from the transmission corridors, was generally greatest for FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for the hypothetical corridor within the area of possible relocated corridor (Exponent 2013, amended 2015). The behavior of these birds is likely to be impacted by the increased noise and vehicle levels during the construction period. The same would also be true for line maintenance activities. These impacts are considered short term, minor, and adverse. Construction of access roads and structure pads would result in loss or alteration of wetland foraging habitats. The impact of the lost habitat is expected to be long term, moderate, and adverse. Construction of the transmission lines and the associated towers and guy wires would create a strike hazard for the wading birds. The impact of bird injury and mortality due to line strikes is considered long term, moderate, and adverse. Avian protection measures implemented as part of the Avian and Bat Protection Plan required under the terms and conditions on the land exchange may lessen the impacts of the line construction and operation on wading birds. The FPL construction designs would include features to minimize impacts on avian species. The FPL designs would be consistent with the Mitigation Concepts document FPL provided to the NPS (FPL 2010). However, these measures are not expected to eliminate all impacts on avian species.

For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with the FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Impacts on wading birds from alternative 3, the exchange of FPL and NPS lands within the EEEA and subsequent construction of transmission lines in the FPL West Preferred Corridor, are expected to be short to long term, minor to moderate, and adverse. These impacts are not expected to result in population level changes for the species or in species being extirpated from the park.

Florida Burrowing Owl and Gopher Tortoise—Due to their preference for dry sandy habitats such as longleaf pine xeric oak sandhills, the Florida burrowing owl and gopher tortoise are not likely to occur in the FPL West Preferred Corridor. Impacts on Florida burrowing owl and gopher tortoise from alternative 3, the exchange of FPL and NPS lands within the EEEA and subsequent construction of transmission lines in the FPL West Preferred Corridor, are expected to be negligible adverse.

Pineland Jacquemontia, Eaton’s Spikemoss, Florida Royal Palm, Rockland Painted-Leaf, Everglades (or Pinelands) Pencil Flower, Bahama Saschia, Pinelands Noseburn, and Small’s Flax—These species have a low to moderate likelihood of occurrence in the FPL West Preferred Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Impacts on these plant species from alternative 3, the exchange of FPL and NPS lands within the EEEA and subsequent construction of transmission lines in the FPL West Preferred Corridor, are expected to be negligible to minor, long term, and adverse.

Meadow Joint-vetch, Southern Frog Fruit, Bahama Ladder Brake, and Pineland Allamanda—These plant species are known to occur in the EEEA and southern frog fruit, Bahama ladder brake and pineland allamanda have been observed in the proposed exchange corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. Impacts on these plant species from alternative 3, the exchange of FPL and NPS lands within the EEEA and subsequent construction of transmission lines in the FPL West Preferred Corridor, are expected to be negligible to moderate, long term, and adverse.

Cumulative Impacts

The cumulative impacts on special-status species from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 3 would allow flowage/implementation of the ecosystem restoration projects and benefit many species, but the land exchange and construction of the transmission line in the exchange corridor would result in short- and long-term negligible to major adverse impacts. These impacts would contribute noticeable adverse and appreciable beneficial impacts to the overall cumulative effects on special-status species in this area. The cumulative contribution to adverse effects on avian species would be high under this alternative because of the proximity to nesting and foraging locations.

Conclusion

NPS acquisition of the FPL West Secondary Corridor would provide long-term benefits to special-status species since this would mean no impediments to water restoration projects could occur from future use of this parcel. Alternative 3 would result in a wide range of impacts on special-status species, as described for the individual species in the above analysis. The Section 7 determinations for the federally listed species and the impacts on the state-listed species that could potentially occur in the area of analysis are summarized for this and other alternatives in tables 27 and 28 at the end of this section. In general, construction and operation of transmission lines in the FPL West Preferred Corridor would have effects on many listed species in the area and has high risks to wood storks and Everglade snail kites due to proximity of the lines to nesting and foraging locations

The park would continue to coordinate with the USFWS and state resource agencies, to participate in the Turkey Point Power Plant Units 6 and 7 project, and work to mitigate adverse impacts on these species. However, some losses may be unavoidable. Alternative 3 would contribute noticeable adverse and appreciable beneficial impacts to the overall cumulative effects on special-status species in this area. The cumulative contribution to adverse effects on avian species would be high under this alternative because of the proximity to nesting and foraging locations.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 4, the NPS would acquire fee title to the FPL property (FPL West Secondary Corridor) through an exchange for an easement on NPS property (exchange corridor). Under alternative 4, there would be benefits to special-status species as described under alternative 3, but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance to special-status species or removal of habitat.

Impacts of Transmission Line Construction

Although FPL would not own the property, impacts on special-status species would be the same as described under alternative 3. This is because there are no substantial differences in the terms and conditions under this alternative and no expected differences in how special-status species would be treated under an easement as opposed to under fee ownership, given the mitigation that FPL included in its SCA and expected conditions in the required resource stewardship plan. With an easement, the land would be used for transmission lines only and there would be less chance of other types of utility related facilities being constructed that could disrupt species in the area. The implementation of the terms and conditions represent an attempt at minimization of the overall impacts to wildlife by requiring FPL to avoid, minimize, and mitigate impacts on park resources during the construction and operation of the

transmission lines within the FPL West Preferred Corridor. Overall impacts on special-status species would be short- to long-term, negligible to major, and adverse; see descriptions under alternative 3 for details for each species.

Cumulative Impacts

Cumulative impacts under alternative 4 would be similar to alternative 3 with some additional cumulative benefits from having an easement arrangement and having NPS policies apply to the easement area. Also, the terms and conditions for alternative 4 result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance to special-status species or removal of habitat. Alternative 4 would allow flowage and implementation of the ecosystem restoration projects, which would benefit many species. But the land exchange and construction of the transmission line in the exchange corridor would result in short- and long-term negligible to major adverse impacts. These impacts would contribute noticeable adverse and appreciable beneficial impacts to the overall cumulative effects on special-status species in this area. The cumulative contribution to adverse effects on avian species would be high under this alternative because of the proximity to nesting and foraging locations.

Conclusion

Impacts associated with alternative 4 would be essentially the same as described for alternative 3 except that no other utilities could be built in the corridor, which would lessen the risk of additional impacts of these facilities on special-status species. A wide range of impacts would occur on special-status species, as described for the individual species in the analysis for alternative 3. The Section 7 determinations for the federally listed species and the impacts on the state-listed species that could potentially occur in the area of analysis are summarized for this and other alternatives in tables 27 and 28 at the end of this section. In general, construction and operation of transmission lines in the FPL West Preferred Corridor would have effects on many listed species in the area and have high risks to wood storks and Everglade snail kites due to proximity of the lines to nesting and foraging locations

The park would continue to coordinate with USFWS and state resource agencies to participate in the Turkey Point Power Plant Units 6 and 7 project, and work to mitigate adverse impacts on these species. However, some losses may be unavoidable. Alternative 4 would contribute noticeable adverse and appreciable beneficial impacts to the overall cumulative effects on special-status species in this area. The cumulative contribution to adverse effects on avian species would be high under this alternative because of the proximity to nesting and foraging locations.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

There would be substantial long-term benefits to special-status species from having a flowage easement on the FPL parcel in the EEEA, since this would mean no impediments to ecosystem restoration projects could occur from future use of this parcel. This would benefit park resources, including special-status species, by allowing habitat and hydrologic restoration projects to continue in the EEEA.

Impacts of Transmission Line Construction

Impacts on special-status species from transmission line construction under alternative 5 would be the same as those described under alternative 1b. Please see the discussion there for impacts on individual species.

Cumulative Impacts

The cumulative impacts on special-status species from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 5 would provide substantial beneficial impacts because flowage easement would allow the ecosystem restoration projects to proceed. However, alternative 5 would have negligible to major long-term adverse impacts due to transmission line construction in the park with no gain of park protected habitat. These impacts would contribute both appreciable adverse and appreciable beneficial impacts to the overall cumulative effects on special-status species in this area. The benefits would not be as extensive as those under the alternatives that result in the acquisition of the FPL corridor in the park.

Conclusion

NPS acquisition of a flowage easement, or sufficient rights to flow additional water over the FPL West Secondary Corridor would provide substantial long-term benefits to special-status species since this would mean no impediments to ecosystem restoration projects could occur from future use of this parcel. A wide range of impacts would occur on special-status species from transmission line construction, as described for the individual species in the analysis for alternative 1b. The Section 7 determinations for the federally listed species and the impacts on the state-listed species that could potentially occur in the area of analysis are summarized for this and other alternatives in tables 27 and 28 at the end of this section. In general, construction and operation of transmission lines in the FPL West Secondary Corridor would have impacts on many listed species in the area and have high risks to avian species, especially wood storks and Everglade snail kites, due to proximity of the lines to nesting and foraging locations.

The park would continue to coordinate with USFWS and state resource agencies to participate in the Turkey Point Power Plant Units 6 and 7 project, and work to mitigate adverse impacts on these species. However, some losses may be unavoidable. Alternative 5 would contribute both appreciable adverse impacts and appreciable beneficial impacts to the overall cumulative effects on special-status species in this area. The benefits would not be as extensive as those under the alternatives that result in the acquisition of the FPL corridor in the park.

ESA Section 7 Impact Determination Conclusion

A summary of the ESA Section 7 determinations for each species and alternative is presented in table 27. Although the Section 7 determination is the same for all scenarios for each species, there may be difference in the relative risk of impact or potential for occurrence that are noted in the discussion above. For example, there are differences in risk for the avian species especially between the routes in the park and the route outside the park that are discussed in the text of this section and are addressed in more detail in the ARA completed for this project (Exponent 2013, amended 2015). However, the potential effects indicate that there may be adverse effects on individuals even in a lower risk situation, and so the determination remains “may affect, likely to adversely affect” in those cases.

TABLE 27: ENDANGERED SPECIES ACT SECTION 7 DETERMINATIONS BY SPECIES AND ALTERNATIVE

Note: Refer to table 3 in chapter 2 for a summary of cumulative impacts for each impact topic.

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
West Indian Manatee (*Trichechus manatus*)					
Impacts of the Land Acquisition Decision					
No impact—lack of a flowage easement or sufficient rights or interest to flow additional water over the FPL West Secondary Corridor is expected to have no impact on water levels within the canals in the project area where manatee are found.	**Same as 1a.**	**No impact—**the West Indian Manatee may occasionally be found in the SFWMD canals in the West Consensus Corridor and in the EEEA. The NPS acquisition of the FPL West Secondary Corridor within the park and subsequent water flows for habitat restoration projects are not anticipated to have a noticeable effect on water levels or water quality within the canals. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**No impact—**the West Indian Manatee may occasionally be found in the SFWMD canals in area the EEEA. The NPS land exchange with FPL is not anticipated to have a noticeable effect on water levels or water quality within the canals. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.	**Same as alternative 3**, but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance to special-status species or removal of habitat.	**No impact—**the NPS acquisition of a flowage easement over the FPL West Secondary Corridor and subsequent water flows for habitat restoration projects are not anticipated to have a noticeable effect on water levels or water quality within the canals.
Impacts of Transmission Line Construction					
No impact.	**No impact—**since no in-water work in the canals is expected and appropriate sedimentation and erosion controls will be implemented during construction.	**No impact—**since no in-water work in the canals is expected and appropriate sedimentation and erosion controls will be implemented during construction.	**No impact—**since no in-water work in the canals is expected and appropriate sedimentation and erosion controls will be implemented during construction.	**Same as alternative 3.**	**Same as alternative 1b.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
ESA Section 7 Determination					
Not applicable.	**No Effect—**lack of a flowage easement or sufficient rights or interest to flow additional water over the FPL West Secondary Corridor is expected to have negligible adverse impacts on water levels within the canals in the area of analysis where manatee are found. No in-water work in the canals is expected and appropriate sedimentation and erosion controls will be implemented during construction.	**No Effect—**NPS acquisition of the FPL West Secondary Corridor within the park and subsequent water flows for habitat restoration projects are not anticipated to have a noticeable effect on water levels or water quality within the canals. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. No in-water work in the canals is expected and appropriate sedimentation and erosion controls will be implemented during transmission line construction.	**No Effect—**The NPS land exchange with FPL is not anticipated to have a noticeable effect on water levels or water quality within the canals. No in-water work in the canals is expected and appropriate sedimentation and erosion controls will be implemented during transmission line construction. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.	**Same as alternative 3**	**No Effect—**the flowage easement or sufficient rights or interest to flow additional water over the FPL West Secondary Corridor is expected to have negligible adverse impacts on water levels within the canals in the area of analysis where manatee are found. No in-water work in the canals is expected and appropriate sedimentation and erosion controls will be implemented during construction.
Florida Panther (*Felis concolor coryi*)					
Impacts of the Land Acquisition Decision					
Long-term negligible adverse impacts—lack of a flowage easement or sufficient rights or interest to flow additional water over the FPL West	**Same as alternative 1a.**	**Long-term beneficial impacts—**NPS acquisition of the FPL West Secondary Corridor within the park will prevent the fragmentation and loss of habitat that would result if	**Long-term beneficial impacts—**The land exchange will prevent the fragmentation and loss of habitat that would result if development occurred in the FPL West Secondary	**Same as alternative 3**, but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated	**Limited long-term beneficial impacts—**from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA.

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Secondary Corridor is expected to have negligible adverse impacts on the Florida panther. There may be some changes in species diversity and abundance in the area of analysis, but these changes are not expected to have an adverse impact on the Florida panther.		development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable. The FPL West Secondary Corridor is more interior to the Primary and Secondary Panther Focus Areas than the FPL West Preferred Corridor and therefore is considered higher value habitat.	disturbance to special-status species or removal of habitat.	
Impacts of Transmission Line Construction					
No impact.	**Short- and long-term minor adverse impacts—**Construction traffic and noise and line maintenance activities are is likely to cause short-term changes to the travel patterns and hunting behaviors of panthers in this area. Increases in connectivity between habitat types and areas due to the transmission corridor may have long-	**Short- and long-term minor adverse impacts—** Construction traffic and noise and line maintenance activities are is likely to cause short-term changes to the travel patterns and hunting behaviors of panthers in this area. Increases in connectivity between habitat types and areas due to the transmission corridor may have long-	**Short- and long-term minor adverse impacts—** Construction traffic and noise and line maintenance activities are is likely to cause short-term changes to the travel patterns and hunting behaviors of panthers in this area. Increases in connectivity between habitat types and areas due to the transmission corridor may have long-term minor	**Same as alternative 3.**	**Same as alternative 1b.**

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	term minor adverse impacts on the Florida panther if they encourage movement between more developed areas where panther injury or mortality is likely to occur. Also, loss of native wetland foraging habitat in the Primary Panther Zone due to road and pad fill would be considered a long term, moderate adverse impact.	term minor adverse impacts on the Florida panther if they encourage movement between more developed areas where panther injury or mortality is likely to occur.	adverse impacts on the Florida panther if they encourage movement between more developed areas where panther injury or mortality is likely to occur. Also, loss of native wetland foraging habitat in the Primary Panther Zone due to road and pad fill would be considered a long-term moderate adverse impact.		
ESA Section 7 Determination					
Not applicable.	**May affect, likely to adversely affect—**lack of a flowage easement or sufficient rights or interest to flow additional water over the FPL West Secondary Corridor is expected to have negligible adverse impacts on Florida panther prey diversity and abundance in the area of analysis. Construction of the transmission line is expected to have short and long term, minor adverse impacts on Florida panther behavior and result in a loss of native wetland foraging habitat in the Primary Panther Zone, a long-term moderate adverse impact.	**May affect, not likely to adversely affect—**NPS acquisition of the FPL West Secondary Corridor within the park will provide long term benefits by preventing the fragmentation and loss of habitat that would occur if a transmission line was built through the park. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. Construction of the transmission line is expected to have short and long term, minor adverse impacts on Florida panther behavior.	**May affect, not likely to adversely affect for the land exchange, May affect, likely to adversely affect** for subsequent construction of powerlines—the land exchange between FPL and NPS will provide long-term benefits by preventing the fragmentation and loss of habitat that would occur if a transmission line was built through the park. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will	**Same as alternative 3.**	**May affect, likely to adversely affect—**the flowage easement or sufficient rights or interest to flow additional water over the FPL West Secondary Corridor is expected to have limited long-term beneficial impacts on Florida panther from completion of the hydrologic restoration component of planned ecosystem restoration projects. Construction of the transmission line is expected to have short and long term, minor adverse impacts on Florida panther behavior and result in a loss of native wetland

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			minimize impacts on special-status species to the maximum extent practicable. The FPL West Secondary Corridor is more interior to the Primary and Secondary Panther Focus Areas than the FPL West Preferred Corridor and therefore is considered higher value habitat. Construction of the transmission line is expected to have short and long term, minor adverse impacts on Florida panther behavior and result in a loss of native wetland foraging habitat in the Primary Panther Zone, a long-term moderate adverse impact.		foraging habitat in the Primary Panther Zone, a long-term moderate adverse impact.
Florida Bonneted Bat (*Eumops floridanus*)					
Impacts of the Land Acquisition Decision					
Long-term negligible adverse impacts—lack of a flowage easement or sufficient rights or interest to flow additional water over the FPL West Secondary Corridor is expected to have negligible adverse impacts on the Florida bonneted bat. The lack of flowage rights is not expected to reduce the acreage of tree cover	**Same as alternative 1a.**	**Long-term beneficial impacts—**by protecting tree islands in the park that may be used for roosting from clearing for transmission line construction. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**Long-term beneficial impacts—**the land exchange will prevent the fragmentation and loss of habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**Same under alternative 3**, but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance to special-status species or removal of habitat.	**Limited long-term beneficial impacts—**from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA.

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within the area of analysis, but there may be increase in tree cover or a change in tree community composition due to continued drier conditions in the EEEA. This is expected to have negligible adverse effects on Florida bonneted bat roosting habitat.			NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species (avian and bat protection plan) to the maximum extent practicable.		
Impacts of Transmission Line Construction					
No impact.	**Short- and long-term moderate adverse impacts—**the possible mortality of Florida bonneted bats during construction is considered a short term, moderate, adverse impact. The loss of potential roosting trees during right-of-way clearing is considered a long-term moderate impact.	**Short- and long-term moderate adverse impacts—**the possible mortality of Florida bonneted bats during construction is considered a short term, moderate, adverse impact. The loss of potential roosting trees during right-of-way clearing is considered a long-term moderate impact.	**Short- and long-term moderate adverse impacts—**the possible mortality of Florida bonneted bats during construction is considered a short term, moderate, adverse impact. The loss of potential roosting trees during right-of-way clearing is considered a long-term moderate impact. Protection measures implemented as part of the Avian and Bat Protection Plan required under the terms and conditions of the land exchange may lessen the impacts on Florida bonneted bats, but mortality could still occur.	**Same as alternative 3.**	**Same as alternative 1b.**

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ESA Section 7 Determination					
Not applicable.	**May affect, likely to adversely affect—**lack of a flowage easement or sufficient rights or interest to flow additional water over the FPL West Secondary Corridor is expected to have negligible adverse impacts on Florida bonneted bat in the area of analysis. Construction of the transmission line is expected to have short and long term, moderate adverse impacts on Florida bonneted bat due to potential mortality during construction and the loss of potential roosting trees.	**May affect, likely to adversely affect—t**he NPS acquisition of the FPL West Secondary Corridor within the park will provide long-term benefits by protecting tree islands in the park that may be used for roosting from clearing for transmission line construction. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. Construction of the transmission line outside the park is expected to have short and long term, moderate adverse impacts on Florida bonneted bat due to potential mortality during construction and the loss of potential roosting trees.	**May affect, not likely to adversely affect** for the land exchange; **May affect, likely to adversely affect** for subsequent construction of powerlines**—**the land exchange will provide long term benefits by preventing the fragmentation and loss of habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable. Construction of the transmission line is expected to have short and long term, moderate adverse impacts on Florida bonneted bat due to potential mortality during construction and the loss of potential roosting trees.	**Same as alternative 3.**	**May affect, likely to adversely affect—**from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA. Construction of the transmission line is expected to have short and long term, moderate adverse impacts on Florida bonneted bat due to potential mortality during construction and the loss of potential roosting trees.

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Wood Stork (*Mycteria americana*)					
Impacts of the Land Acquisition Decision					
Long-term major adverse impacts—without the supplemented water levels, the EEEA would continue to be subjected to dry periods which would result in soil loss and continuing poor quality wood stork foraging habitat during dry periods and reduced fledging success. These impacts could cause a population level decline in wood storks within the park.	**Same as alternative 1a.**	**Long term, substantial beneficial impacts—**NPS acquisition of the FPL West Secondary Corridor within the park would prevent the fragmentation and loss of foraging and potential nesting habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA. Acquiring ownership NPS acquisition of the FPL West Secondary Corridor would allow for application of NPS policies and procedures in this area.	**Long-term substantial beneficial impacts—**NPS acquisition of the FPL West Secondary Corridor within the park through a land transfer will prevent the fragmentation and loss of foraging and potential nesting habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.	**Same as alternative 3,** but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance to special-status species or removal of habitat.	**Long-term substantial beneficial impacts—**from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA, which are expected to improve foraging and potential nesting habitat for the wood stork.
Impacts of Transmission Line Construction					
No impacts.	**Short- and long-term minor to major adverse impacts—**short-term minor to moderate adverse impacts would be	**Short- and long-term minor to moderate adverse impacts—**short-term minor to moderate adverse impacts would be	**Short- and long-term minor to major adverse impacts—**short-term minor to moderate adverse impacts would be related to	**Same as alternative 3.**	**Same as alternative 1b.**

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	related to disturbance during the construction period and during line maintenance. Long-term moderate to major adverse impacts would be due to habitat loss or degradation and the risk of mortality from line strikes or electrocution. These impacts could cause a population level decline in wood storks within the park.	related to disturbance during the construction period and during line maintenance. Long-term minor to moderate adverse impacts would be due to habitat loss or degradation and the risk of mortality from line strikes or electrocution. An ARA conducted for this project indicates that construction in the area of possible relocated corridor poses the least risk to wood stork when compared to the FPL West Secondary and FPL West Preferred Corridors; the West Consensus Corridor would present risk that falls between the FPL West Preferred Corridor and the area of possible relocated corridor, and would be further away from known colonies in the northeast section of the EEEA.	disturbance during the construction period and during line maintenance. Long-term moderate to major adverse impacts would be due to habitat loss or degradation and the risk of mortality from line strikes or electrocution. These impacts could cause a population level decline in wood storks within the park. Protection measures implemented as part of the Avian and Bat Protection Plan required under the terms and conditions of the land exchange may lessen the impacts on wood storks, but mortality could still occur. An ARA conducted for this project indicates that construction of transmission lines within the FPL West Preferred Corridor poses less risk to wood stork than construction in the FPL West Secondary Corridor.		
ESA Section 7 Determination					
Not applicable.	**May affect, likely to adversely affect—**lack of a flowage easement or sufficient rights or interest to flow additional water over the FPL West Secondary Corridor is expected to have long term, major adverse impacts due to the	**May affect, likely to adversely affect—**NPS acquisition of the FPL West Secondary Corridor within the park will prevent the fragmentation and loss of foraging and potential nesting habitat that would result if development occurred in the FPL West	**May affect, not likely to adversely affect** for the land exchange; **May affect, likely to adversely affect** for subsequent construction of powerlines**—**NPS acquisition of the FPL West Secondary Corridor within the park through the land transfer will prevent the	**Same as alternative 3.**	**May affect, likely to adversely affect—**the flowage easement or sufficient rights or interest to flow additional water over the FPL West Secondary Corridor is expected to have long-term beneficial impacts

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	continued presence of degraded foraging and nesting habitat within the EEEA. The construction of the transmission line will result in loss of foraging and potential nesting habitat and will present an ongoing risk to wood storks from line collisions and electrocutions.	Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West Secondary Corridor within the park and the subsequent construction of the transmission lines outside the park in the West Consensus Corridor will reduce but not eliminate risks to wood storks from line strikes and electrocution when compared to construction in either the FPL West Secondary or FPL West Preferred Corridors.	fragmentation and loss of foraging and potential nesting habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. The construction of the transmission line will result in loss of foraging and potential nesting habitat and will present an ongoing risk to wood storks from line collisions and electrocutions. Protection measures implemented as part of the Avian and Bat Protection Plan required under the terms and conditions of the land exchange may lessen the impacts on wood storks, but mortality could still occur.		on wood stork. This alternative would allow for completion of the hydrologic restoration portion of planned ecosystem restoration projects, which are expected to improve foraging and nesting habitat within the area of analysis. The construction of the transmission line would result in loss of foraging and potential nesting habitat and would present an ongoing risk to wood storks from line collisions and electrocutions.
Everglade snail kite (*Rostrhamus sociabilis plumbeus*)					
Impacts of the Land Acquisition Decision					
Long-term major adverse impacts—A continuation of limited and poor quality foraging habitat due to continuing dry conditions is expected to result in continuing poor reproductive success. This may result in population	**Same as alternative 1a.**	**Long-term substantial beneficial impacts—**NPS acquisition of the FPL West Secondary Corridor would prevent the fragmentation and loss of high-quality foraging and nesting habitat that would occur if a transmission line were built in this corridor. This alternative would	**Long-term substantial beneficial** impacts**—**NPS acquisition of the FPL West Secondary Corridor through a land exchange would prevent the fragmentation and loss of high quality foraging and nesting habitat that would occur if a transmission line was built in this corridor and would	**Same as alternative 3,** but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance to special-status species or removal of habitat.	**Long-term substantial beneficial impacts—** would result from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA. These projects are expected to improve foraging and potential

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declines within the park.		allow for application of NPS policies and procedures in this area and would allow for the flow of water across this corridor as needed for wetland habitat and hydrologic restoration projects. Hydrologic restoration would result in beneficial effects to kites through habitat improvement in EEEA.	allow for the flow of water across this corridor as needed for wetland habitat and hydrologic restoration projects. Hydrologic restoration would result in beneficial effects to kites through habitat improvement in EEEA. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.		nesting habitat for the Everglade snail kite.
Impacts of Transmission Line Construction					
No impact.	**Short- and long-term minor to major adverse impacts—**short-term minor to moderate adverse impacts would be related to disturbance during the construction period and during line maintenance. Long-term moderate to major adverse impacts would be due to habitat loss or degradation and the risk of mortality from line strikes or electrocution.	**Short and long-term minor to moderate adverse impacts—**short-term minor to moderate adverse impacts would be related to disturbance during the construction period and during line maintenance. Long-term moderate impacts would be due to habitat loss or degradation and the risk of mortality from line strikes or electrocution. An ARA conducted for this project	**Short and long-term, minor to moderate adverse impacts—**short-term minor to moderate adverse impacts would be related to disturbance during the construction period and during line maintenance. Long-term moderate impacts would be due to habitat loss or degradation and the risk of mortality from line strikes or electrocution. An ARA conducted for this project	**Same as alternative 3.**	**Same as alternative 1b.**

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	These impacts could cause a population level decline in Everglade snail kites within the park.	indicates that construction in the area of possible relocated corridor poses the least risk to Everglade snail kite when compared to the FPL West Secondary and FPL West Preferred Corridors. The West Consensus Corridor would present risk that falls between the FPL West Preferred Corridor and the area of possible relocated corridor and would be further away from known nesting locations in the northeast section of the EEEA.	indicates that construction in the FPL West Secondary Corridor poses a greater risk to Everglade snail kite when compared to the FPL West Preferred Corridor and the hypothetical corridor within the area of possible relocated corridor. Protection measures implemented as part of the Avian and Bat Protection Plan required under the terms and conditions of the land exchange may lessen the impacts on snail kites, but mortality could still occur.		
ESA Section 7 Determination					
Not applicable.	**May affect, likely to adversely affect—**due to continued poor reproductive success from continued dry conditions that result in limited and poor quality foraging habitat in the area of analysis. Also due to the loss and degradation of habitat associated with the transmission line construction and the ongoing risk to Everglade snail kites from line collisions and electrocutions.	**May affect, likely to adversely affect—**NPS acquisition of the FPL West Secondary Corridor within the park will prevent the fragmentation and loss of foraging and potential nesting habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS acquisition of the FPL	**May affect, not likely to adversely affect** for the land exchange; **May affect, likely to adversely affect** for subsequent construction of powerlines **—**NPS acquisition of the FPL West Secondary Corridor within the park will through land transfer will prevent the fragmentation and loss of foraging and potential nesting habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West	**Same as alternative 3.**	**May affect, likely to adversely affect—**long term benefits would accrue from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA, which are expected to improve foraging and potential nesting habitat for the Everglade snail kite. Adverse impacts would accrue from the loss and degradation of habitat associated with the transmission line construction and the ongoing risk to

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		West Secondary Corridor within the park and the subsequent construction of the transmission lines outside the park in the West Consensus Corridor will reduce but not eliminate risks to Everglade snail kite from line strikes and electrocution when compared to construction in either the FPL West Secondary or FPL West Preferred Corridors.	Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable. NPS acquisition of the FPL West Secondary Corridor within the park and the subsequent construction of the transmission lines in the FPL West Preferred Corridor will reduce but not eliminate risks to Everglade snail kite from line strikes and electrocution.		Everglade snail kites from line collisions and electrocutions.
Eastern Indigo Snake (*Drymarchon corais couperi*)					
Impacts of the Land Acquisition Decision					
Long-term negligible adverse impacts— Because eastern indigo snakes utilize a wide variety of habitats and consume a wide variety of prey, the eastern indigo snake is expected to adapt to the continuing dry condition of the EEEA.	**Same as alternative** 1a.	**Long-term beneficial impacts—**from protection of potential foraging habitat from development. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**Long-term beneficial impacts—**NPS acquisition of the FPL West Secondary Corridor through a land exchange would prevent the fragmentation and loss of foraging habitat that would occur if a transmission line was built in this corridor. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**Same as alternative 3**, but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance to special-status species or removal of habitat.	**Limited long-term beneficial impacts—** from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA.

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			NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.		
Impacts of Transmission Line Construction					
No impact.	**Short- and long-term, minor to moderate adverse impacts—** construction noise and vehicle traffic may result in changes in short term, minor, and adverse impacts on eastern indigo behavior. Loss of habitat and mortality of eastern indigo snakes due to construction are considered long term, moderate adverse impacts.	**Short- and long-term minor to moderate adverse impacts—c**onstruction noise and vehicle traffic may result in changes in short term, minor, and adverse impacts on eastern indigo behavior. Loss of habitat and mortality of eastern indigo snakes due to construction are considered long term, moderate adverse impacts.	**Short- and long-term minor to moderate adverse impacts—c**onstruction noise and vehicle traffic may result in changes in short term, minor, and adverse impacts on eastern indigo behavior. Loss of habitat and mortality of eastern indigo snakes due to construction are considered long term, moderate adverse impacts.	**Same as alternative 3.**	**Same as alternative 1b.**
ESA Section 7 Determination					
Not applicable.	**May affect, likely to adversely affect—**lack of a flowage easement or sufficient rights or interest to flow additional water over the FPL West Secondary Corridor is expected to have no effect on the eastern indigo snake since the species is known to utilize both upland and wetland	**May affect, likely to adversely affect—**The NPS acquisition of the FPL West Secondary Corridor is expected to have long-term benefits to the eastern indigo snake from protection of potential foraging habitat from development. NPS acquisition of the FPL West Secondary Corridor	**May affect, not likely to adversely affect** for the land exchange; **May affect, likely to adversely affect** for subsequent construction of powerlines **—**The NPS acquisition of the FPL West Secondary Corridor through a land exchange is expected to have long-term benefits to the eastern indigo snake from	**Same as alternative 3.**	**May affect, likely to adversely affect—**the flowage easement or sufficient rights or interest to flow additional water over the FPL West Secondary Corridor is expected to limited long term benefits to the eastern indigo snake since the species is

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	habitats. Behavioral changes, loss of habitat, and potential mortality from line construction and maintenance activities are expected to have minor to moderate adverse impacts on eastern indigo snake.	will allow for application of NPS policies and procedures in this area. Behavioral changes, loss of habitat, and potential mortality from line construction and maintenance activities are expected to have minor to moderate adverse impacts on eastern indigo snake.	protection of potential foraging habitat from development. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable. Behavioral changes, loss of habitat, and potential mortality from line construction and maintenance activities are expected to have minor to moderate adverse impacts on eastern indigo snake.		known to utilize both upland and wetland habitats. Behavioral changes, loss of habitat, and potential mortality from line construction and maintenance activities are expected to have minor to moderate adverse impacts on eastern indigo snake.
Blodgett's Silverbush (*Argythamia blodgettii*)					
Impacts of the Land Acquisition Decision					
No impact—this species and its habitat are not known to occur in this area.	**No impact—**this species and its habitat are not known to occur in this area.	**No impact—**this species and its habitat are not known to occur in this area. NPS acquisition of the FPL West Secondary Corridor would allow for application of NPS policies and procedures in this area.	**No impact—**this species and its habitat are not known to occur in this area. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and	**Same as alternative 3**, but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance to special-status species or removal of habitat.	**Same as alternative 1b.**

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			conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.		
Impacts of Transmission Line Construction					
No impact.	**No impact—t**his species and its habitat are not known to occur in this portion of the EEEA.	**No impact—**this species is unlikely to occur in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL would work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**No impact—**this species is unlikely to occur in the FPL West Preferred Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL would work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**Same as alternative 3.**	**Same as alternative 1b.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
ESA Section 7 Determination					
Not applicable.	**No Effect—**this species and its habitat are not known to occur in this portion of the EEEA.	**No Effect—**this species is unlikely to occur in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL would work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. NPS acquisition of the FPL West Secondary Corridor would allow for application of NPS policies and procedures in this area.	**No Effect—**this species is unlikely to occur in the FPL West Preferred Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL would work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.	**Same as alternative 3.**	**Same as alternative 1b.**
Garber's Spurge (*Chamaesyce garberi*)					
Impacts of the Land Acquisition Decision					
No impact—this species and its habitat are not known to occur in this portion of the EEEA.	**Same as alternative 1a.**	**No impact—**this species and its habitat are not known to occur in this portion of the EEEA. NPS acquisition of the FPL West Secondary Corridor will allow for application of	**No impact—**this species and its habitat are not known to occur in this portion of the EEEA. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS	**Same as alternative 3**, but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated	**Same as alternative 1a.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
		NPS policies and procedures in this area.	policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.	disturbance to special-status species or removal of habitat.	
Impacts of Transmission Line Construction					
No impact.	**No impact—**this species and its habitat are not known to occur in this portion of the EEEA.	**No impact—**this species is unlikely to occur in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**No impact—**this species is unlikely to occur in this portion of the EEEA. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.	**Same as alternative 3.**	**Same as alternative 1b.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
ESA Section 7 Determination					
Not applicable.	**No Effect—**this species and its habitat are not known to occur in this portion of the EEEA.	**No Effect—**this species is unlikely to occur in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**No Effect—**this species is unlikely to occur in this portion of the EEEA. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.	**Same as alternative 3.**	**Same as alternative 1b.**
Sand Flax (*Linum arenicola*)					
Impacts of the Land Acquisition Decision					
No impact—this species and its habitat are not known to occur in this portion of the EEEA.	**Same as alternative 1a.**	**No impact—**this species and its habitat are not known to occur in the area of relocated corridor. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and	**No impact—**this species and its habitat are not known to occur in this portion of the EEEA. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in	**Same as alternative 3**, but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated disturbance to special-	**Same as alternative 1a.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
		procedures in this area.	this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.	status species or removal of habitat.	
Impacts of Transmission Line Construction					
No impact.	**No impact—**this species and its habitat are not known to occur in this portion of the EEEA.	**No impact—**this species is unlikely to occur in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**No impact—**this species is unlikely to occur in this portion of the EEEA. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.	**Same as alternative 3.**	**Same as alternative 1b.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
ESA Section 7 Determination					
Not applicable.	**No Effect—**this species and its habitat are not known to occur in this portion of the EEEA.	**No Effect—**this species is unlikely to occur in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**No Effect—**this species is unlikely to occur in this portion of the EEEA. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**Same as alternative 3.**	**Same as alternative 1b.**
Tiny Polygala (*Polygala smallii*)					
Impacts of the Land Acquisition Decision					
No impact—this species and its habitat are not known to occur in this portion of the EEEA.	**Same as alternative 1a.**	**No impact—**this species and its habitat are not known to occur in the area of relocated corridor. NPS acquisition of the FPL West Secondary Corridor will allow for application of	**No impact—**this species and its habitat are not known to occur in this portion of the EEEA. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS	**Same as alternative 3,** but with terms and conditions that result in the reduced risk of having additional utility facilities on the exchange corridor and associated	**Same as alternative 1a.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
		NPS policies and procedures in this area.	policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.	disturbance to special-status species or removal of habitat.	
Impacts of Transmission Line Construction					
No impact.	**No impact—**this species and its habitat are not known to occur in this portion of the EEEA.	**No impact—**this species is unlikely to occur in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**No impact—**this species is unlikely to occur in the area of possible relocated corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**Same as alternative 3.**	**Same as alternative 1b.**
ESA Section 7 Determination					
Not applicable.	**No Effect—**this species and its habitat are not known to occur in this portion of the EEEA.	**No Effect—**this species is unlikely to occur in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS to identify appropriate steps to avoid,	**No Effect—**this species is unlikely to occur in this portion of the EEEA. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is	**Same as alternative 3.**	**Same as alternative 1b.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
		minimize, mitigate, or otherwise appropriately address impacts on the species. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.		

The NPS is not seeking consultation or concurrence on species occurring on private lands. The NPS is only seeking concurrence on determinations for species occurring on federal lands. It should also be noted that the USFWS will only respond to effect determinations for the NPS preferred alternative, alternative 3. Under the revised alternative 3, the lands that NPS would provide for exchange may not be used, and would be reconveyed to the park if not needed for proposed transmission line construction. Based on this change from the draft EIS, the NPS action no longer results in a clear expectation that transmission lines would be built on exchanged lands and, consequently, the construction of transmission lines does not meet the definition of an interrelated and interdependent action. As a result, the scope of effects to listed species is limited to those effects resulting from the land exchange itself. Under alternative 3, these effects would be insignificant and discountable, and formal consultation with USFWS would not be required. However, additional consultation between the USACE and the USFWS would be required in the future to address the impacts specific to the route and design of the transmission lines once they are finalized. This final EIS still includes the description of the expected effects of transmission line construction since the NPS continues to believe that construction is reasonably foreseeable.

A summary of impacts on state-listed species is presented below as well (table 28).

VIEWSHED (VISUAL RESOURCES)

GUIDING REGULATIONS AND POLICIES

The NPS *Management Policies 2006* (NPS 2006a) states that scenic views and visual resources are considered highly valued associated characteristics. More specifically, Section 4.7 of those policies states that the Clean Air Act recognizes *integral vistas* as those views perceived from within areas of a specific landmark or panorama located outside the boundary of the area. Integral vistas are listed in Reference Manual 77 (NPS 2009a). There are no regulations requiring special protection of these integral vistas, but the NPS strives to protect these resources through cooperative means.

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

Impacts on scenic views and visual resources were determined by considering the effect of the existing conditions and the proposed construction and operation of the transmission lines on the overall visual experience of visitors who use the area and residents in the area.

As part of the analysis, photographs were taken from key observation points (KOPs) within the park and the West Consensus Corridor, as determined appropriate by park staff. Several site visits were conducted to obtain the appropriate photography required for the completion of photographic simulations. Weather conditions were not ideal during two of the major site visits, resulting in darker photographs than would be obtained on a perfectly clear day. Photographs were not digitally altered to improve visibility or brightness.

TABLE 28: IMPACTS ON STATE-LISTED SPECIES

Note: Refer to table 3 in chapter 2 for a summary of cumulative impacts for each impact topic.

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Everglades Mink (*Mustela vison evergladensis*)					
Impacts of the Land Acquisition Decision					
Long-term moderate adverse impacts—due to continued degradation and loss of foraging habitat due to continued dry conditions in the EEEA.	**Same as alternative 1a.**	**Long-term substantial beneficial impacts—**by protecting Everglades mink habitat from loss or degradation resulting from construction of transmission lines in this corridor and allowing for the flow of water across this corridor as needed for ecosystem restoration projects. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**Long-term substantial beneficial impacts—**The land exchange will prevent the fragmentation and loss of habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable (resource stewardship plan).	**Same as alternative 3.**	**Long-term substantial beneficial impacts—**from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA.
Impacts of Transmission Line Construction					
No impact.	**Short- and long-term minor to moderate adverse impacts—**short term, minor adverse impacts would occur from disturbance during construction and	**Short- and long-term minor to moderate adverse impacts—**short term, minor adverse impacts would occur from disturbance during construction and	**Short- and long-term minor to moderate adverse impacts—**short term, minor adverse impacts would occur from disturbance during construction and maintenance activities. Long-term moderate	**Same as alternative 3.**	**Same as alternative 1b.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
	maintenance activities. Long-term moderate adverse impacts would result from loss of habitat.	maintenance activities. Long-term moderate adverse impacts would result from loss of habitat.	adverse impacts would result from loss of habitat. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.		
Florida Sandhill Crane (*Grus canadensis pratensis*)					
Impacts of the Land Acquisition Decision					
No impact—since the Florida sandhill crane is known to utilize both wetland and upland areas for foraging.	**Same as alternative 1a**.	**Limited long-term beneficial impacts—**since the Florida sandhill crane is known to forage within both wetland and upland habitats within the region, NPS acquisition of the FPL West Secondary Corridor is expected to have limited long term benefits to the species because the corridor will now be under NPS control/management and NPS policies and protection for state-listed species would apply.	**Long-term beneficial impacts**—the land exchange will prevent the fragmentation and loss of habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.	**Same as alternative 3.**	**Limited long-term beneficial impacts—** from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA, since the Florida sandhill crane is known to forage within both wetland and upland habitats within the region.

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Impacts of Transmission Line Construction					
No impact.	**Short- and long-term minor to moderate adverse impacts—**short-term minor adverse impacts would occur from disturbance during construction and maintenance activities. Long-term moderate adverse impacts would result from loss of foraging habitat and the ongoing risk of line strikes and electrocution.	**Short- and long-term minor to moderate adverse impacts—**short-term minor adverse impacts would occur from disturbance during construction and maintenance activities. Long-term moderate adverse impacts would result from loss of foraging habitat and the ongoing risk of line strikes and electrocution. Preferred foraging habitats for the Florida sandhill crane are located closer to the hypothetical corridor within the area of possible relocated corridor, which increases the risk of line strikes and electrocutions when compared to the FPL West Secondary and FPL West Preferred Corridors. Risk for the West Consensus Corridor would be intermediate between the risk for the FPL West Preferred Corridor and the area of possible relocated corridor, but risk along the area that parallels the canal near the mining operation would be minimal due to the limited extent and disturbed condition of wetlands in that area.	**Short- and long-term minor to moderate adverse impacts—**short-term minor adverse impacts would occur from disturbance during construction and maintenance activities. Long-term moderate adverse impacts would result from loss of foraging habitat and the ongoing risk of line strikes and electrocution. Preferred foraging habitats for the Florida sandhill crane are located closer to the FPL West Preferred Corridor, which increases the risk of line strikes and electrocutions when compared to the FPL West Secondary Corridor and the hypothetical corridor within the area of possible relocated corridor.	**Same as alternative 3.**	**Same as alternative 1b.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
White-crowned Pigeon (*Patagioenas leucocephala*)					
Impacts of the Land Acquisition Decision					
Negligible adverse **/ no impact—**since the forage tree utilized by the white-crowned pigeon (poisonwood) is found in both upland and wetland habitats in south Florida.	**Same as alternative 1a**.	**Limited long-term benefits—**since the forage tree utilized by the white-crowned pigeon (poisonwood) is found in both upland and wetland habitats in south Florida, acquisition of the FPL West Secondary Corridor is expected to provide limited long term benefits to white-crowned pigeon because of NPS protection and management ability.	**Limited long-term benefits—**since the forage tree utilized by the white-crowned pigeon (poisonwood) is found in both upland and wetland habitats in south Florida, acquisition of the FPL West Secondary Corridor through land transfer is expected to provide limited long term benefits to white-crowned pigeon. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.	**Same as alternative 3.**	**Negligible** adverse **/ no impact—**from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA, since the forage tree utilized by the white-crowned pigeon (poisonwood) is found in both upland and wetland habitats in south Florida.
Impacts of Transmission Line Construction					
No impact.	**Short- and long-term minor adverse impacts—**short-term minor adverse impacts would occur from disturbance during construction and maintenance activities. Long-term minor adverse impacts would result from loss of	**Short- and long-term minor adverse impacts—**short-term minor adverse impacts would occur from disturbance during construction and maintenance activities. Long-term minor adverse impacts would result from loss of foraging habitat and the ongoing risk of line.	**Short- and long-term minor adverse impacts—**short-term minor adverse impacts would occur from disturbance during construction and maintenance activities. Long-term minor adverse impacts would result from loss of foraging habitat and the ongoing risk of line. Preferred foraging habitats for white-crowned pigeon area	**Same as alternative 3.**	**Same as alternative 1b.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
	foraging habitat and the ongoing risk of line.	Preferred foraging habitats for white-crowned pigeon area are located further from the hypothetical corridor within the area of possible relocated corridor than from either the FPL West Preferred or FPL West Secondary Corridors thereby reducing the risks to white-crowned pigeon from the transmission lines. when compared to construction in the FPL corridors. Risk related to the West Consensus Corridor would be similar to the FPL West Preferred Corridor, but minimal because of the lack of forested wetlands and forests along the path of the corridor.	are located further from the FPL West Preferred Corridor than from the FPL West Secondary Corridor thereby reducing the risks to white-crowned pigeon from the transmission lines when compared to construction in the FPL corridors.		
Limpkin (*Aramus guarauna*), Little Blue Heron (*Egretta caerulea*), Snowy Egret (*Egretta thula*), Tricolored Heron (*Egretta tricolor*), Roseate Spoonbill (*Platalea ajaja*)					
Impacts of the Land Acquisition Decision					
Long-term moderate adverse impacts—due to continued degradation and loss of foraging habitat. Without the supplemented water levels, the EEEA will continue to be dry and fewer areas will support the forage fish needed to sustain these colonies during drier periods of the	**Same as alternative 1a.**	**Long-term substantial beneficial impacts—**NPS acquisition of the FPL West Secondary Corridor within the park will prevent the fragmentation and loss of foraging and potential nesting habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic	**Long-term substantial beneficial impacts**—the land exchange will prevent the fragmentation and loss of habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West Secondary Corridor will allow	**Same as alternative 3.**	**Long-term substantial beneficial impacts—** from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA, which are expected to improve foraging and potential nesting habitat for wading bird species.

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
year.		restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable.		
Impacts of Transmission Line Construction					
No impacts.	**Short- and long-term minor to moderate adverse impacts—**short-term minor adverse impacts would occur from disturbance during construction and maintenance activities. Long-term moderate adverse impacts would result from loss of foraging habitat and the ongoing risk of line strikes and electrocution.	**Short- and long-term minor to moderate adverse impacts—**short-term minor adverse impacts would occur from disturbance during construction and maintenance activities. Long-term moderate adverse impacts would result from loss of foraging habitat and the ongoing risk of line strikes and electrocution. In general, for most species, nesting locations and higher quality foraging habitats are located closer to the FPL West Secondary and FPL West Preferred Corridors than to the hypothetical corridor within the area of possible relocated corridor; therefore, construction of the transmission line in this corridor reduces the risk to wading bird species when compared to construction in	**Short- and long-term minor to moderate adverse impacts—**short-term minor adverse impacts would occur from disturbance during construction and maintenance activities. Long-term moderate adverse impacts would result from loss of foraging habitat and the ongoing risk of line strikes and electrocution. In general, for most species, nesting locations and higher quality foraging habitats are located closer to the FPL West Secondary Corridor than the FPL West Preferred Corridor; therefore, construction of the transmission line in the FPL West Preferred Corridor reduces the risk to wading bird species when compared to construction in the FPL West Secondary Corridor.	**Same as alternative 3.**	**Same as alternative 1b.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
		the FPL corridors. The West Consensus Corridor would represent a moderate risk to wading birds that is higher than a route in the area of possible relocated corridor due to the proximity of nests to its northern section along the park boundary, but a reduced risk compared to the FPL West Preferred Corridor, which continues directly north and passes close to several known nest locations.			
Florida Burrowing Owl (*Athene cunicularia floridana*) and Gopher Tortoise (*Gopherus polyphemus*)					
Impacts of the Land Acquisition Decision					
No impact—due to these species preference for xeric habitats, they are not expected to occur in the FPL West Secondary Corridor in the area of analysis.	**Same as alternative 1a.**	**No impact—**due to these species preference for xeric habitats, they are not expected to occur in the FPL West Secondary Corridor in the area of analysis or in the West Consensus Corridor. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**No impact—**due to these species preference for xeric habitats, they are not expected to occur in the FPL West Secondary Corridor in the area of analysis or in the exchange corridor.	**Same as alternative 3.**	**No impact—**due to these species preference for xeric habitats, they would not be greatly affected by the flowage provided here.

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Impacts of Transmission Line Construction					
No impact.	**No impact—**due to these species preference for xeric habitats, they are not expected to occur in the FPL West Secondary Corridor in the area of analysis.	**Short- to long-term negligible to minor adverse impacts—**due to disturbance and loss of habitat from construction of the transmission lines.	**No impact—**due to these species preference for xeric habitats, they are not expected to occur in the FPL West Preferred Corridor (exchange corridor) in the area of analysis or in the exchange corridor.	**Same as alternative 3.**	**Same as alternative 1b.**
Southern Frog Fruit, Bahama Ladder Brake, Pineland Allamanda, Everglades (or Pinelands) Pencil Flower, Meadow Joint-vetch					
Impacts of the Land Acquisition Decision					
Long-term moderate to major, adverse—these species are known to occur in or near the EEEA, with a few species known from the FPL West Secondary Corridor within the park. Most of these species occupy a range of habitats from wetland to pine rocklands; therefore the impacts of the drying of the EEEA are expected to vary from moderate to major adverse depending on the degree of wetland dependence of the species.	**Same as alternative 1a.**	**Long-term beneficial impacts—**These species are known to occur in or near the EEEA, with a few species known from the FPL West Secondary Corridor within the park. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**Long-term beneficial impacts—**the land exchange will prevent the loss of habitat that would result if development occurred in the FPL West Secondary Corridor and allow for hydrologic restoration in the EEEA by acquiring ownership. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area. NPS will lose control over the exchange corridor; however, it is expected that application of the terms and conditions of the land exchange will minimize impacts on special-status species to the maximum extent practicable (resource stewardship plan).	**Same as alternative 3.**	**Long-term beneficial impacts—**especially for wetland dependent species from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA.

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Impacts of Transmission Line Construction					
No impact.	**Short- and long-term negligible to moderate adverse impacts—i**ndividuals of these species may be harmed or killed during construction of the transmission lines if they are present in the right-of-way. Also, habitat for these species may be lost during construction of the transmission lines, but would follow SCA that states that FPL will work with FDACS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**Short- and long-term negligible to minor adverse impacts**—most of these species have a low to moderate likelihood of occurrence in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**Short- and long-term negligible to moderate adverse impacts—**southern frog fruit, Bahama ladder brake and pineland allamanda have all been observed in the proposed exchange corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**Same as alternative 3.**	**Same as alternative 1b.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Bahama Saschia and Pineland Noseburn					
Impacts of the Land Acquisition Decision					
No impact—these species are found in disturbed uplands and pine rocklands. These species are not expected to occur within the FPL West Secondary Corridor within area of analysis.	**Same as alternative 1a**.	**No impact—**these species are found in disturbed uplands and pine rocklands. These species are not expected to occur within the FPL West Secondary Corridor within the area of analysis. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**Same as alternative 1a**.	**Same as alternative 3.**	**No impact—**due to these species preference for more xeric habitats, they would not be greatly affected by the flowage provided here.
Impacts of Transmission Line Construction					
No impacts.	**No impact—**these species are found in disturbed uplands and pine rocklands. These species are not expected to occur within the FPL West Secondary Corridor within the park or within the area of analysis.	**Short- and long-term negligible to minor adverse impacts—t**hese species have a low to moderate likelihood of occurrence in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**Short- and long-term negligible to minor adverse impacts—**these species have a low to moderate likelihood of occurrence in the exchange corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**Same as alternative 3.**	**Same as alternative 1b.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Small's Flax					
Impacts of the Land Acquisition Decision					
No impacts—since this species is not known to occur but is known to utilize both upland and wetland habitats and has a low likelihood of occurrence within the FPL West Secondary Corridor within the park or in the area of analysis.	**Same as alternative 1a.**	**No impacts—**since this species is known to utilize both upland and wetland habitats and has a low likelihood of occurrence within the FPL West Secondary Corridor within the park or in the area of analysis. NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in this area.	**Same as alternative 1a.**	**Same as alternative 3.**	**Limited long-term beneficial impacts—**from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA.
Impacts of Transmission Line Construction					
No impact.	**No impacts—**since this species is known to utilize both upland and wetland habitats and has a low likelihood of occurrence within the FPL West Secondary Corridor within the park or in the area of analysis.	**Short- and long-term negligible to minor adverse impacts**—this species has a moderate likelihood of occurrence in the West Consensus Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**Short- and long-term negligible to minor adverse impacts—**this species has a low likelihood of occurrence in the FPL West Preferred Corridor. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**Same as alternative 3.**	**Same as alternative 1b.**

Alternative 1a: No NPS Action – No FPL Construction	Alternative 1b: No NPS Action – FPL Construction in the Park	Alternative 2: NPS Acquisition of FPL Land	Alternative 3: Fee for Fee Land Exchange	Alternative 4: Easement for Fee Land Exchange	Alternative 5: Perpetual Flowage Easement on FPL Property
Pineland Jacquemontia, Eaton's Spikemoss, Florida Royal Palm, Rockland-Painted Leaf					
Impacts of the Land Acquisition Decision					
Negligible adverse impacts—impacts are expected to be negligible adverse due to the low likelihood of occurrence of these species within the FPL West Secondary Corridor and EEEA.	**Same as alternative 1a.**	**Long term beneficial—**due to preservation and restoration of habitat for these plant species.	Same as alternative 1a.	**Same as alternative 3.**	**Limited long-term beneficial impacts—**from completion of the hydrologic restoration portions of planned ecosystem restoration projects in the EEEA.
Impacts of Transmission Line Construction					
No impact.	**Negligible adverse impacts—**impacts are expected to negligible adverse due to the low likelihood of occurrence of these species.	**Short- and long-term, negligible to minor adverse impacts**—these species have a low to moderate likelihood of occurrence in the West Consensus Corridor. Short-term impacts would be related to disturbance during construction or maintenance, while long-term impacts would be related to habitat loss. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**Short- and long-term negligible to minor adverse impacts—**these species have a low likelihood of occurrence in the FPL West Preferred and FPL West Secondary Corridors. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with FDACS to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts on the species.	**Same as alternative 3.**	**Same as alternative 1b.**

Photographic simulations were created to simulate the visual impacts of the FPL West Preferred and FPL West Secondary Corridors, as well as a route in the West Consensus Corridor. The photographs selected for simulation demonstrate what was perceived to be a representative sampling from the determined KOPs within the park. Information on tower height was provided by FPL's SCA filing (appendix F). The following assumptions were used in creating the 3-dimensional (3-D) model to simulate the proper tower height, type, and location for each routing scenario by mimicking the viewing perspective of the photograph (see figure 56):

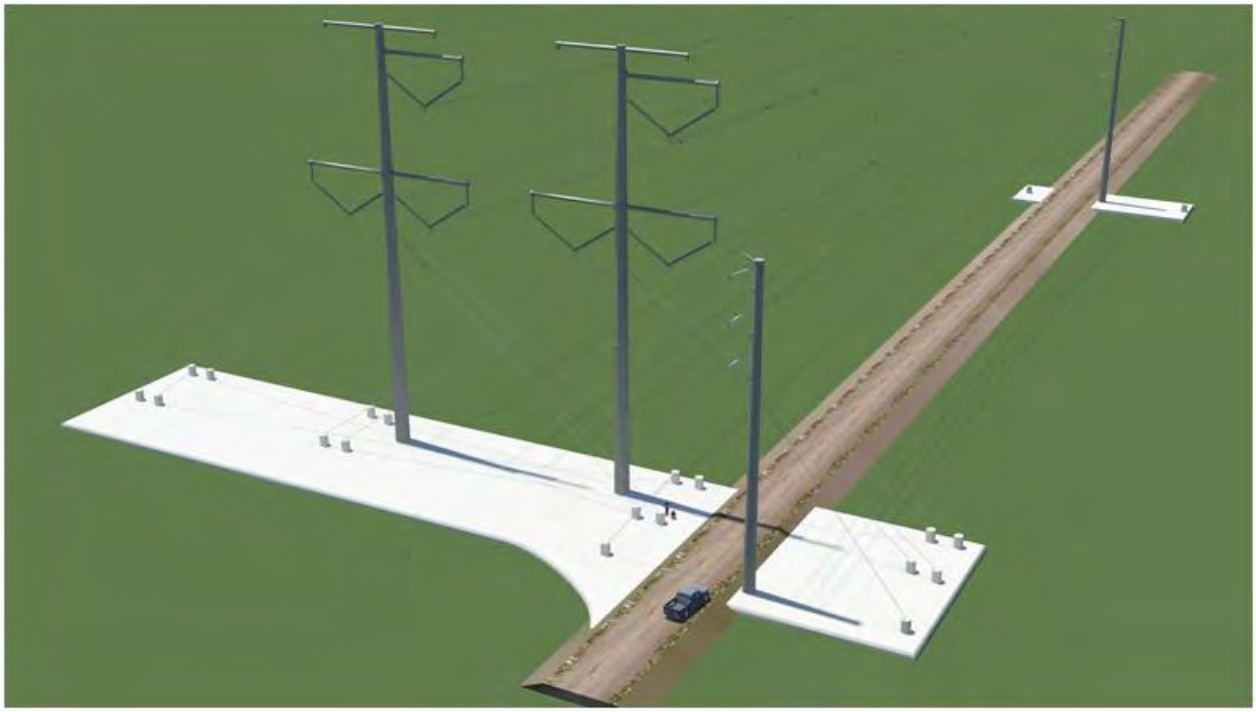
- The structures carrying the 500-kV lines would be tubular steel single pole structures.
- The 500-kV structures would have an average height of 145 feet, and would be single-circuit, guyed, and directly embedded into the ground.
- The structure carrying the new 230-kV transmission line would be a single-pole with a concrete pole design, would have an average height of 100 feet, and be directly embedded into the ground. The right-of-way would be 330 feet, and concrete pads would be constructed to support all structures within the right-of-way.

With the towers oriented properly in space, a "camera" was set up in the same 3-D space at the photographer's height and location relative to the appropriate routing option. The camera's focal length and point of view were set to those of the camera that took the photograph to obtain the correct perspective. Light sources were set up to simulate the lighting conditions and look of the towers in the photograph. Once the perspective and sizing was comparable to the photograph, the 3-D rendered structure was placed in the digital photograph. The process of photo-simulation was accompanied by a collaborative review to ensure that the simulated route alignment appeared the way it should in the photograph. Staff from The Louis Berger Group and the park reviewed each photograph to comment on the perspective and look of the simulation so that any necessary alterations could be made to fairly represent the way in which the towers would likely appear.

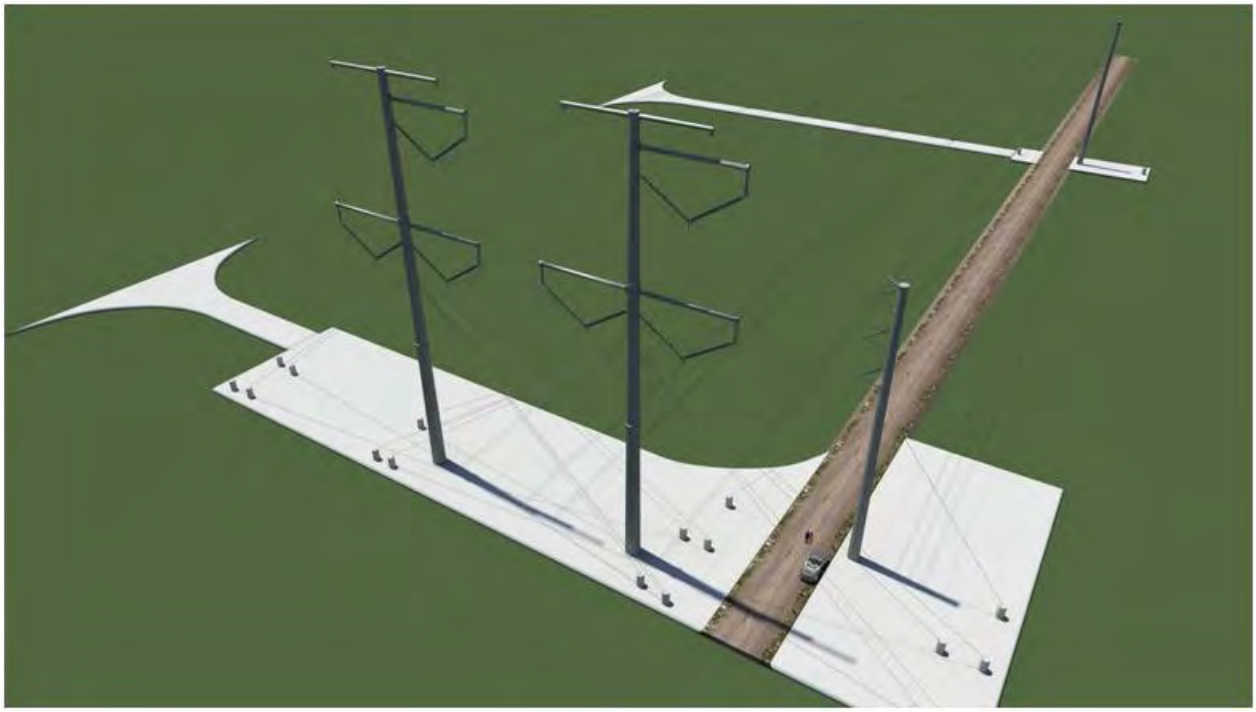
It is important to note the potential limitations of photo simulations. The ability for a camera to completely and accurately capture what the human eye is able to see when standing at a location is not possible, as the human eye can see wider view of a landscape and a richer depth of perspective. A camera lens can slightly alter the depth of perspective compared with physically standing at a location and experiencing the entire viewshed. These limitations are offset through the description text in this section and through the determination of the magnitude of adverse impacts.

Lighting or marking transmission lines are sometimes required if a project is in the vicinity of an airport. Markings and lighting can have visual impacts on a landscape, particularly in regards to night lighting of an area. The Federal Aviation Administration (FAA) CFR part 77 Section 14, describes the filing requirements for the construction of air obstructions. An application must be filed if construction or alternations are greater than 200 feet above ground level or if structures are within a certain distance of a runway (FAA 2012), listed below:

- within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 feet
- within 10,000 feet of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet
- within 5,000 feet of a public use heliport which exceeds a 25:1 surface



FPL West Secondary Corridor with Vehicle



FPL West Preferred Corridor with Vehicle

FIGURE 56: 3-D MODEL USED FOR PHOTOGRAPHIC SIMULATIONS

The closest airport is the Kendall-Tamiami Executive Airport, which has a runway more than 3,200 feet away. The average tower height for the 500-kV transmission lines is 145 feet; thus, any towers within 14,500 feet of the end of the Kendall-Tamiami Executive Airport would have to file an application with the FAA. The edge of the West Consensus Corridor is within this distance (however the FPL West Preferred and FPL West Secondary Corridors are not; therefore no lights or markers are expected within the park). Depending on where the right-of-way would be located within the West Consensus Corridor, mitigation (lighting or markings) could be required and would be determined through negotiations with the FAA. For the purposes of this analysis, it is assumed towers could be configured to be outside the FAA notification zone and no lighting would be required.

The following definitions were used to determine the magnitude of adverse impacts on visual resources:

- **Negligible**: Visitors or residents would likely be unaware of impacts associated with the implementation of the alternative. There would be no noticeable change to the scenic views and visual resources or in any defined indicators of the scenic landscape.
- **Minor**: Changes in scenic views and visual resources would be slight and detectable, but would not appreciably limit critical characteristics of the area. Visitor satisfaction would remain stable or residents would not likely register complaints.
- **Moderate**: Few critical characteristics of the desired scenic views and visual resources would change. The number of participants engaging in a specified activity could be altered. Some visitors who want to continue using and enjoying the area might pursue their choices in other available local or regional areas. Visitor satisfaction would begin to decline, or residents would express some dissatisfaction in the change of landscape.
- **Major**: Multiple critical characteristics of the desired scenic views and visual resources would change and/or the number of participants engaging in an activity would be greatly reduced. Visitors who want to continue using and enjoying the area would pursue their choices in other available local or regional areas. Visitor satisfaction would markedly decline or residents would register numerous complaints due to the heavily altered natural landscape.

ANALYSIS AREA

The area of analysis for visual resources includes areas where the transmission lines would be visible from the foreground and middleground (up to about 4 miles from the corridor), along the transmission line corridors in and around the park (between points where alternative routes diverge and then merge again). Any area beyond 4 miles is considered as background and generally experiences minimal impacts due to distance and intervening structures, vegetation, or topography, but is addressed qualitatively as needed.

Potential visual impacts include temporary visual changes during construction and the overall permanent visual changes caused by the presence of the structures, conductors, and access roads. Existing and potential change in visual quality and viewer sensitivity are combined to determine visual impacts. The level of visual intrusion created by any alternative is described with respect to the different relative distance zones, types of observers, and observation points. Relative distance zones include the immediate foreground (0 to 300 feet), foreground (300 feet to 0.5 mile), middleground (0.5 mile to 4 miles), and background (4 miles to the horizon). Many factors influence the visual impact of any route. The viewer is one of these factors. A viewer is defined as not only the person who is viewing the line, but also as their expectations, activities, and frequency of viewing the line. Types of observers include park visitors and recreational users, local residents, employees, commuters, and people traveling in the area.

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, FPL retention of ownership of land in the EEEA would not have any impacts on visual resources.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed. Therefore, there would be no construction-related impacts on visual resources.

Cumulative Impacts – Alternative 1a

Because there would be no impacts on visual resources under alternative 1a, there would be no cumulative impacts. See the cumulative impact discussion under alternative 1b for a description of the impacts of actions by others on visual resources.

Conclusion – Alternative 1a

Alternative 1a would have no impacts on visual resources from the land acquisition decision and there would be no construction of any transmission lines; therefore visual resources would not be impacted and there would be no impacts (including cumulative impacts).

IMPACTS OF ALTERNATIVE 1B: NO NPS-ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

Under alternative 1b, FPL retention of ownership of land in the EEEA would not have any impacts on visual resources.

Impacts of Transmission Line Construction

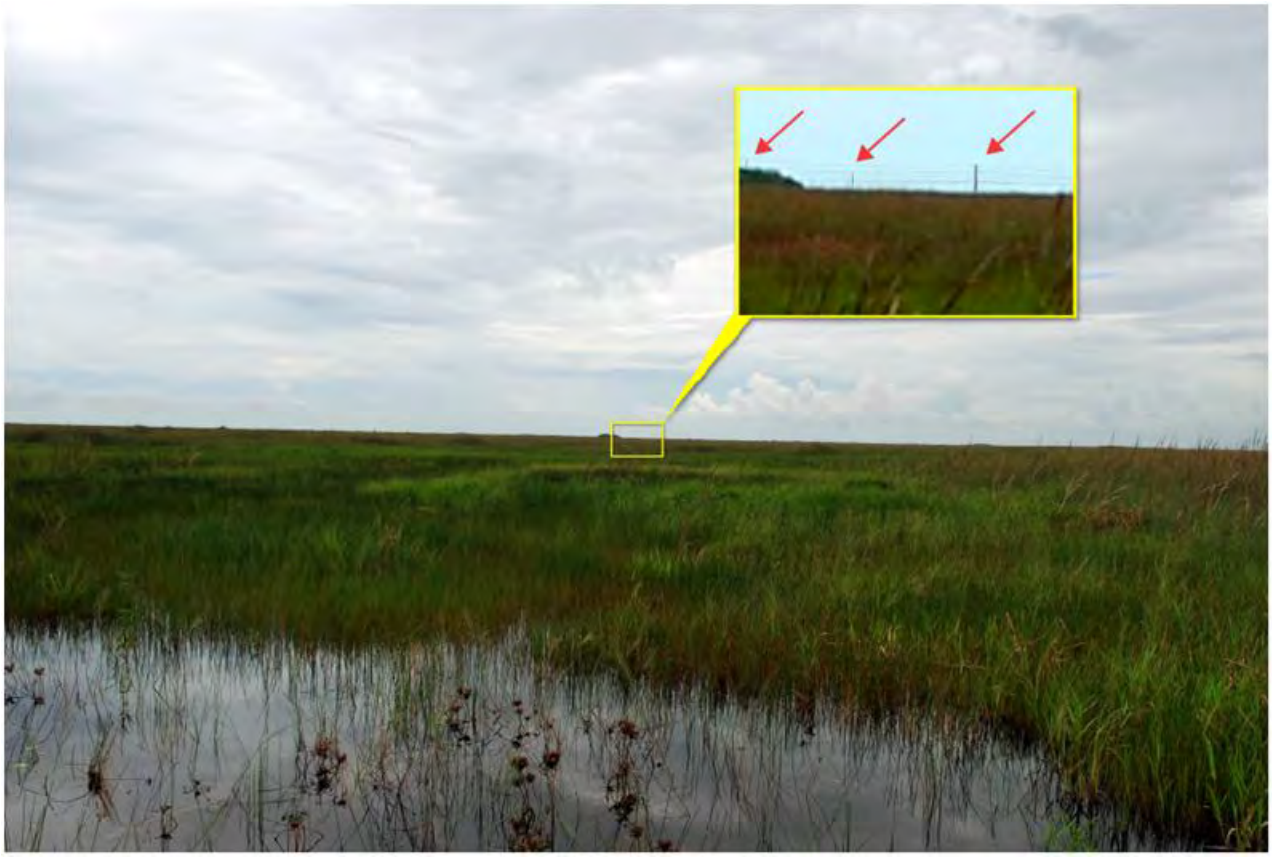
Under alternative 1b, there would be indirect impacts associated with the construction of the transmission lines in the park, as described earlier in this chapter and appendix F. Under alternative 1b, the transmission lines would be constructed directly south of the new 1-mile bridge, continuing for 7.5 miles within the park. The transmission lines would also continue north within WCA 3B and farther south where they exit Everglades National Park.

Natural vistas provide park visitors with an immediate and lasting sensory experience that strongly conveys the character of the park. The construction of transmission towers, pads, and access roads would alter the current natural and undisrupted landscape of the park and adversely impact visitor viewpoints in this portion of the park. Under this alternative, FPL would construct one 230-kV and two 500-kV transmission lines with heights from 80 to 105 feet (average 100 feet) and from 135 to 150 feet (average 145 feet), respectively. The 500-kV towers would be placed every 1,000 feet along the approximate 7.4-mile length of the corridor within the park. The 230-kV towers would be placed every 500 feet for the length of the corridor; preliminary GIS analysis done to estimate acres of disturbance indicates that there would be approximately 77 tower pads total in the park. Additionally, a permanent access road will be constructed for the entire length of the right-of-way through the park, transecting the construction pads.

Construction activities would create temporary changes in scenery by introducing brightly colored signs, helicopters (potentially), trucks, and heavy equipment such as cranes and bulldozers to the area. Construction crews would complete the construction of the transmission lines in phases and activity will likely be intermittent during the construction period for the entire project. Short term minor to moderate adverse impacts would occur due to the presence of construction equipment and construction of access roads and pads.

Under alternative 1b, the construction of the transmission lines would impact the visual quality in certain portions of the park, due to presence of new vertical infrastructure within Everglades National Park. Long-term operation and maintenance of the transmission lines would be minimal and infrequent. Most common long-term operation and maintenance activities are related to vegetation maintenance, and as stated in the vegetation section, long-term maintenance would negligible adverse because FPL would use existing roads and because of the existing and naturally low growing vegetation. The FPL West Secondary Corridor crosses the Tamiami Trail approximately 2.3 miles east of Coopertown Airboat. Current views in the park primarily include natural scenes situated in an expansive landscape of sawgrass marsh continuing toward the horizon, in all directions within the park, with very distant views of developed lands to the east. With the addition of the transmission lines along the FPL West Secondary Corridor through the park, human-made structures would be visible in the distance from KOPs within the park. The KOPs, areas of visual concern, are described in chapter 3 and include the airboat recreational areas, Shark Valley, Chekika Park, the Tamiami Trail, and the L-31N canal. Several photo simulations were completed for the FPL West Secondary Corridor at various locations in the park. All simulations are shown in appendix K. Impacts on visual resources would vary from minor to major adverse dependent on the proximity to the transmission lines and period of exposure, described in more detail throughout the following paragraphs.

The closest airboat operation, and the designated recreational area likely to have the most visual impacts, is Coopertown. Figure 57 depicts the change to the existing eastern view from an airboat on the Coopertown Airboat route within the Everglades. The photograph used in the simulation was taken approximately 3.4 miles from the FPL West Secondary Corridor and indicates that the change would be nearly imperceptible from this location in the park. Impacts on visual resources viewed from the Coopertown Airboat route, and all other airboat routes (farther from the FPL West Secondary Corridor), would be minor and adverse, because these routes generally go south from their base of operations and not east toward the lines. Impacts on visual resources would rise to a level of moderate to major intensity at less frequently visited locations, farther east, where kayakers and canoeists would be exposed to the transmission lines for a longer period of time and in close proximity to the tower.



Note: The inset box is a zoomed-in representation of the transmission lines. These towers may not be visible in a normal line of sight.

Refer to figure 23 and figure 26 in chapter 3.

FIGURE 57: PHOTO SIMULATION 1—LOOKING EASTWARD FROM WITHIN THE EVERGLADES

Visual impacts on views of the Everglades will be highest along Tamiami Trail, particularly at the crossing location, located at the newly constructed 1-mile bridge that is a key location of long-term ecosystem restoration in the park. The Tamiami Trail provides direct views of the Everglades to all user groups, including residents, commuters, and recreational users. The bridge is close to numerous visitor uses, primarily airboat tours with more than 300,000 visitors a year, but also to those using the park for canoeing, hiking, educational programs, bicycling, etc. Those wishing to take an airboat tour and traveling from Miami would cross directly under the transmission lines, which would impact their view. The FPL West Secondary Corridor is located just over 2 miles from the eastern border of the Everglades, thus 2 miles past any industrial or commercial development. The Tamiami Trail was recently raised above ground elevation and vegetation, for one mile, creating more expansive views of the Everglades for those traveling on Tamiami Trail (figure 58). The photo simulation shown in figure 58 was taken approximately 550 feet west of the FPL West Secondary Corridor during the construction of the 1-mile bridge. Moderate to major adverse visual impacts would occur immediately approaching and under the right-of-way and impacts would lessen as a visitor travels away from the crossing. The Tamiami Trail is most commonly traveled by car, so it would not take a viewer long to pass through the affected area, but given the construction of the bridge, the transmission lines would likely be highly visible in all directions to visitors traveling in either direction on the Tamiami Trail. The lines would likely be visible for several miles upon approaching the crossing point, but they should appear in the middleground or background of the landscape, reducing the intensity of impacts. Also, vegetation in the immediately foreground along the Tamiami Trail (where it has not been raised above ground level) would aid in blocking a traveler's line of sight as they move away from the crossing. Given the limited amount of human-made features in the landscape at the Tamiami Trail crossing, visual impacts under alternative 1b from the FPL West Secondary Corridor would be expected to be major and adverse, reducing to moderate and minor adverse levels as a visitor moves away from the crossing.

The last area of potential visible impact is from the L-31N canal. The L-31N canal directly parallels the eastern border of the Everglades, providing direct views of the park for recreational users who use the L-31N canal as a hiking and biking trail. The towers and transmission lines would be a noticeable component of the viewshed; however, at a distance of over 2 miles, the lines would not be a dominant feature of the landscape (figure 59). Note, the radio tower visible in the photograph is estimated to be approximately 250 feet tall and is located only 1,350 feet (0.26 mile) away from where the photograph was taken. Commercial and industrial development is located on the eastern side of the L-31N canal and other radio towers are visible from the north end of the L-31N canal, which reduce the overall scenic integrity of the landscape. The adverse impacts on visual resources viewed from this KOP would be minor.

Short-term impacts on visual resources would occur during construction. Throughout this period, observers would notice an increase in construction equipment and associated disturbances in the vicinity of the construction area. If helicopters are needed during construction, they would introduce additional sources of short-term visual disturbance. Visual impacts would be most readily apparent from the observation points described above. Further, visual impacts along the Tamiami Trail from the construction of several bridges have been ongoing; therefore, if this project were to undergo construction at the same or a similar time, the presence of project-related construction equipment in addition to the current visual impacts from construction in the area would not significantly add impacts. During construction, impacts on visual resources would be short term, localized, minor to moderate, and adverse.

Cumulative Impacts – Alternative 1b

Present and future actions that impact visual resources include all projects intended to restore habitat and deliver additional freshwater to the park. As a result of these actions, there would be a sustained preservation of the natural aesthetic, resulting long-term beneficial impacts on visual resources. Any

projects in the area of analysis that require construction would result in short-term adverse impacts on visual resources (degrees of impact would vary based on the construction project) and long-term minor to possible major adverse impacts. Fire management actions (prescribed burns, wildland fire control actions) can adversely affect visual resources in the park by creating short-term contributions to airborne particulates, which can limit visibility by obscuring distant views. Alternative 1b would contribute long-term minor to major adverse impacts on visual resources; these impacts would be an appreciable adverse impact to overall cumulative impacts on visual resources.

Conclusion – Alternative 1b

Under alternative 1b, there would be no direct impacts from the FPL retention of property in the EEEA. Indirect impacts on visual resources would result from the construction of the transmission lines in the FPL West Secondary Corridor and would be short term, minor to moderate, and adverse during construction and long term, ranging from minor to major and adverse from the introduction of a transmission lines into a wilderness-like setting. The intensity of the adverse impact would vary with the location in the park and be greatest for recreationists such as canoeists near the Tamiami trail and for others as they approach this area and the transmission lines from trails or on the roadway. Alternative 1b would contribute long-term minor to major adverse impacts on visual resources and would be an appreciable adverse impact on overall cumulative impacts on visual resources.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

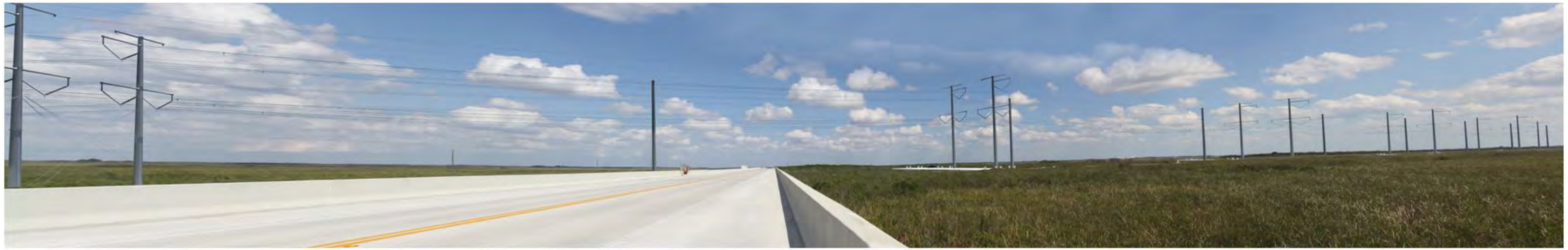
Impacts of the Land Acquisition Action

Under alternative 2, FPL retention of ownership of land in the EEEA would not have any impacts on visual resources.

Impacts of Transmission Line Construction

Under alternative 2, FPL would build two 500-kV lines and one 230-kV line to the east of the park in the West Consensus Corridor and no transmission lines would be constructed in the EEEA or on FPL property in the park. Within the West Consensus Corridor, impacts on visual resources of the park would be highest where the corridor parallels the L-31N canal which is adjacent to the park boundary. Transmission lines would not be visible to visitors after the corridor heads east and away from the park, about one mile south of the Tamiami Trail. During construction, there would be short-term adverse impacts from the increase in construction equipment on Tamiami Trail and in the vicinity of the selected route. During construction impacts on visual resources would be short term, localized, minor to moderate, and adverse.

Once the construction of the transmission lines is completed, impacts on visual resources would occur over the operational lifetime of the transmission lines. Observers in the eastern portion of the park could note the presence of transmission lines to the east of the L-31N canal. These impacts would be expected to be minor and adverse due to adjacent industrial development and vegetation between the park boundary and the West Consensus Corridor. Further, visitors to the Everglades would likely be facing west when observing the park from the L-31N canal (closest viewing location), not toward the correctional facility or the cement plant to the east



Refer to figure 23 and figure 27 in chapter 3. Photograph was taken approximately 550 feet west of the closest structure in the FPL West Secondary Corridor.

FIGURE 58: PHOTO SIMULATION 2—LOOKING EAST FROM THE TAMIAMI TRAIL AND 1-MILE BRIDGE

Note: The radio tower visible in the photograph is approximately 0.26 mile away (foreground). The FPL West Secondary Corridor is approximately 2 miles away (middleground). Photograph was taken approximately 315 feet from closest structure.

Refer to figure 23 and figure 31 in chapter 3.

FIGURE 59: PHOTO SIMULATION 3—LOOKING WEST FROM THE L-31N CANAL

Impacts on visual resources outside the park would occur for observation points in adjacent lands, particularly residential neighborhoods located east of the eastern border of the West Consensus Corridor. Vantage points (looking west toward Bird Drive Basin) from the dense residential development east of the West Consensus Corridor would experience the greatest degree of visual impacts. If the transmission lines were built at the far eastern edge of the West Consensus Corridor, they would be within 0.2 mile of residential development at the closest point and within 1.7 miles in other areas; most portions of the eastern border of this area are at least 0.5 mile from the urban development boundary. Viewers (most likely local residents) in this area (see the "Socioeconomics" section for further details regarding these residences) would be most able to see the lines and associated structures and would thus experience the highest visual impacts under alternative 2. There is an existing 230-kV FPL transmission line immediately adjacent to SW 157th Avenue; therefore, viewers would have to look through the existing transmission lines to see the new proposed lines in the West Consensus Corridor. Figure 60 is a simulation of the view from the residential development along SW 157th Avenue and approximately 0.25 mile away from the eastern boundary of the West Consensus Corridor. Note, the wires from the existing 230-kV transmission line are at the top of the photograph (no structures are shown). Impacts on visual resources outside the park would occur for observation points in adjacent lands, particularly residential neighborhoods located east of the eastern border of the West Consensus Corridor (figure 60). These impacts would be minor to moderate and adverse, given the presence of existing transmission lines and the distance from the residential areas.

Refer to figure 23 in chapter 3. Approximately 0.4 mile from the closest structure.

FIGURE 60: PHOTO SIMULATION 4—LOOKING WEST FROM SW 157TH AVENUE (BORDER OF RESIDENTAL DEVELOPMENT)

Cumulative Impacts

The impacts on visual resources from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 1b. In the park, alternative 2 would result in long-term negligible to minor adverse impacts. These impacts would contribute a noticeable increment to overall visual resource cumulative impacts in the park where the West Consensus Corridor is adjacent to the park boundary. Outside the park, alternative 2 would have long-term minor to moderate adverse impacts and contribute a noticeable increment to visual resources cumulative impacts in the area.

Conclusion

Under alternative 2, there would be no direct impacts on visual resources, but indirect impacts on visual resources would result from the construction of the transmission lines in the West Consensus Corridor to the east of the park. Overall, impacts on visual resources under alternative 2 would range from negligible to a moderate adverse impact, depending on where the transmission lines were built in the West Consensus Corridor. Short-term impacts during construction would be minor to moderate and adverse. Generally, impacts on park visual resources would be greater along the portion of the corridor that parallels the L-31N canal next to the park, and minimal along the northeastern portion of the West Consensus Corridor. Impacts on visual resources viewed from residential locations would be greater along portions of the lines that occur in the northeastern portion of the West Consensus Corridor where it crosses Bird Drive Basin. In the park, alternative 2 would contribute no impacts to minor adverse impacts over the long term and contribute a noticeable increment to overall visual resource cumulative impacts in the park where the West Consensus Corridor is adjacent to the park boundary. Outside the park, alternative 2 would have long-term minor to moderate adverse impacts and contribute a noticeable increment to visual resources cumulative impacts in the area.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 3, FPL retention of ownership of land in the EEEA would not have any impacts on visual resources.

Impacts of Transmission Line Construction

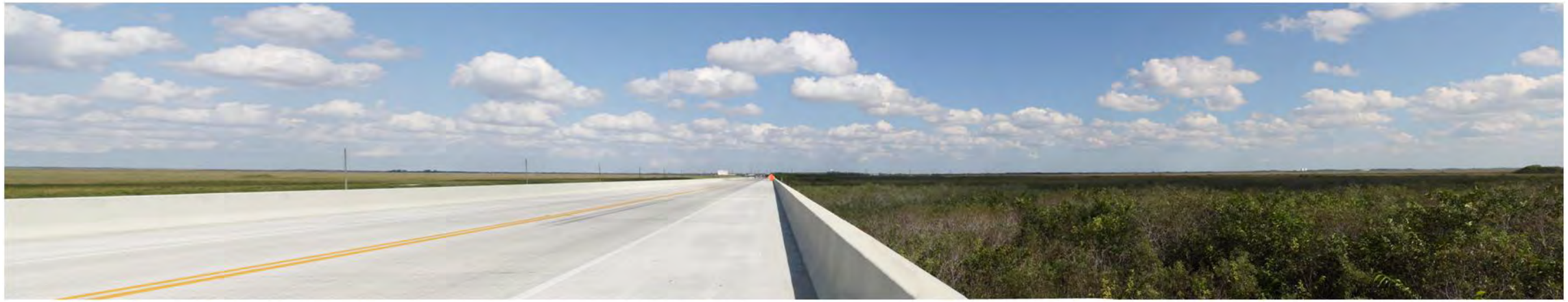
Indirect impacts under alternative 3 would result from the possible construction of transmission lines along the FPL West Preferred Corridor (parallel to the L-31N canal). Visual impacts on the airboat recreational tours would be negligible adverse, because the lines are farther east (and thus would have less impact) compared with alternative 1b. Impacts on visual resources would be most apparent at the Tamiami Trail crossing, along the eastern edge of the park, and on the L-31N canal. During construction, there would be short-term minor to moderate adverse impacts from the increase in construction equipment in the vicinity, most notably along the L-31N canal. Once the construction of the transmission lines is completed, visual resources would be affected over the operational lifetime of the transmission lines.

From observation points at the extreme eastern portion of the park, visual resources would be affected by the addition of new transmission line structures. The transmission lines would be visible to drivers traveling west on the Tamiami Trail, accessing the park and airboat recreation. At this location, the Tamiami Trail is located at ground level (no bridge) with vegetation in the immediate foreground. Drivers would cross under the lines after passing a landscape largely altered by the correctional facility, the casino, and other human-made features on the landscape and with a USACE dam and several radio towers just west of the FPL West Preferred Corridor. The most frequent form of travel on the Tamiami Trail is

vehicular, and while it would not take viewers long to pass through the impacted area the brief exposure approaching and immediately under the transmission lines would result in moderate to major adverse impacts on visual resources (figure 61). Note the poles in the foreground of figure 61 are approximately 250 feet and 525 feet from the location the photograph was taken. As a comparison, the FPL West Preferred Corridor is located approximately 800 feet from the location the photograph was taken. Additionally, a photosimulation was completed from 1-mile bridge on the Tamiami Trail looking east at the West Preferred Corridor (figure 62).

Refer to figure 23 and figure 29 in chapter 3.

FIGURE 61: PHOTO SIMULATION 5—LOOKING WEST ON THE TAMIAMI TRAIL (L-31N CANAL IN THE MIDDLEGROUND)



Refer to figure 23 in chapter 3. Approximately 1.5 miles from the closest structure.

FIGURE 62: PHOTO SIMULATION 6—LOOKING EAST FROM 1-MILE- BRIDGE ON THE TAMIAMI TRAIL

The area of greatest visual impact would be along the L-31N canal, which offers wide views of the park to the west and where viewers are typically walking, running, or biking. However, visitor use of the L-31N canal levee is very limited since there is no parking in the area for recreational use. Figure 63 shows the proposed transmission lines from the L-31N canal. At this location, observers are travelling slower (compared with drivers on the Tamiami Trail) and the FPL West Preferred Corridor parallels the L-31N for a greater distance, placing the transmission line in the direct foreground for extended periods of time. Although impacts in all other portions of the park would be reduced under this alternative, visual impacts along the L-31N canal would be much greater; resulting in long-term major adverse impacts along the L-31N canal due to prolonged exposure to views of the transmission lines in the park. Long-term moderate to major adverse impacts would occur along the Tamiami Trail (and within the park) due to the presence of human-made features in the landscape, but would quickly lessen as a traveler drives away from the transmission line crossing and the structures move to the middle and background of the viewshed.

Refer to figure 23 and figure 30 in chapter 3.

FIGURE 63: PHOTO SIMULATION 6—LOOKING NORTHWEST FROM THE L-31N CANAL AT THE TAMIAMI TRAIL

Cumulative Impacts

The impacts on visual resources from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 1b. Alternative 3 would contribute long-term minor to major adverse impacts; these impacts would contribute noticeable to appreciable impacts to overall cumulative impacts on visual resources.

Conclusion

Under alternative 3, there would be no direct impacts on visual resources from the fee for fee land exchange, but indirect impacts on visual resources would result from the construction of the transmission lines on the eastern edge of the park and would include short-term minor to moderate adverse impacts during construction and minor to major adverse impacts from the introduction of transmission lines within the current eastern park boundary. The most severe impacts would be where the transmission lines cross the Tamiami Trail and from the L-31N canal. Alternative 3 would contribute long-term minor to major adverse impacts; these impacts would contribute noticeable to appreciable impacts to overall cumulative impacts on visual resources.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 4, FPL retention of ownership of land in the EEEA would not have any impacts on visual resources.

Impacts of Transmission Line Construction

Under alternative 4, impacts on visual resources would be the same as described under alternative 3, with potential for slightly reduced adverse impacts under this alternative from the restriction in the terms and conditions to only three transmission lines with no other utility infrastructure within the corridor. Terms and conditions are found in appendix H.

Cumulative Impacts

Cumulative impacts would be the same as described under alternative 3. Alternative 4 would contribute long-term minor to major adverse impacts; these impacts would contribute noticeable to appreciable impacts to overall cumulative impacts on visual resources.

Conclusion

Impacts on visual resources would be the same as described under alternative 3, with potential for slightly less adverse impacts under this alternative from the restriction to only three transmission lines with no other utility infrastructure within the corridor. There would be no direct impacts from the land exchange. Indirect impacts on visual resources would result from the construction of the transmission lines on the eastern edge of the park and would include short-term minor to moderate adverse impacts during construction and minor to major adverse impacts from the introduction of transmission lines within the current eastern park boundary. The most severe impacts would be where the transmission lines cross the Tamiami Trail and from the L-31N canal. Alternative 4 would contribute noticeable to appreciable impacts to overall cumulative impacts to visual resources.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

Under alternative 5, FPL retention of ownership of land in the EEEA would not have any impacts on visual resources.

Impacts of Transmission Line Construction

Under alternative 5, impacts on visual resources would be the same as described under alternative 1b and would include short-term minor to moderate adverse impacts during construction and long-term minor to major adverse impacts from the introduction of transmission lines into a wilderness-like setting.

Cumulative Impacts

Cumulative impacts would be the same as described under alternative 1b and include short-term adverse impacts from construction associated with projects intended to restore habitat and deliver additional freshwater to the park. Alternative 1b would contribute long-term minor to major adverse impacts on visual resources; these impacts would be an appreciable adverse impact to overall cumulative impacts on visual resources.

Conclusion

Impacts on visual resources would be the same as described under alternative 1b and include short term, minor to moderate, adverse impacts during construction and long term, adverse impacts ranging from minor to major adverse from the introduction of transmission lines into a wilderness-like setting. The intensity of the adverse impact would vary with the location in the park and be greatest for recreationists such as canoeists near the Tamiami trail and for others as they approach this area and the transmission lines from trails or on the roadway. Alternative 5 would contribute an appreciable adverse impact to overall cumulative impacts on visual resources.

WILDERNESS

GUIDING REGULATIONS AND POLICIES

The Wilderness Act, passed on September 3, 1964, established a National Wilderness Preservation System, “administered for the use and enjoyment of the American people in such manner as would leave designated wilderness areas unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness” (16 USC 1131). By policy, lands identified as being eligible for wilderness designation, wilderness study areas, proposed wilderness, and recommended wilderness (including potential wilderness) are managed to preserve their wilderness character and values in the same manner as “designated wilderness” until Congress has acted on the recommendations (NPS 2006a, sec. 6.3.1).

Within the NPS, Chapter 6 of the NPS *Management Policies 2006* addresses wilderness issues. The purpose of Chapter 6 of the NPS *Management Policies 2006* is to provide accountability, consistency, and continuity within the NPS wilderness management program, and to otherwise guide Service-wide efforts in meeting the letter and spirit of the 1964 Wilderness Act. In addition, policies are based on provisions of the 1916 NPS Organic Act, the 1964 Wilderness Act, and legislation establishing individual units of the national park system.

Chapter 6 of the NPS *Management Policies 2006* addresses all aspects of wilderness management and preservation of designated wilderness in units of the national park system. This chapter directs the NPS to integrate wilderness considerations into all planning documents to “guide the preservation, management, and use of the park’s wilderness area and ensure that wilderness is unimpaired for future use and enjoyment as a wilderness.” According to Section 6.1, the purpose of wilderness in the national parks includes the preservation of wilderness character and wilderness resources in an unimpaired condition

and, in accordance with the Wilderness Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

Section 6.2.1 of the NPS *Management Policies 2006* dictates that NPS lands would be considered eligible for wilderness if they are at least 5,000 acres or of sufficient size to make practicable their preservation and use in an unimpaired condition, and if they possess the following characteristics (as identified in the Wilderness Act):

- The earth and its community of life are untrammeled by humans, where humans are visitors and do not remain;
- The area is undeveloped and retains its primeval character and influence without permanent improvements or human habitation;
- The area generally appears to have been affected primarily by the forces of nature, with the imprint of humans' work substantially unnoticeable;
- The area is protected and managed so as to preserve its natural conditions; and
- The area offers outstanding opportunities for solitude or a primitive and unconfined type of recreation.

Per Section 6.3.4.3, in evaluating environmental impacts, this EIS considers (1) wilderness characteristics and values, including the primeval character and influence of the wilderness; (2) the preservation of natural conditions (including the lack of human-caused noise); and (3) assurances there would be outstanding opportunities for solitude, that the public would be provided with a primitive and unconfined type of recreational experience, and wilderness would be preserved and used in an unimpaired condition. Mitigation measures considered in this analysis are listed in appendix F and are mentioned in the analysis where appropriate.

The following definitions were used to determine the magnitude of adverse impacts on wilderness:

- **Negligible**: There would be little or no effect on wilderness character or wilderness experience. The effect on wilderness character would be so small that it would not be of any measurable or perceptible consequence.
- **Minor**: An effect on one or more attributes of wilderness character and wilderness experience and associated values would occur; it would be slightly detectable and highly localized.
- **Moderate**: Attributes of wilderness character and wilderness experience would be affected in a substantial way over a large area, or the impact would affect multiple areas but would not be permanent.
- **Major**: One or more attributes of wilderness character and wilderness experience would be affected substantially across a large area of the park on either a permanent or a frequent but temporary basis.

ANALYSIS AREA

The area of analysis for wilderness includes all areas eligible for wilderness designation in the EEEA. The draft General Management Plan / East Everglades Wilderness Study / EIS for Everglades National Park (NPS 2013a) found that approximately 102,100 acres of the EEEA is eligible for wilderness designation.

The eligible area includes most of the FPL West Secondary Corridor, but excludes the exchange corridor. Note: Only Congress can designate wilderness. Furthermore, the FPL corridor could at most be designated "potential" wilderness (as opposed to actual wilderness) until such time as it came into federal ownership.

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, there would be no legal changes to the property's status or ownership, and FPL would not grant NPS a flowage easement. Therefore, there would be no physical change to the land, so there would be no direct impacts on wilderness. The FPL corridor would remain under FPL ownership, which would preclude the area from being managed as part of a designated wilderness area and prevent the achievement of natural conditions in the corridor. Not having this area under NPS management means that the park cannot require that actions undertaken there undergo a minimum requirements analysis. In addition, FPL, as landowner, would have access to the area and could allow motorized access or other motorized/mechanical equipment uses such as chainsaws, tools, etc., which would adversely impact the untrammeled qualities of wilderness in that area. For these reasons, alternative 1a would result in indirect long-term major adverse impacts on wilderness.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed. Therefore, there would be no construction-related impacts on wilderness.

Cumulative Impacts – Alternative 1a

Ecosystem restoration projects in the Everglades and acquisition of property throughout the park as described on table 18 would result in beneficial impacts on wilderness throughout the Everglades (over a 20-30 year period, as associated projects are funded and implemented), but alternative 1a would prevent or obstruct implementation of many of these projects. However, the overall direction of the GMP and other park programs to preserve park resources would indirectly benefit wilderness in the park. Other projects in the area of analysis with adverse effects on wilderness include airboat operations and helicopter use over EEEA and park operations such as vegetation management that introduce noise and disturbance in wilderness (short term minor to moderate adverse impacts). Alternative 1a would result in major adverse impacts because of the lack of flowage and would contribute appreciable adverse impacts to the overall cumulative effects on wilderness in this area.

Conclusion – Alternative 1a

Under alternative 1a, there would be no direct impacts on the wilderness character of the EEEA from the FPL retention of property in the EEEA, but there would be indirect long-term major adverse impacts because the FPL corridor would remain under FPL ownership, which precludes the area from being managed as part of a designated wilderness area, would result in the inability to restore natural water conditions to the area, preventing the reestablishment of wilderness character, and allows the introduction of disturbances to wilderness quality. Because there would be no transmission line construction under this alternative, no indirect impacts would occur to wilderness characteristics from construction of transmission lines. Alternative 1a would contribute appreciable adverse impacts to the overall cumulative impacts on wilderness.

IMPACTS OF ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

Under alternative 1b, as under alternative 1a, the retention of ownership of land in the EEEA by FPL would result in no direct impacts on the wilderness character of the EEEA because there would be no direct physical change to the land as a result of the land acquisition action. The FPL corridor would remain under FPL ownership, which would preclude the area from being managed as part of a designated wilderness area, resulting in indirect long-term major adverse impacts. Not having this area under NPS management means that the park cannot require that actions undertaken there undergo a minimum requirements analysis. In addition, FPL, as landowner, would have access to the area and could allow motorized access or other motorized/mechanical equipment uses such as chainsaws, tools, etc., which would adversely impact the untrammeled qualities of wilderness in that area.

Impacts of Transmission Line Construction

Under alternative 1b, the construction of transmission lines within the boundary of Everglades National Park would result in long-term major adverse impacts on wilderness values by precluding the corridor from being designated as wilderness and by creating visual and noise impacts. The severity of these impacts would decrease with increasing distance from the corridor.

The FPL West Secondary Corridor is in the area of the EEEA that is being considered for possible wilderness designation under the Wilderness Act in the draft Everglades GMP / East Everglades Wilderness Study / EIS (see "Figure 35: Land Use within the Area of analysis and Surrounding Vicinity" in chapter 3). If transmission lines were constructed in the FPL West Secondary Corridor, they would preclude the corridor from being designated as wilderness due to Section 4(c) of the Wilderness Act, which prohibits certain uses:

> (c) Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.

The likely future construction of the transmission lines, towers, and structure pads in the FPL West Secondary Corridor could affect the eligibility of other lands in the EEEA to achieve wilderness designation, especially those lands in which transmission lines and structures would be prominently visible. Disturbances to native Everglades communities resulting from wetland fill—such as displacement, potential injury or mortality of bird species, and other associated effects of transmission line construction—would adversely impact wilderness values and the protection and management of natural conditions. The presence of the transmission facilities, the noise from construction, operation and maintenance of the transmission facilities, and the potential limitations on the use of and access to the EEEA as a result of FPL transmission lines would impact the "undeveloped" and "solitude or primitive and unconfined recreation" criteria in the Wilderness Act. The visual qualities and soundscapes of the park would be altered with the addition of the transmission lines, as fully described in the "Viewshed (Visual Resources)" and "Soundscapes" sections of this EIS. Visitor use and experience and recreation resources would also be altered with the addition of the transmission lines, as described in the "Visitor Use and Experience / Recreation Resources" section of this EIS.

During the construction period, short-term moderate adverse construction-related impacts would occur related to temporary disturbances from construction and earth-moving activities, resulting in measurable adverse impacts on wilderness values of the corridor and surrounding lands.

Overall, the construction, maintenance, vegetation management, and operation of FPL transmission lines in the FPL West Secondary Corridor could result in short and long-term moderate to major adverse impacts on desired wilderness character conditions in the EEEA.

Cumulative Impacts – Alternative 1b

The cumulative impacts on wilderness from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 1b would contribute short-term moderate adverse construction-related impacts and long-term major adverse effects from construction of the transmission line without a flowage easement in the FPL corridor; these impacts would contribute appreciable adverse impacts to the overall cumulative effects on wilderness in this area.

Conclusion – Alternative 1b

Under alternative 1b, there would be no direct impacts on the wilderness character of the EEEA from the FPL retention of property in the EEEA but there would be indirect long-term major adverse impacts because the FPL corridor would remain under FPL ownership, which precludes the area from being managed as part of a designated wilderness area and allows the introduction of disturbances to wilderness quality. Indirect impacts would result from the construction of the transmission lines in the FPL West Secondary Corridor and would include short- term moderate adverse impacts during construction and long term major adverse impacts on wilderness characteristics from the presence and operation of the lines. Alternative 1b would contribute appreciable adverse impacts to the overall cumulative impacts on wilderness.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

Under alternative 2, there would be no direct impacts on the wilderness character of the EEEA from the exchange of FPL and NPS lands in the EEEA. However, indirect benefits would occur from the land acquisition. Following acquisition, NPS would be able to manage the acquired area consistent with park goals for improved ecosystem conditions and wilderness character on lands previously not subject to NPS authority. The defragmentation of the EEEA ownership and placement of ownership of this area solely with the NPS will enhance the ability to provide more natural water flows to Everglades National Park. In turn, this would enhance the conservation of the resources and values of the park, including its wilderness character, resulting in a substantial long-term beneficial impact.

Impacts of Transmission Line Construction

Under alternative 2, construction of the transmission lines in the area of the West Consensus Corridor would result in indirect impacts on the wilderness characteristics of the EEEA, because the lines may pass near to the park and could be visible from areas of wilderness in the park. The operation and maintenance of the transmission lines east of the park would result in long-term negligible to moderate adverse impacts, with the intensity dependent on the precise location of the lines within the West Consensus Corridor. Transmission lines located in the northern portion of the corridor would be routed to the east and away from the park boundary, and impacts on wilderness values within the park (resulting from noise and visual effects of the transmission lines) would be negligible compared to baseline conditions.

However, where the transmission lines would be routed along the east side of the L-31 canal, adverse impacts on wilderness values would be minor to moderate in severity due to the proximity of activities that would result in measurable impacts upon wilderness. The wilderness character of the EEEA would be affected over the operational lifetime of the transmission lines if the lines were visible in the park or if periodic maintenance activities resulted in temporary noise impacts within the park. Recreational users along the L-31N canal would experience the ongoing noise emitted by 500-kV transmission lines (for specific impacts, please see the “Soundscapes” section). Observers at points within the eastern portion of the park would note the presence of human-made structures in the relatively undeveloped landscape. The impact on those at observation points at the extreme eastern portion of the park would be slight because the transmission lines and structures would be situated against a backdrop of preexisting development in the form of radio towers, commercial and industrial facilities, and power transmission structures (for specific impacts, see the “Viewshed (Visual Resources)” section).

During the construction period, short-term negligible to moderate adverse construction-related impacts would occur related to temporary disturbances from earth-moving activities during the period of construction. If disturbances from transmission line construction were located in the eastern or central portions of the West Consensus Corridor, where urbanized and agricultural land use elements already exist, impacts on wilderness values within the park (resulting from noise and visual effects of the construction activities) would be negligible compared to baseline conditions. However, if the aforementioned impacts were concentrated along the western portion of the West Consensus Corridor, adverse impacts on wilderness values would be minor to moderate in severity due to the proximity of these activities and the increased potential for them to result in measurable noise-related and visual impacts upon wilderness. Adverse impacts on wilderness resulting from noise and visual effects of the transmission line would diminish as the distance westward into the interior of the park increases.

No permanent impacts upon wilderness designation would result from the short-term impacts on wilderness values occurring during construction activities.

Cumulative Impacts

The cumulative impacts on wilderness from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 2 would allow flowage/implementation of the ecosystem restoration projects and benefit wilderness, and would remove any direct impacts on wilderness in the park. There would be short- and long-term negligible to moderate adverse impacts from construction of the transmission line in areas outside the park that can be seen and/or heard from wilderness inside the park. These impacts would contribute appreciable beneficial and imperceptible to noticeable adverse impacts to the overall cumulative effects on wilderness in this area.

Conclusion

Under alternative 2, there would be no direct impacts from the acquisition of FPL property in the EEEA, but there would be indirect benefits from the acquisition itself which gives the NPS the ability to manage the acquired area consistent with wilderness goals. Indirect impacts on the wilderness characteristics of the EEEA would result from the construction of the transmission lines in the West Consensus Corridor to the east of the park. Alternative 2 would have short-term negligible to moderate adverse impacts and long-term negligible to moderate adverse impacts, depending on the location of the lines in the area and the proximity to the park. Alternative 2 would contribute appreciable beneficial impacts and imperceptible to noticeable adverse impacts (depending on the proximity of the lines to the park) to overall cumulative effects on wilderness in this area.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 3, there would be no direct adverse impacts on the wilderness character of the EEEA from the exchange of FPL and NPS lands in the EEEA. Similar to alternative 2, there would be indirect benefits from the land acquisition, because the exchange would remove a large area of non-NPS ownership of land in the interior of the park, ensuring that no other development could be proposed in the FPL corridor and that the NPS could manage the corridor as wilderness. The exchange corridor that would be removed from the park's boundary has been determined as ineligible for wilderness in the draft GMP/East Everglades Wilderness Study, so there is no adverse effect associated with the exchange itself. The defragmentation of the EEEA ownership and placing the ownership of the FPL corridor solely with the NPS will enhance the ability to provide more natural water flows to Everglades National Park, which in turn will enhance the conservation of the resources and values of the park, including its wilderness character, a substantial long-term beneficial impact.

Impacts of Transmission Line Construction

Under alternative 3, indirect short-term moderate adverse construction-related impacts would result from the construction of transmission lines in the FPL West Preferred Corridor, directly adjacent to park lands, as described earlier in this chapter and appendix F. These impacts on wilderness values within the park (resulting from noise and visual effects of the construction activities) would occur during the period of construction. Effects would be concentrated along the eastern edge of park. Although the exchange corridor is not itself eligible to be designated as wilderness, adverse impacts on wilderness values would be moderate in severity due to the proximity of these activities and the increased potential for them to result in measurable impacts upon wilderness. No permanent impacts upon wilderness eligibility would result from the short-term effects to wilderness values that would occur during construction activities.

The future construction of the transmission lines, towers, and structure pads in the FPL West Preferred Corridor could affect the eligibility of adjacent lands in the EEEA to achieve wilderness designation, especially those lands in which transmission lines and structures would be prominently visible, resulting in long-term moderate adverse impacts. Although the exchange corridor is not itself eligible to be designated as wilderness, the proximity of those effects would have moderate adverse impacts on wilderness values within the park (resulting from audible noise at close distances and visual effects where the transmission lines would be visible). This could affect wilderness designation of adjacent lands in the park. The noise from operation and maintenance of the transmission facilities, and the potential limitations on the use of and access to the EEEA as a result of FPL transmission lines would impact the "undeveloped" and "solitude or primitive and unconfined recreation" criteria in the Wilderness Act. The visual qualities and soundscapes of the area of the park located adjacent to the FPL West Preferred Corridor would be altered with the addition of the transmission lines, as fully described in the "Viewshed (Visual Resources)" and "Soundscapes" sections of the EIS. Visitor use and experience and recreational resources would also be altered with the addition of the transmission lines, as described in the "Visitor Use and Experience / Recreation Resources" sections of the EIS. Ongoing maintenance, vegetation management, and operation of FPL transmission lines in the FPL West Preferred Corridor could result in long-term moderate adverse impacts on desired wilderness character conditions in the EEEA.

Cumulative Impacts

The cumulative impacts on wilderness from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 3 would allow flowage/implementation of the ecosystem restoration projects and benefit wilderness, but the land

exchange and construction of the transmission line in the exchange corridor would result in short and long term moderate adverse impacts; these impacts would contribute both appreciable beneficial impacts and noticeable adverse impacts to the overall cumulative effects on wilderness in this area.

Conclusion

Under alternative 3, there would be no direct impacts on wilderness characteristics from the exchange of NPS and FPL lands in the EEEA. Indirect benefits would occur from the exchange itself, resulting in flow restoration that would benefit wilderness character and the ownership of this area being placed solely with the NPS, who could then manage the corridor as wilderness. Indirect short-term moderate adverse impacts on the wilderness character of the EEEA would result from the construction of the lines. The continued presence of the transmission lines in the FPL West Preferred Corridor would result in long-term moderate adverse impacts on the wilderness character of the EEEA, This could affect the wilderness designation of adjacent lands in the park. Alternative 3 would contribute appreciable beneficial impacts and noticeable adverse impacts to the overall cumulative effects on wilderness in this area.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Direct and indirect impacts on the wilderness character of the EEEA as a result of the land exchange under alternative 4 would be the same as those described under alternative 3. Additional beneficial impacts would result from terms and conditions (appendix H) that would reduce the risk of having additional utility facilities developed within the exchange corridor that could detract from the wilderness values of the neighboring park land. There would be no direct impacts on the wilderness character of the EEEA from the exchange of FPL and NPS lands in the EEEA; however, indirect benefits would occur from restoring flows to benefit wilderness character and from placing the ownership of this area solely with the NPS so that the NPS could manage the corridor as wilderness. The exchange corridor that would be removed from the park’s boundary has been determined as ineligible for wilderness in the draft GMP/East Everglades Wilderness Study, so there would be no adverse effect associated with the exchange itself.

Impacts of Transmission Line Construction

Under alternative 4, indirect impacts of the transmission line construction and operation would be the same as described under alternative 3 and would include short- and long-term moderate adverse impacts on the wilderness character of the EEEA.

Cumulative Impacts

Cumulative impacts would be the same as those described under alternative 3. The past, present, and reasonably foreseeable future actions described under alternative 1a would also occur under alternative 4. Alternative 4 would allow flowage/implementation of the ecosystem restoration projects and benefit wilderness, but the land exchange and construction of the transmission line in the exchange corridor would result in short and long term moderate adverse impacts; these impacts would contribute both appreciable beneficial impacts and noticeable adverse impacts to the overall cumulative effects on wilderness in this area.

Conclusion

Under alternative 4, impacts would be essentially the same as described under alternative 3, with benefits occurring from the land exchange itself, except that no other utilities could be built in the corridor, which would lessen the risk of additional impacts of these facilities on wilderness in this area. Indirect adverse impacts would include short- and long-term moderate adverse impacts on the wilderness character of the EEEA. Alternative 4 would contribute appreciable beneficial impacts and noticeable adverse impacts to the overall cumulative effects on wilderness in this area.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

Alternative 5 would provide for a long-term flowage easement over the FPL West Secondary Corridor, but no acquisition of the corridor. There would be no direct impact on the wilderness because there would be no direct change to the land as a result of this alternative. There would be indirect benefits to having a flowage easement on the FPL parcel in the EEEA that would improve resource conditions and wilderness character. However, continued FPL ownership and control of the corridor would continue and would preclude the area from being managed as wilderness.

Impacts of Transmission Line Construction

Under alternative 5, indirect impacts of the transmission line construction and operation would be the same as described under alternative 1b and would include long-term major adverse impacts on the wilderness character of the park from the transmission line construction in the FPL West Secondary Corridor.

Cumulative Impacts

The cumulative impacts on wilderness from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 5 would result in mainly adverse impacts with long-term major adverse impacts from transmission-line construction and limited benefits since the corridor remains in FPL ownership and cannot be managed as wilderness. These impacts would contribute appreciable adverse impacts to the overall cumulative effects on wilderness in this area.

Conclusion

Under alternative 5, there would be no direct impacts from the FPL retention of property in the EEEA, and beneficial impacts would result from having a long-term flowage easement agreement. Long-term indirect moderate adverse impacts would occur as a result of the corridor remaining under FPL ownership, which would preclude the area from being managed as wilderness. Indirect adverse impacts would also result from the construction of the transmission lines in the FPL West Secondary Corridor and would include short-term moderate and long-term major adverse impacts on wilderness characteristics. Alternative 5 would contribute appreciable adverse impacts to the overall cumulative effects on wilderness in this area.

VISITOR USE AND EXPERIENCE / RECREATION RESOURCES

GUIDING REGULATIONS AND POLICIES

Enjoyment of park resources and values by the people of the United States is fundamental to the purpose of all national parks. The NPS is committed to providing appropriate, high-quality opportunities for the public to enjoy the parks. Because not all recreational activities are appropriate for each park, the NPS will encourage activities that are appropriate to the purposes for which the park was established, are appropriate to the unique park environment, will promote enjoyment through direct association with park resources, and can be sustained without causing unacceptable impacts on park resources or values (NPS 2006a, Section 8.2).

Visitors use a variety of park resources based on personal goals and interests, and the feeling they experience during their visit is the result of multiple actions and encounters. This analysis considers how the proposed alternatives would affect how people use park lands, as well as how the alternatives would alter visitors' experiences. Although several factors contribute to the quality of experience, the proposed actions would affect visitor use and experience primarily through visual and noise disruptions, as well as access limitations. Therefore, this analysis incorporates the findings from the "Soundscapes" and "Viewshed (Visual Resources)" sections of this chapter to help determine how impacts on those park resources would affect visitor use and experience. Aesthetic value is an important consideration in the management of recreation settings, especially where most people expect a natural-appearing landscape with limited evidence of "unnatural" disturbance of landscape features (USFS 1995, F-1). Scenic qualities can affect park visitors, residents of the local area or nearby communities, and a broader constituency who may either occasionally visit the parks or simply have an interest in their scenic qualities (USFS 1995, 3-3). Additional factors affecting visitor use include the impact on visitor experience from the quality of the overall ecosystem, including any improved visitor experience opportunities from restored hydrologic flow.

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

General information on visitors to southern Florida and the park was collected from NPS visitor statistics and previous studies at the park. Information about use of the recreational areas outside the park but in the project area was collected based on park input and data gathering done to assess the area of possible relocated corridor east of the park. This information was used to make a qualitative evaluation of the potential impacts on visitor use and experience based on professional judgment.

The following definitions were used to assess impacts on visitor use and experience and recreation resources:

- **Negligible**: Visitors and recreational users would not be affected and/or changes in the experience would be below levels of detection, and visitors and recreational users would likely be unaware of any effects associated with implementation of the alternative. There would be no noticeable change in visitor use and experience or in any defined indicators of visitor satisfaction or behavior.
- **Minor**: Changes in visitor/recreational use and/or experience would be slight but detectable. The changes would not appreciably limit critical characteristics of the desired experience. Visitors or recreational users would be aware of the effects associated with the alternative, but the effects would be slight.

- **Moderate**: Some characteristics of the desired experience would change and/or the number of participants engaging in an activity would be altered. The visitor or recreational user would be aware of the effects associated with the implementation of the alternative and would likely be able to express an opinion about the changes. Visitor/user satisfaction would begin to decline as a direct result of the effect.
- **Major**: Multiple critical characteristics of the desired visitor/user experience would change and/or the number of participants engaging in an activity would be greatly reduced. The visitor/user would be aware of the effects associated with the implementation of the alternative and would likely express a strong opinion about the change. Visitor/user satisfaction would markedly decline.

ANALYSIS AREA

The area of analysis for visitor use and experience and recreation resources includes the areas of visibility, audibility, recreational use, and recreational access that are used by park visitors in the EEEA. It also includes the visitor use corridor along the L-31N canal, visitor use areas in the WCAs north of Tamiami Trail, fishers on canals, and any recreation areas outside the park within the West Consensus Corridor.

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, FPL retention of ownership of land in the EEEA would not have any direct impacts on visitor use and experience and recreation resources. However, flowage restrictions would result in long-term indirect major adverse impacts on visitor use and experience. The lack of a perpetual easement to flow higher water levels across the FPL property would prevent the implementation of ecosystem restoration activities that rely on additional flow in the EEEA. The continued degradation of hydrology, water quality, soils, vegetation and wetlands, floodplains, and special-status species would prevent visitors from experiencing a healthy ecosystem and enhanced wildlife viewing opportunities in the EEEA and the WCAs north of Tamiami Trail. These impacts would have a long-term major adverse effect on the visitor experience.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed. Therefore, there would be no construction-related impacts visitor use and experience or recreation resources.

Cumulative Impacts – Alternative 1a

Past projects impacting visitor use and experience and recreation resources include the acquisition of lands in the EEEA under the Expansion Act. The acquisition of these properties has expanded the protected areas within Everglades National Park and has protected the backcountry experience for visitors in this area, resulting in long-term beneficial impacts. Present and future actions that impact visitor use and experience and recreation resources include all projects intended to restore habitat and deliver additional freshwater to the park. As a result of these actions, there would be additional wildlife in the park, improving the visitor experience, as well as providing additional areas for airboats to access, expanding the area available for visitor use. The draft GMP calls for an increased prominence for the EEEA for visitors and area residents to experience and understand the Everglades ecosystem. These

projects would result in long-term beneficial impacts on visitor use and experience. Fire management actions (prescribed burns, wildland fire control actions) can adversely affect visitor use in the park by restricting access to the areas being treated and from smoke. Impacts would be short term, minor, and adverse.

The past, present, and reasonably foreseeable future actions described above would result in long-term beneficial impacts, with some short-term minor adverse effects. Alternative 1a would contribute long-term major adverse indirect impacts from the prevention of the beneficial impacts from the ecosystem restoration projects and the ability for visitors to experience a restored ecosystem; these impacts would contribute appreciable adverse impacts to the overall cumulative impacts on visitor use and experience and recreational resources in the project area.

Conclusion – Alternative 1a

Under alternative 1a, there would be no land acquisition and no transmission line construction within or adjacent to the EEEA. The lack of a flowage easement on the FPL property would prevent the implementation of ecosystem restoration activities that rely on additional flow in the EEEA. The resulting degradation of natural resources would prevent visitors from experiencing a healthy ecosystem and enhanced wildlife viewing opportunities in the EEEA and the WCAs north of Tamiami Trail. These impacts would have a long-term indirect major adverse effect on the visitor experience. Alternative 1a would contribute appreciable adverse impacts to overall cumulative impacts on visitor use and experience.

IMPACTS OF ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

Under alternative 1b, the retention of ownership of land in the EEEA by FPL would result in no direct impacts on visitor use and experience or recreational users in adjacent areas. Similar to alternative 1a, the continued degradation of hydrology, water quality, soils, vegetation and wetlands, floodplains, and special-status species from the lack of a perpetual flowage easement would prevent visitors from experiencing a healthy ecosystem and enhanced wildlife viewing opportunities in the EEEA and the WCAs north of Tamiami Trail and would have a long-term indirect major adverse effect on the visitor experience.

Impacts of Transmission Line Construction

Indirect impacts would result from the construction of the transmission lines in the park, as described earlier in this chapter and appendix F. During construction, visitors and recreational users would notice an increase in construction equipment and associated noise in the vicinity of the construction area. If helicopters were needed during construction, they would introduce additional noise and disruption to the park's backcountry experience in this area. Overall, impacts on visitor use and experience and recreation resources during construction would be short term, moderate to major, and adverse.

The visual qualities of the park would be altered with the addition of the transmission lines, as fully described in the viewshed analysis (see the "Viewshed (Visual Resources)" section of the EIS). For visitors in both Shark Valley and Chekika, the views would primarily include natural scenes; very few, if any, human-made structures would be visible from viewing platforms and hiking trails. Visitors on airboat tours would be able to see several human-made structures, including radio towers, a cement plant, the Miccosukee Resort Hotel, the Krome Detention Center water storage tower, and existing power transmission structures, as well as the proposed new transmission line structures in the park. The existing

structures would remain in the background of the existing viewing opportunities, while the transmission lines would be expected to be more prominent, due to their height, and would be located in the middleground of existing views. While visitor use in the direct vicinity of the FPL West Secondary Corridor is limited, canoeists may choose not to continue to recreate in this location. The experience of canoeists would be reduced by the introduction of transmission lines within a primitive setting. This area is seen by many visitors approaching the park. Impacts on visitor use and experience within the park would be long-term, moderate, and adverse.

Outside the park, anglers along the L-29 canal would be impacted by the construction of the transmission lines. The lines would cross the L-29, introducing a new built element to the landscape. Additionally, the operation of large transmission lines in this area would introduce noise in the area of the canal that would likely be a disturbance to the anglers. This disturbance would only be in the direct vicinity of the transmission lines, however, and anglers could move along the canal to a new location to avoid this impact. Recreational users along the L-31N canal may notice the new visual element, but it likely would not impact their recreational experience. Airboaters and those visitors recreating in the WCA would notice the new visual element and would experience long-term moderate adverse impacts from the new structures in a currently undeveloped location. Overall, impacts on recreation resources outside of the park would be long-term, moderate, and adverse.

Overall, impacts on visitor use and experience and recreation resources both in and around the park would be short-term moderate to major adverse and long-term moderate adverse.

Cumulative Impacts – Alternative 1b

The impacts on visitor use and experience from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 1a. Alternative 1b would contribute short-term moderate to major adverse and long-term moderate to major adverse indirect impacts of transmission line construction along the FPL West Secondary Corridor within the EEEA and would prevent the beneficial impacts from the ecosystem restoration projects and the ability for visitors to experience a restored ecosystem; these impacts would contribute appreciable adverse impacts to the overall cumulative impacts on visitor use and experience and recreational resources in the project area.

Conclusion – Alternative 1b

Under alternative 1b, there would be no direct impacts on visitor use and experience or recreation resources from the FPL retention of property in the EEEA. Impacts on visitor use and experience and recreation resources would result from the inability to flow higher water levels across the FPL property and construction of the transmission lines in the FPL West Secondary Corridor. Effects would include short-term moderate to major adverse impacts during construction and long-term moderate to major adverse impacts from the introduction of transmission lines into a backcountry setting as well as from noise and visual impacts along the L-29 canal and the lack of a restored ecosystem. Alternative 1b would contribute appreciable adverse impacts to overall cumulative impacts.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

Under alternative 2, the NPS would acquire the FPL property in the EEEA. No direct impacts would be expected from the acquisition of FPL land in the EEEA, however there would be long-term beneficial impacts from the ability of ecosystem restoration projects to be able to flow water in the EEEA, allowing visitors to experience an improved ecosystem.

Impacts of Transmission Line Construction

Impacts under alternative 2 would result from the possible construction of the transmission lines to the east of the park in the West Consensus Corridor. Impacts on park visitors and recreational users along the L-31N canal would be greatest where the transmission line is constructed along the L-31N canal, which is adjacent to the park. During construction, there would be short-term minor to moderate adverse impacts from the increase in construction equipment in the vicinity, most notably along the L-31N canal. Following completion of transmission line construction, recreational users along the L-31N canal would experience a noticeable difference in their recreational experience, with a newly introduced element to the relatively undeveloped landscape, including additional impacts from the ongoing noise emitted by 500-kV transmission lines (for specific impacts, please see the "Soundscapes" section of this chapter). Anglers, bicyclists, runners, and other recreational users may choose to recreate in other areas and not use this canal as frequently, resulting in a long-term minor to moderate adverse impact on recreational use. As the West Consensus Corridor turns east and is located further from the park boundary, there would be no impact on recreational use because no formal recreation area exists.

Within the park, visitors would likely be unable to see the transmission line structures while in the Shark Valley or Chekika areas of the park and would experience no adverse impacts. Visitors experiencing the park by airboat would be most likely to see the transmission lines where the West Consensus Corridor parallels the L-31N canal, and these visitors would experience a long-term minor adverse impact on their use or experience. After the point where the West Consensus Corridor turns east away from the canal, and heads northeast toward the Pennsuco wetlands, there would be negligible adverse impacts on park visitors' use or experience.

Overall, impacts on visitor use and experience and recreation resources under alternative 2 would range from no impacts to long-term moderate adverse impacts, depending on the location along the length of the West Consensus Corridor. Short-term impacts during construction would be minor to moderate and adverse. Generally speaking, adverse impacts on visitor use and experience and recreational users would be greater along the southernmost portion of the West Consensus Corridor, which is adjacent to the L-31N canal and the EEEA boundary, and more diminished along the northeastern portion after the route turns east away from the park.

Cumulative Impacts

The impacts on visitor use and experience from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 1a. Unlike alternative 1a, ecosystem restoration projects would not be prevented and there would be beneficial impacts to visitor experience. The implementation of the restoration projects would result in the experience of a healthy ecosystem with the potential for more wildlife viewing opportunities. Alternative 2 would contribute short-term minor to moderate adverse impacts and no impact to moderate long-term adverse impacts, as well as long-term beneficial impacts; these impacts would contribute imperceptible to noticeable adverse cumulative impacts to visitor use and experience.

Conclusion

Under alternative 2, there would be long-term beneficial indirect impacts from the acquisition of FPL property in the EEEA, allowing ecosystem restoration projects to proceed and visitors to experience an improved ecosystem. Indirect impacts on visitor use and experience and recreation resources would result from the construction of the transmission lines in the West Consensus Corridor to the east of the park and would include short-term minor to moderate adverse impacts during construction and no impact to long-term moderate long-term adverse impacts from the introduction of transmission lines in an area that is

highly used by recreational users along the L-31N canal. Alternative 2 would contribute appreciable beneficial effects and imperceptible to noticeable adverse impacts to overall cumulative effects on visitor use and experience and recreational resources in this area.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 3, there would be no direct impacts on visitor use and experience or recreational users in adjacent areas from the exchange of FPL and NPS lands in the EEEA, however there would be long-term beneficial impacts from the ability of ecosystem restoration projects to be able to flow water in the EEEA, allowing visitors to experience an improved ecosystem.

Impacts of Transmission Line Construction

Indirect impacts would result from the construction of transmission lines in the exchange corridor, directly adjacent to park lands, as described earlier in this chapter and appendix F. Any construction would need to adhere to all terms and conditions of the land exchange (appendix G).

During construction, visitors and recreational users would notice an increase in construction equipment and associated noise in the vicinity of the construction area. Visitors on airboat tours, individual airboaters and primitive recreationalists, such as canoeists would experience the largest impact with the biggest visual intrusion into the backcountry setting, as described under alternative 1b. Impacts during construction would be most noticeable in the vicinity of the L-31N canal. During construction, there would be short-term minor to moderate adverse impacts from the increase in construction equipment in the vicinity, as described under alternative 1b. Construction equipment would cause noise and air quality impacts and some portions along the L-31N canal may be closed during construction to protect the safety of recreational users. Construction activities could be longer in duration due to the potential for additional utility infrastructure that may be constructed under the fee for fee land exchange terms and conditions.

Once the construction of the transmission lines was completed, recreational users along the L-31N canal would experience a noticeable difference in their recreational experience, with a new introduced element to the relatively undeveloped landscape, including additional impacts from the ongoing noise emitted by 500-kV transmission lines (for specific impacts, please see the “Soundscapes” section of this chapter). Anglers, bicyclists, runners, and other recreational users may choose to recreate in other areas and not use this canal as frequently, resulting in a long-term moderate adverse impact on recreational use.

Within the park, visitors would likely be unable to see the transmission line structures while in the Shark Valley or Chekika areas of the park and would experience no adverse impacts. Visitors on airboat tours, individual airboaters, wildlife viewers and canoeists would experience minor to moderate adverse impacts from the visual intrusion of the transmission lines in the wilderness setting.

Overall, long-term indirect impacts on visitor use and experience and recreation resources under alternative 3 would be minor to moderate adverse impacts, with the largest impact on recreational users in lands adjacent to the FPL West Preferred Corridor. Short-term impacts during construction would be minor to moderate and adverse.

Cumulative Impacts

The impacts on visitor use and experience from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 2, with ecosystem restoration projects

providing for an improved visitor experience and improved ecosystem. Alternative 3 would contribute short-term minor to moderate adverse impacts and long-term beneficial and minor to moderate adverse impacts; these impacts would contribute noticeable adverse impacts to the overall cumulative impacts on visitor use and experience.

Conclusion

Under alternative 3, there would be long-term beneficial impacts from the exchange of property in the EEEA. Indirect impacts would result from the construction of the transmission lines in the FPL West Preferred Corridor and would include short-term minor to moderate adverse impacts during construction and long-term minor to moderate adverse impacts on visitor use and experience and recreation resources from the introduction of transmission lines along the L-31N canal (moderate adverse impacts on users and visitors along the L-31N canal; minor adverse impacts on visitors located in the park's interior). Alternative 3 would contribute noticeable adverse impacts to overall cumulative effects on visitor use and experience and recreational resources in this area.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 4, there would be no direct impacts on visitor use and experience and recreation resources from the easement for fee land exchange, however there would be long-term beneficial impacts from the ability of ecosystem restoration projects to be able to flow water in the EEEA, allowing visitors to experience an improved ecosystem. Also, no other utilities could be built in the corridor, which would lessen the risk of additional impacts of these facilities on visitor use and experience in this area.

Impacts of Transmission Line Construction

Although FPL would not own the property, impacts on visitor use and experience and recreation resources would be the same as described under alternative 3. Indirect impacts on visitor use and experience and recreation resources would result in long-term minor to moderate adverse effects, with the largest impact occurring on recreational users in lands adjacent to the exchange corridor. Short-term impacts during construction would be minor to moderate and adverse.

Cumulative Impacts

The impacts on visitor use and experience from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 2, with ecosystem restoration projects providing for an improved visitor experience and improved ecosystem. Similar to alternative 3, alternative 4 would contribute short-term and long-term beneficial and minor to moderate adverse impacts; these impacts would contribute noticeable adverse to the overall cumulative impacts on visitor use and experience and recreation resources.

Conclusion

Under alternative 4, there would be beneficial impacts from the fee for easement exchange of property in the EEEA. Impacts on visitor use and experience and recreation resources would result from the construction of the transmission lines in the FPL West Preferred Corridor and would include short-term minor to moderate adverse impacts during construction and long-term moderate adverse impacts from the introduction of transmission lines along the L-31N canal. Also, no other utilities could be built in the

corridor, which would lessen the risk of additional impacts of these facilities on visitor use and experience in this area.

Alternative 4 would contribute noticeable adverse impacts to overall cumulative effects on visitor use and experience and recreational resources in this area.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

Under alternative 5, the NPS would acquire a flowage easement on the FPL property in the EEEA. No direct impacts would be expected. However there would be long-term beneficial impacts from the ability of ecosystem restoration projects to flow higher water levels in the EEEA, allowing visitors to experience an improved ecosystem.

Impacts of Transmission Line Construction

Adverse impacts on visitor use and experience and recreation resources from transmission line construction and presence under alternative 5 would be the same as described under alternative 1b. Overall, indirect impacts on visitor use and experience and recreation resources both in and around the park would be long term, minor to moderate and adverse. Short-term impacts during construction would be moderate to major and adverse. Alternative 5 would slightly decrease adverse impacts due to the ability of the NPS to flow additional water in the EEEA. This flowage would provide the NPS staff with interpretive opportunities to show visitors the connected ecosystem and improved wetland function in the EEEA. These slight benefits, however, would not reduce the overall adverse impacts to visitor use and experience to less than minor to moderate.

Cumulative Impacts

The impacts on visitor use and experience from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 1a, but with the ability for ecosystem restoration projects to be completed and improving visitor experience with a restored ecosystem. Alternative 5 would contribute short-term moderate to major adverse impacts and long-term beneficial and minor to moderate adverse impacts; these impacts would contribute noticeable adverse impacts to the overall cumulative impacts on visitor use and experience and recreation resources.

Conclusion

Under alternative 5, there would be long-term beneficial impacts from the acquisition of a flowage easement on the FPL property in the EEEA, allowing ecosystem restoration projects to proceed and visitors to experience an improved ecosystem. Indirect adverse impacts on visitor use and experience and recreation resources would result from the construction of the transmission lines in the FPL West Secondary Corridor and would include short-term moderate to major adverse impacts during construction and long-term minor to moderate adverse impacts from the introduction of transmission lines into a wilderness-like setting as well as from noise and visual impacts along the L-29 canal. Alternative 5 would contribute noticeable adverse impacts to overall cumulative effects on visitor use and experience and recreational resources in this area.

ADJACENT LAND USES AND POLICIES

GUIDING REGULATIONS AND POLICIES

NPS *Management Policies 2006* do not directly address effects on adjacent land uses or conflicts with local or tribal plans and policies, but do mention cooperation and coordination with park neighbors and tribal interests in several areas (e.g., public participation, public involvement, and consultation). Also, Section 3, Land Protection, states that "the National Park Service would use all available authorities to protect lands and resources within units of the national park system, and the Park Service would seek to acquire non-federal lands and interests in lands that have been identified for acquisition as promptly as possible. For lands not in federal ownership, both those that have been identified for acquisition and other non-federally owned lands within a park unit's authorized boundaries, the Service would cooperate with federal agencies; tribal, state, and local governments; nonprofit organizations; and property owners to provide appropriate protection measures. Cooperation with these entities would also be pursued, and other available land protection tools would be employed when threats to resources originate outside boundaries."

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

This topic was included to identify impacts that could occur from conflicts with land use or land use policies of the park or its adjacent lands from any of the actions for acquisition, or from the construction of the transmission lines. Maps showing land use in the project area, county sources, and communications with NPS staff were used to identify land uses and land ownership in the project area. Available information was also taken from other NPS and non-NPS resources to describe these resources and associated land use policies in more detail. The following definitions were used to determine the magnitude of adverse impacts on adjacent land uses and policies:

- **Negligible**: Implementation of the alternative is compatible with existing area land uses and policies, existing municipal zoning, municipal and county policies, and existing easements, licenses, rights-of-way, and leases on adjacent properties. Adjacent property owners would not be impacted or changes would be considered slight and local.
- **Minor**: Implementation of the alternative is generally compatible with existing area land uses and policies, existing municipal zoning, municipal and county policies, and generally honors existing easements, licenses, rights-of-way, and leases on adjacent properties. Adjacent property owners would experience measurable effects although changes would be small and localized. Mitigation measures, if needed to offset impacts or conflicts, would be simple and successful.
- **Moderate**: Implementation of the alternative is generally compatible with existing area land uses and policies, existing municipal zoning, municipal and county policies, and generally honors existing easements, licenses, rights-of-way, and leases on adjacent properties. Adjacent property owners would experience measurable effects and changes would be of consequence, but would be relatively localized. Mitigation measures to offset impacts or conflicts would likely succeed.
- **Major**: Implementation of the alternative does not conform to the existing area land uses or policies, existing municipal zoning, and/or does not honor all existing easements, licenses, rights-of-way, and leases on adjacent properties, and constitutes a conflicting use. Adjacent property owners would experience readily measurable effects and changes would be of substantial consequence that would be noticed on a regional scale. Mitigation measures to offset impacts or conflicts would be necessary and their success could not be guaranteed succeed.

ANALYSIS AREA

The area of analysis for adjacent land uses and policies includes the EEEA, the 8.5-square-mile area east of the park, WCA 3B and the Pennsuco wetlands north of the park, and extending to the urban development boundary to the east of the park (see "Figure 4: General Project Area," in chapter 1). The analysis is focused on the transmission line corridors in and around the park in the general study area, and areas within about 1/2 mile on either side of the proposed corridors where indirect impacts related to the construction or presence of the transmission lines could adversely affect adjacent land uses or policies of the landowners.

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, there would be no legal changes to the property's status or ownership, and FPL would not grant NPS a flowage easement. Therefore, there would be no physical change to the land, so there would be no direct impacts on adjacent land uses and no direct impacts on land use policies. However, retention of existing FPL land ownership would preclude the NPS from maintaining adequate flowage, thereby representing an incompatible land use by preventing the NPS from fulfilling its policy obligations and presenting a conflict with the LPP, an approved NPS decision document which enshrines the management direction to adhere to proper flowage within Everglades National Park. Further, the retention by FPL of the land within the park would conflict with NPS management direction pursued for all properties within the EEEA, which focuses on NPS seeking to acquire lands that have been identified for acquisition as promptly as possible to meet the purposes of the 1989 Expansion Act, and to encourage compatible adjacent land uses. Consequently, alternative 1a would result in major adverse indirect impacts on land use policies at Everglades National Park.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed. Therefore, there would be no construction-related impacts on adjacent land uses or policies.

Cumulative Impacts – Alternative 1a

Other plans and actions that are part of the cumulative impact scenario would result in both adverse and beneficial long-term cumulative impacts to surrounding land use and policies. In particular, land uses in the area outside the park are affected by land development decisions and actions, including urban development, road construction and expansion (e.g., Krome Avenue expansion), and commercial and industrial uses such as mining. Cumulative impacts of these actions would be long-term and both adverse and beneficial, depending on the location of the action and the surrounding land use and if the use creates any conflicts with use or local policies. County planning requirements and zoning should prevent major adverse effects on local land use policies. Alternative 1a would result in major adverse impacts because of the conflict with existing NPS policies and would contribute appreciable adverse impacts to the overall cumulative effects on surrounding land use and policies in this area.

Conclusion – Alternative 1a

Under alternative 1a, there would be no direct impacts on land uses adjacent to the park and no direct impacts on land use in the park. However, alternative 1a would result in major adverse indirect impacts

on land use policy at Everglades National Park through the retention of FPL lands within the park. Alternative 1a would result in major adverse impacts because of the conflict with existing NPS policies relating to acquisition of the FPL corridor. There would be no impacts related to transmission line construction under this alternative. Alternative 1a would contribute appreciable adverse impacts to the overall cumulative effects on surrounding land use and policies.

IMPACTS OF ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

Impacts of retaining FPL land within the park under alternative 1b would be the same as those described under alternative 1a. Alternative 1b would result in major adverse indirect impacts on land use policies at Everglades National Park.

Impacts of Transmission Line Construction

Under alternative 1b, construction of the transmission line would occur within the park. Although land ownership would not be affected by the proposed action, long –term major indirect adverse impacts would occur as a consequence of a conflicting land use that would occur in Everglades National Park following the subsequent construction of transmission lines in the park in the FPL West Secondary Corridor. The presence of a transmission line within the legislative boundary of the park unit would represent an incompatible land use and could affect use of the surrounding property for resource management and visitor use purposes. These conditions would be in conflict with established NPS policies, the Everglades ecosystem restoration projects and the East Everglades LPP. Transmission lines within the park unit are also inconsistent with the Miami-Dade County Comprehensive Development Master Plan given its designation of the East Everglades Area of Critical Environmental Concern. Parts of this route fall outside the park and agreements are in place with SFWMD for use of right-of-way in portions of the transmission line route occurring in WCA 3B, which limits the severity of adverse effects to land use. However, the introduction of man-made artificial structures in lands formerly characterized by natural landscape conditions would result in adverse impacts on these surrounding land uses and contribute to the overall major adverse impacts of this alternative.

Cumulative Impacts – Alternative 1b

The cumulative impacts on surrounding land use and policies from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 2 would contribute long-term major adverse construction-related impacts and long-term major adverse effects from policy conflicts; these impacts would contribute appreciable adverse impacts to the overall cumulative effects on surrounding land use and policy in this area.

Conclusion – Alternative 1b

Under alternative 1b, there would be no direct impacts from the retention of FPL property in the EEEA, however, indirect adverse impacts on land use at Everglades National Park from transmission line construction through the park would be major. Alternative 1b would contribute appreciable adverse impacts to the overall cumulative effects on surrounding land use and policy in this area.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

Under alternative 2, no direct impacts would be expected from the acquisition of FPL land in the EEEA. NPS acquisition of lands within the park would have no effect on surrounding land uses. However, indirect beneficial impacts would occur as a result of fulfillment of the park's long standing management direction to acquire private properties in the Expansion Area to meet the purposes of the 1989 Expansion Act and eliminate incompatible uses from the area. By changing ownership from FPL to NPS, any potential incompatible land use within park's authorized boundary would be eliminated.

Impacts of Transmission Line Construction

Under alternative 2, long term minor to major adverse impacts would occur as a result of construction of the transmission line in the West Consensus Corridor. Impacts on adjacent land uses would result from the possible construction of transmission lines to the east of the park. This area is currently a mix of industrial, commercial, utility, and residential uses. Impacts could occur as a result of conflicts with these existing land uses. Easements would be acquired for construction of the necessary support structures, and no wholesale change in existing land uses would be required for the construction of the transmission lines in West Consensus Corridor east of the park. Construction of transmission lines in this area would preclude future non-transmission line related land uses and development on certain land parcels. On private parcels, in particular, which are located south of SW 112 Street, small areas of productive agricultural lands may be lost or structures and guy wires could make it difficult to farm. This would result in moderate adverse impacts on land use if those lands are especially productive. The West Consensus Corridor also contains lands held under state and local government ownership.

Preliminary siting indicates that careful placement of the utility lines and structures conducted through a coordinated planning effort among the different landowning entities could avoid major conflicts and would effectively lower impacts to minor adverse levels. Given the collaborative work completed to develop the West Consensus Corridor with various landowning entities through the SCA process, major conflicts would likely be avoided and impacts could be mostly minor adverse. The eastern edge of the West Consensus Corridor is approximately 1/4 mile from the Urban Development Boundary, which would result in no land use impacts on the residential areas to the east (visual and noise impacts on these residences are addressed in the "Visual Resources" and "Soundscapes" sections).

Because any transmission line constructed under this alternative would be outside the park, this alternative would avoid impacts on the County-designated East Everglades Area of Critical Environmental Concern which is located within the park. The Miami Dade County Comprehensive Development Master Plan, which describes future land use scenarios for the area, states that electric transmission line corridors are permitted in every land use category when located in established right-of-ways or certified. Thus, once a route is certified no conflicts would occur with the county development plan. Although conflicts may occur in areas where SWFMD lands are located if the proposed use of those properties is for water protection or recharge, such impacts could be avoided through consultation and appropriate mitigation.

Presence of transmission lines along the L-31N canal levee would parallel an existing industrial use; however the West Consensus Corridor would not interfere with mining operations. Adverse effects would be most notable along the eastern edge of the park where current land use consists of undeveloped wetlands owned by SWFMD and other state and private entities. Effects of land use change would present less of a conflict in areas where there is existing disturbance, such as in Bird Drive basin.

Overall, adverse impacts on land use under alternative 2 would range from minor to moderate in severity depending on the location along the West Consensus Corridor. Siting of transmission lines would require agency coordination to minimize impacts to less than significant levels.

Cumulative Impacts

The cumulative impacts on surrounding land use and policies from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Under alternative 2, acquisition of the FPL land by NPS would result in long-term beneficial impacts but also long-term minor to moderate adverse cumulative impacts to surrounding land use including potential adverse effects on uses and policies outside the park. These impacts would contribute appreciable benefits and noticeable to appreciable adverse impacts to the overall cumulative effects on surrounding land use and policy in this area.

Conclusion

Under alternative 2, there would be no direct impacts from the exchange of FPL and NPS lands in the EEEA. Indirect impacts on land use would result from the construction of the transmission lines in the West Consensus Corridor to the east of the park and would include long-term minor to moderate adverse impacts on uses in that area. Alternative 2 would contribute appreciable benefits and noticeable to appreciable adverse impacts to the overall cumulative effects on surrounding land use and policy in this area.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 3, indirect beneficial impacts to land use would occur following the acquisition by eliminating a conflicting land use that currently occurs within the legislative boundary of the park. However, major adverse indirect impacts would also occur as the result of removing 260 acres of land on the eastern edge of the park that was deemed critical to the park, based on its inclusion on the 1989 Everglades Expansion Area.

Impacts of Transmission Line Construction

Under alternative 3, long-term major adverse indirect impacts on land use would occur as a result of the subsequent construction of transmission lines along the FPL West Preferred Corridor. Land uses within the park, adjacent to the park boundary and agricultural lands in the southern portion of the alignment could be adversely affected.

As stated by Miami-Dade County in the Site Certification Process, transmission lines in the park are inconsistent with the County Comprehensive Development Master Plan and its designation within the East Everglades Area of Critical Environmental Concern. Land use conflicts would also occur as a result of the close proximity of NPS lands to the transmission line, which would be immediately adjacent to the edge of the park and would affect NPS lands through possible access issues and differences in vegetation management approaches.

Other land use conflicts under alternative 3 would result from incompatibility with land uses in the agricultural areas south of the park. Several agreements exist between different land owning entities in the 8.5-square-mile area to the east of the park (USACE) and the WCA 3B to the north of the park (SFWMD / Trustees of the Internal Improvement Trust Fund). These agreements serve to moderate the potential for

impacts resulting from implementation of the transmission line constriction. This coordinated planning effort among the different owning entities effectively lowers adverse impacts to minor levels. However, while adverse effects would be minimized in lands administered by USACE and SFWMD south and north of the park where FPL has already obtained approval from for transmission line routes, the placement of man-made structures in lands that were formerly characterized by natural landscape conditions would present issues of land use incompatibility.

Moreover, fee for fee terms and conditions under this alternative would allow for future utility uses in the right-of-way, which may result in greater intensification of development along the corridor and create higher concentrations of conflicting land uses adjacent to the eastern boundary of the park.

Cumulative Impacts

The cumulative impacts on surrounding land use and policies from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 3 would have long-term benefits from the acquisition of the FPL land by NPS but also long-term major adverse impacts from the loss of the exchange corridor and the impacts on surrounding land use including potential adverse effects on uses and policies outside the park. These impacts would contribute appreciable benefits and appreciable adverse impacts to the overall cumulative effects on surrounding land use and policy in this area.

Conclusion

Under alternative 3, indirect beneficial impacts would accrue to land use from the change in land ownership from FPL to NPS; however, major adverse indirect impacts would also occur from removing 260 acres of land deemed critical to the park per the 1989 Expansion Act. Indirect major adverse impacts on land use would occur as a result of the subsequent construction of transmission lines along the FPL West Preferred Corridor under alternative 3; there are conflicts with County Comprehensive Plan language regarding transmission lines in the East Everglades Area of Critical Environmental Concern and the lines would be immediately adjacent to the park. Alternative 3 would contribute appreciable benefits and appreciable adverse impacts to the overall cumulative effects on surrounding land use and policy in this area.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 4, effects of the land acquisition action would be the same as described under alternative 3 and would include indirect beneficial impacts occurring as the result of fulfillment of the park’s long standing management direction to acquire private properties in the Expansion Area to meet the purposes of the 1989 Expansion Act and eliminate incompatible uses from the area. By changing ownership from FPL to NPS, any potential incompatible land use within park’s authorized boundary would be eliminated. There would be no loss of park ownership of the 260-acre corridor and the intent of having this in the park per the 1989 Expansion Act would still be met.

Impacts of Transmission Line Construction

Under alternative 4, as described for alternative 3, long–term major adverse impacts would occur as a result of land use incompatibility issues following construction of transmission lines along the FPL West Preferred Corridor. As stated by Miami-Dade County in the Site Certification Process, transmission lines in the park are inconsistent with the County Comprehensive Development Master Plan and its designation

within the East Everglades Area of Critical Environmental Concern. Although additional approval authority whereby NPS must approve any FPL construction in the easement would be granted by way of the easement for fee exchange, land uses within the park in areas adjacent to the proposed corridor and agricultural lands in the southern portion of the alignment would remain adversely affected by the development of transmission lines and associated structures.

Cumulative Impacts

The cumulative impacts on surrounding land use and policies from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1a. Alternative 4 would have long-term benefits from the acquisition of the FPL land by NPS and long-term major adverse impacts from the impacts on surrounding land use including potential adverse effects on uses and policies outside the park). These impacts would contribute appreciable benefits and appreciable adverse impacts to the overall cumulative effects on surrounding land use and policy in this area, although impacts would be less than under alternative 4 since the exchange corridor remains under park ownership.

Conclusion

Under alternative 4, there would be no direct impacts from the easement for fee land exchange. There would be indirect beneficial impacts occurring as the result of fulfillment of the park's long standing management direction to acquire private properties in the Expansion Area to meet the purposes of the 1989 Expansion Act and eliminate incompatible uses from the area. Long–term major adverse impacts would occur as a result of land use incompatibility issues following construction of transmission lines along the FPL West Preferred Corridor, although there would be some additional control by way of easement, as the park must approve any FPL construction in the easement. Alternative 4 would contribute appreciable benefits and appreciable adverse impacts to the overall cumulative effects on surrounding land use and policy in this area

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

Under alternative 5, the retention of existing FPL land ownership within the park would have no effect on land uses adjacent to the park and no direct impacts on land use in the park. Beneficial effects would occur as a result of the easements to maintain adequate flowage, thereby allowing NPS to fulfill its policy obligations under the LPP, an approved NPS decision document which enshrines the management direction to adhere to proper flowage within Everglades National Park. The retention by FPL of the land within the park, however, would conflict with NPS management direction pursued for all properties within the EEEA. The NPS management direction focuses on NPS seeking to acquire lands that have been identified for acquisition as promptly as possible to meet the purposes of the 1989 Expansion Act, and to encourage compatible adjacent land uses. Consequently, alternative 5 would result in major adverse indirect impacts on land use at Everglades National Park.

Impacts of Transmission Line Construction

Direct and indirect adverse impacts on land use under alternative 5 would be the same as described under alternative 1b. Although land ownership would not be affected by the proposed action, indirect impacts would occur as a consequence of a conflicting land use that would occur in Everglades National Park following the subsequent construction of transmission lines in the park in the FPL West Secondary Corridor. The presence of a transmission line within the legislative boundary of the park unit would represent an incompatible land use and could affect use of the surrounding property for resource

management and visitor use purposes. These conditions would be in conflict with established NPS policies, the CERP and the East Everglades LPP. Overall, alternative 5 would result in long-term major indirect adverse impacts on surrounding land uses.

Cumulative Impacts

The cumulative impacts on surrounding land use and policies from other past, present, and reasonably foreseeable future projects would be the same as those discussed under alternative 1b. Alternative 5 would contribute long-term major adverse construction-related impacts and long-term major adverse effects from policy conflicts; these impacts would contribute appreciable adverse impacts to the overall cumulative effects on surrounding land use and policy in this area.

Conclusion

Under alternative 5, there would be no direct impacts from the retention of FPL property in the EEEA. Beneficial effects would occur as a result of the easements to maintain adequate flowage, thereby allowing NPS to fulfill its policy obligations under the LPP. Indirect impacts would result from the construction of the transmission lines in the FPL West Secondary Corridor and would include long-term major adverse impacts on land use from the introduction of transmission lines into a park-like setting and the presence of an incompatible land use within the park and in conflict with the county comprehensive development master plan designation of the area as an area of critical environmental concern. Alternative 5 would contribute appreciable adverse impacts to the overall cumulative effects on surrounding land use and policy in this area.

TRIBAL LANDS INCLUDING INDIAN TRUST RESOURCES

GUIDING REGULATIONS AND POLICIES

NPS *Management Policies 2006* do not directly address conflicts with tribal plans and policies, but do mention cooperation and coordination with tribal interests in several areas (e.g., public participation, public involvement, and consultation). Also, Section 3, Land Protection, states that “the National Park Service would use all available authorities to protect lands and resources within units of the national park system, and the Park Service would seek to acquire non-federal lands and interests in land that have been identified for acquisition as promptly as possible. For lands not in federal ownership, both those that have been identified for acquisition and other non-federally owned lands within a park unit’s authorized boundaries, the Service would cooperate with federal agencies; tribal, state, and local governments; nonprofit organizations; and property owners to provide appropriate protection measures. Cooperation with these entities would also be pursued, and other available land protection tools would be employed when threats to resources originate outside boundaries.”

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

Maps showing land use in the project area and communications with NPS staff and the Bureau of Indian Affairs were used to identify tribal lands, including Indian trust resources in the project area. Available information was also taken from other NPS and non-NPS resources to describe these resources in more detail. The following definitions were used to determine the magnitude of adverse impacts on tribal lands:

- **Negligible**: Implementation of the alternative is compatible with existing tribal uses. Adjacent tribal lands would not be impacted or changes would be considered slight and local.

- **Minor**: Implementation of the alternative is generally compatible with existing tribal uses. Adjacent tribal lands would experience measurable effects although changes would be small and localized. Mitigation measures, if needed to offset impacts or conflicts, would be simple and successful.
- **Moderate**: Implementation of the alternative is generally compatible with existing tribal uses. Adjacent tribal lands would experience measurable effects and changes would be of consequence, but would be relatively localized. Mitigation measures to offset impacts or conflicts would likely succeed.
- **Major**: Implementation of the alternative does not conform to the existing tribal uses and/or constitutes a conflicting use. Indian trust resource properties would experience readily measurable effects and changes would be of substantial consequence that would be noticed on a regional scale. Mitigation measures to offset impacts or conflicts would be necessary and their success could not be guaranteed succeed.

ANALYSIS AREA

The area of analysis for tribal lands and Indian trust resources includes the EEEA, the 8.5-square-mile area east of the park, WCA 3B and the Pennsuco wetlands north of the park, and extending to the urban development boundary to the east of the park (see "Figure 4: General Project Area," in chapter 1).The analysis is focused on the transmission line corridors in and around the park in the general study area, and areas within about 1/2 mile on either side of the proposed corridors where indirect impacts related to the construction or presence of the transmission lines could adversely affect tribal lands. The Tamiami Trail Reservation Area, as described under chapter 3, is 15 miles from the FPL West Secondary Corridor and therefore would not be impacted by any of the proposed alternatives.

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, FPL retention of ownership of land in the EEEA would not have any impacts on Tribal Lands. There are no Indian Trust resources in the EEEA.

Impacts of Transmission Line Construction

Under alternative 1a, no transmission lines would be constructed. Therefore, there would be no construction-related impacts on tribal lands or Indian Trust resources.

Cumulative Impacts – Alternative 1a

Because there would be no impacts on tribal lands, including Indian Trust resources under alternative 1a, there would be no cumulative impacts.

Conclusion – Alternative 1a

There would be no impacts on tribal lands, including Indian Trust resources from the land acquisition action or from transmission line construction under alternative 1a. Because there would be no impacts, there would be no cumulative impacts.

IMPACTS OF ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

There would be no impacts on tribal lands including Indian Trust resources from the continuation of FPL land ownership within the EEEA. There are no Indian Trust resources located within the EEEA.

Impacts of Transmission Line Construction

Under alternative 1b, the transmission line would be constructed through the EEEA and up into the WCA 3B management area. In both the EEEA and WCA 3B, the transmission lines would be visible from the Indian Gaming and Resort Facility property located along Krome Avenue at the Tamiami Trail, which is an Indian Trust parcel. This visual intrusion on the existing landscape would result in long-term minor adverse impacts on tribal lands. In consultation with the Miccosukee Tribe, the tribe noted that the gaming and hotel industry is very competitive in Florida and the location of the Miccosukee Resort is one of the key attractions that distinguishes the Miccosukee Resort from other gaming venues in Florida. Under alternative 1b, the construction of transmission lines would reduce the "returning to nature" appeal that the Miccosukee Resort provides, which could result in a loss of business. The Tribe noted that the Miccosukee Resort is the main source of revenue for the health, education, safety, and welfare programs for the Miccosukee Tribe. Overall impacts to tribal lands under alternative 1b would be long-term, adverse, and moderate. The additional Indian Trust properties (Lambik, SEMA, and Coral Way) as well as the fee tribal land would not be impacted by construction under alternative 1b.

Cumulative Impacts – Alternative 1b

No past, present or reasonably foreseeable projects have been identified that would impact tribal lands, including Indian Trust resources; therefore there are no cumulative impacts.

Conclusion – Alternative 1b

Alternative 1b would result in no impacts from the continuation of FPL land ownership in the EEEA and long-term minor to moderate adverse impacts from the construction of transmission lines through the EEEA and WCA 3B management areas. There would be no cumulative impacts on tribal lands because no other projects were identified for this cumulative impact scenario.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

There would be no impacts on tribal lands from the acquisition of FPL land in the EEEA. There are no Indian Trust resources in the EEEA.

Impacts of Transmission Line Construction

Under alternative 2, there are Indian Trust parcels and tribal land located immediately adjacent to the FPL West Preferred Corridor. The Coral Way Indian Trust property is located in the vicinity of the West Consensus Corridor and both the SEMA and Lambik Indian Trust parcels are located directly adjacent or in the immediate vicinity of the corridor. The additional fee tribal property is also located adjacent to the corridor. All of these parcels, however, are not in active use by the Miccosukee, with the exception of overflow parking at the SEMA property. Based on the alignment agreed to for the West Consensus

Corridor, FPL has committed to avoid crossing tribal lands. Any construction adjacent to tribal lands would likely have minor adverse effects. Regarding the Indian Resort and Gaming Facility parcels, instead of passing to the west of this property (as would occur under alternative 1b), the transmission line would cross the Tamiami Trail and casino property to the east. There would still be a new visual intrusion; however, this change in viewshed from the casino would occur within a backdrop of an already developed area as opposed to the wilderness-like setting of the EEEA and WCA 3B. Therefore, adverse impacts on the tribal lands would be long-term and minor.

Cumulative Impacts

No past, present or reasonably foreseeable projects have been identified that would impact tribal lands; therefore there are no cumulative impacts.

Conclusion

There would be no impacts on tribal lands from the acquisition action. There would be long-term minor adverse impacts on tribal lands, including Indian trust resources from the implementation of alternative 2 due to the proximity to tribal lands and the change in viewshed from the casino property. There would be no cumulative impacts because no other projects were identified for this cumulative impact scenario.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

There would be no impacts on tribal lands or Indian Trust resources from the fee for fee land exchange under alternative 3 because there are no Indian Trust resources within the EEEA.

Impacts of Transmission Line Construction

Under alternative 3, the transmission lines would be constructed closer to the Indian Gaming and Resort Facility property, along the edge of the EEEA and through the WCA 3B, adjacent to Indian Trust lands. Similar to alternative 1b, construction of transmission lines in this location would alter the existing viewshed from the Indian Gaming and Resort Facility property and the lines could be seen to the west from other tribal and Indian Trust lands located along Tamiami Trail (the SEMA, Coral Way, and unnamed fee properties). Since the transmission line would be located closer to the Indian Gaming and Resort Facility property, there would be a long-term moderate to major adverse impact on Indian Trust resources and tribal lands. Similar to the impacts described under alternative, transmission line construction under alternative 3 would result in a more noticeable impact to the viewshed from the Indian Gaming and Resort Facility and could further impact the Miccosukee's ability to provide the "returning to nature" experience.

Cumulative Impacts

No past, present or reasonably foreseeable projects have been identified that would impact tribal lands; therefore there would be no cumulative impacts.

Conclusion

There would be no impacts on tribal lands from the acquisition action. There would be long-term moderate to major adverse impacts on tribal lands, including Indian Trust resources, from the implementation of alternative 3 due to the change in viewshed to the west from the Indian Gaming and

Resort Facility property and other Indian Trust and tribal lands in that area. There would be no cumulative impact because no other projects were identified for this cumulative impact scenario.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Impacts under alternative 4 would be similar to those under alternative 3. There would be no impacts on Indian Trust resources from the easement for fee land exchange under alternative 4 because there are no Indian Trust resources within the EEEA. According to the terms and conditions (appendix H), no other utilities could be built in the corridor, which would lessen the risk of additional impacts of these facilities on other properties in this area.

Impacts of Transmission Line Construction

Impacts on tribal lands, including Indian Trust resources from transmission line construction under alternative 4 would be the same as described under alternative 3. There would be long-term moderate to major adverse impacts from construction of transmission lines in the WCA 3B adjacent to the Indian Gaming and Resort Facility and to the west of other Indian Trust and tribal lands in the vicinity.

Cumulative Impacts

No past, present or reasonably foreseeable projects have been identified that would impact tribal lands; therefore there would be no cumulative impacts.

Conclusion

There would be no impacts on tribal lands from the acquisition action. There would be long-term moderate to major adverse impacts on tribal lands, including Indian Trust resources from the implementation of alternative 4 due to the change in viewshed to the west from the Indian Gaming and Resort Facility property and other Indian Trust and tribal lands in that area. Also, no other utilities could be built in the corridor, which would lessen the risk of additional impacts of these facilities on views in this area. There would be no cumulative impacts because no other projects were identified for this cumulative impact scenario.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

Similar to alternative 1b, there would be no impact on tribal lands from the continuation of FPL property ownership within the EEEA. There are no Indian Trust resources within the EEEA.

Impacts of Transmission Line Construction

Impacts on tribal lands, including Indian Trust resources under alternative 5 would be the same as described under alternative 1b. There would be long-term minor to moderate adverse impacts from the visual intrusion into the landscape facing west from the Indian Gaming and Resort Facility property. Other tribal lands and Indian trust resources would not be impacted.

Cumulative Impacts

No past, present or reasonably foreseeable projects have been identified that would impact tribal lands; therefore there would be no cumulative impacts.

Conclusion

There would be no impacts on tribal lands from the flowage easement. There would be long-term minor to moderate adverse impacts on tribal lands, including Indian Trust resources, from the implementation of alternative 5 due to the change in viewshed to the west from the Indian Gaming and Resort Facility property. There would be no cumulative impacts because no other projects were identified for this cumulative impact scenario.

SOCIOECONOMICS

GUIDING REGULATIONS AND POLICIES

The CEQ requires the NPS to consider the effects of actions on the quality, growth, expansion, and use of outlying and gateway communities (40 CFR 1502.16). Although the NEPA process is undertaken only when there is a physical impact on the environment, CEQ regulations require analysis of social and economic effects in an environmental assessment (EA) and an EIS. Social and economic impacts should be analyzed in any NEPA document where they are potentially affected (NPS Director's Order 12). Because the local economy could be impacted through the adoption of one or more of the alternatives proposed in this EIS, socioeconomics is considered as an impact topic.

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

The analysis assumes that economic impacts are those that individuals, groups, properties, businesses or institutions would experience from a change—beneficial or adverse—in business and economic activity from each of the alternatives under consideration. Social impacts are those that may be borne by individuals or groups who could experience a change in their social structure and context under the proposed alternatives.

The intensity or magnitude of impacts on the local and regional economy and the social environment are described below. The extent of potential adverse social and economic impacts was assessed using the following definitions:

- **Negligible**: The effects on socioeconomic conditions are below or at the level of detection and localized.
- **Minor**: A few individuals, groups, businesses, properties or institutions would be impacted. Impacts would be slight but detectible, and limited to a small geographic area. These impacts are not expected to substantively alter social and/or economic conditions. The impact would not be detectable outside the affected area.
- **Moderate**: Many individuals, groups, businesses, properties or institutions would be impacted. Impacts would be readily apparent and detectable in the local area and may have a noticeable effect on social and/or economic conditions.
- **Major**: A large number of individuals, groups, businesses, properties or institutions would be impacted. Impacts would be readily detectable and observed, extend to a wider geographic area,

possibly regionally, and would have a substantial influence on social and/or economic conditions at the county-level of analysis. The impact is severely adverse in the affected area.

ANALYSIS AREA

The area of analysis for socioeconomics is defined mostly by the indirect impacts of transmission line development that would result from implementation of the land exchange alternatives and includes the following:

- For impacts relating to property values, the area of analysis is the area (and structures) close to the alternative transmission line corridors, within 1/4 mile from the alternative corridors in and around the park (between points where alternative routes diverge and then merge again).
- For impacts relating to the regional economic effects of transmission line development on the local economy, the area of analysis is Miami-Dade County.
- For impacts relating to the cost of line development and easements on FPL rates, the area of analysis includes all FPL customers in Florida.

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, FPL retention of ownership of land in the EEEA would not have any impacts on socioeconomic resources.

Impacts of the Transmission Line Construction

There would be no change in socioeconomic conditions associated with regional economic effects since there would be no project construction employment and spending.

There would be no change in socioeconomic conditions for private properties and property values due to the project since no transmission line would be built.

There would be no change in socioeconomic conditions associated with development costs and electricity rates as the project would not be built.

Cumulative Impacts – Alternative 1a

Because there would be no impacts on socioeconomic resources under alternative 1a, there would be no cumulative impacts. See the cumulative impact discussion under alternative 1b for a description of the impacts of actions by others on socioeconomic resources.

Conclusion – Alternative 1a

There would be no impacts on socioeconomic resources associated under alternative 1a. Alternative 1a would contribute no adverse or beneficial cumulative impacts on socioeconomic resources.

IMPACTS OF ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

There would be no impacts on those socioeconomic resources being analyzed from the land acquisition action.

Impacts of the Transmission Line Construction

Indirect impacts under alternative 1b would result from the possible construction of transmission lines in the park. Impacts on socioeconomic resources would include potential effects on jobs and income associated with the construction activity; adjacent properties owners and property values; and FPL development costs and potentially electricity rates.

The bulk of the impacts on social and economic conditions would occur during the construction stage of the project, and therefore they would generally be beneficial and temporary, supporting jobs and income in the regional economy. Approximately 1/2 of the FPL West Secondary Corridor would be located in the park. Construction would occur on the transmission lines in several places simultaneously with average crews of 10 to 15 workers. There would be no more than 30 workers at any one location (appendix F). Construction along the FPL West Secondary Corridor would occur through an access road, which would be located along the entire corridor.

There would be construction employment supported by this alternative through the duration of the construction activity. It is likely that the majority of transmission line construction contractors and workers would reside in the broader region, primarily Miami-Dade County, and commute to the corridor. Transmission line electricians and other specially skilled workers may relocate to the area temporarily during the construction period. Therefore, the population may slightly increase in the short term, but this increase would be negligible adverse in the Miami metropolitan area.

Transmission line construction workers would spend their money in the region, beneficially affecting the region's economy. However, the majority of these workers live in the area, so the locally residing workers' income would not add economic stimulus to the region. The skilled transmission line workers who are expected to relocate temporarily would provide revenues for some local businesses, such as hotels, restaurants, gas stations, and grocery stores, supporting jobs and incomes for these businesses and their employees. Overall, the spending would be short term and would likely have beneficial socioeconomic impacts on the overall region. Relative to the economy of Miami-Dade County, this economic contribution would be very small.

During the construction period, there would be a temporary negligible population increase in the region, with negligible adverse impacts on housing resources.

There would be negligible adverse impacts on nearby residents as a result of alternative 1b since the construction would occur in the park boundary and on vacant state and private lands to the north of the park. There are no residences within 1/4 mile of the FPL West Secondary Corridor.

Whenever land uses change, the concern is often raised about the effect the change may have on property values nearby. The question of whether nearby transmission lines can affect residential property values has been studied extensively in the United States and Canada over the last 20 years or so, with mixed results. In general, the impacts are difficult to measure, vary among individual properties, and are influenced by a number of interplaying factors, including the following (Jackson and Pitts 2010):

- Proximity of residential properties to transmission line structures
- Type and size of high-voltage transmission line structures
- Appearance of easement landscaping
- Surrounding topography.

Pitts and Jackson (2007) summarize the following conclusions on the impacts of high-voltage transmission lines.

- When negative impacts are present, studies report an average decline of prices from 2 to 9 percent.
- Value diminution is attributable to the visual unattractiveness of the lines, potential health hazards, disturbing sounds, and safety concerns.
- Impacts diminish as the distance between the high-voltage transmission lines and the affected properties increase, and disappear completely at a distance of 200 feet from the lines.
- Where views of transmission lines and towers are completely unobstructed, negative impacts can extend up to 1/4 mile.
- If high-voltage transmission-line structures are at least partially screened from view by trees, landscaping, or topography, any negative effects are reduced considerably.
- Value diminution attributed to high-voltage transmission-line proximity is temporary and usually decreases over time, disappearing completely in 4 to 10 years.

Studies of impacts during periods of physical change, such as new transmission line construction or structural rebuilds, generally reveal greater short-term impacts than long-term effects. However, most studies have concluded that other factors (e.g., general location, size of property or structure, improvements, irrigation potential, condition, amenities, and supply and demand factors in a specific market area) are far more important criteria than the presence or absence of transmission lines in determining the value of residential real estate.

Some impacts on property values (and salability) might occur on an individual basis as a result of the new transmission lines. Although there is some private property located in the northern part of the FPL West Secondary Corridor, there are no residences (structures) located within 1/4 mile of the corridor. Therefore, there would be short-term, negligible, and adverse effects expected to property values associated with alternative 1b.

Right-of-way easements as well as USACE and other federal and state permits for the construction and operations of the new transmission lines are required for the project. FPL has established the right-of-way to the north and south of the park by easements with underlying ownerships and its own fee title lands. FPL would still need to obtain siting and construction permits from federal and state agencies.

Capital expenditures for improvements to electric-utility infrastructure, and to acquire right-of-ways and siting permits are investments made to serve electricity customers in Florida. The expenditures can be

passed on to the customers served in the form of increased rates. However, as a regulated utility, FPL can increase rates only on approval by Florida Public Service Commission. Such rate-increase requests are subject to rigorous analysis by regulators and others, and to public process. FPL has secured the right-of-way north and south of the park with its fee title lands and easements with underlying federal, state, and private landowners. At this time, not all costs for transmission line development are known (FPL 2009a; Louis Berger Group, Inc. 2013), but it is expected that under alternative 1b there would be additional permitting costs that would affect FPL development costs. However, it is likely these incremental FPL permitting costs would not contribute to any electricity rate increases.

Overall, indirect impacts on socioeconomic conditions in the region would be both beneficial and short-term, negligible, and adverse. In the long-term, there would be no impacts on socioeconomic resources associated with alternative 1b.

Cumulative Impacts – Alternative 1b

Past, present, and future projects that could occur and are listed on table 18 have construction components, beneficially affecting jobs and income in the region. Mining and commercial development in this area has provided economic benefits through jobs, income, and taxes. These projects would result in short-term beneficial impacts on socioeconomic resources. Additionally, future transmission projects could adversely affect adjacent property values in the short- and long-term, depending on the specific siting of the transmission lines. The FPL electrical generation and transmission projects could also adversely affect the capital costs incurred by FPL and potentially ratepayers.

Alternative 1b would contribute short-term negligible adverse impacts on property values and beneficial impacts of transmission line construction along the FPL West Secondary Corridor; these impacts would contribute imperceptible adverse and beneficial cumulative impacts on socioeconomic resources.

Conclusion – Alternative 1b

There would be no impacts on socioeconomic resources associated with land acquisition under alternative 1b. Indirect impacts would result from the construction of the transmission lines in the FPL West Secondary Corridor and would include short-term beneficial impacts during construction on jobs and income in the region and short-term negligible adverse impacts on adjacent residents and property values. There are no expected impacts on electricity rates under alternative 1b. Alternative 1b would contribute imperceptible adverse and beneficial cumulative impacts on socioeconomic resources.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

There would be no impacts on those socioeconomic resources being analyzed from the land acquisition action.

Impacts of the Transmission Line Construction

Indirect impacts under alternative 2 would result from the possible construction of transmission lines to the east of the park in the West Consensus Corridor. Alternative 2 is expected to have the same impacts as those under alternative 1b with regard to regional effects on jobs and income associated with the construction activity, with short-term beneficial impacts on jobs and income within the region. Over the construction period, there would be a temporarily negligible population increase in the region, with negligible adverse impacts on housing resources.

Under alternative 2, there would be short-term minor adverse impacts on private properties and property values on an individual basis as a result of the transmission line development. Impacts would depend on the siting of the route within the corridor, with a greater likelihood of effects if the lines were routed closer to homes in the eastern portion of the corridor. With adequate setbacks from homes, there would be expected short-term minor adverse effects on these adjacent residences, with some potentially longer-term effects, although the property values effects associated with the transmission lines are expected to diminish with time. The residences likely to be affected are located in the southern part of the West Consensus Corridor, west of the Hammocks subdivision, north of 112th Street, between 187th Ave and Krome Avenue, as well in the northern part of the West Consensus Corridor, east of 157th Avenue.

Under alternative 2, there would be adverse impacts on nearby residents as a result of the construction in the area of the West Consensus Corridor, associated with increased noise from construction activities and equipment, the visual presence of construction equipment, and potential traffic and congestion resulting from construction trucks and equipment accessing the right-of-way, using local roads, and from potential short-term road closures during conductor stringing. These effects are anticipated to be short-term, adverse, and minor. However, most of the area of the West Consensus Corridor is more than 1/2 mile from the urban development boundary, which would minimize these effects. Operation of the proposed project would include infrequent disturbance during any maintenance or repair activities, resulting in long-term negligible adverse impacts on nearby residents.

Since most property value effects occur within 1/4 mile of transmission lines when views of the lines are unobscured (within 200 feet if there is landscaping or other visual diversions), it is possible that there would be some adverse effects on property values, especially in the neighborhood west of the Hammocks, as well as the neighborhood east of 157th Avenue, although the impacts are anticipated to be primarily short-term. Since most of the West Consensus Corridor is more than 1/2 mile from the urban development boundary, these adverse effects would be lessened. It is possible that there would be more residences located closer to transmission lines under this alternative when compared to alternatives 1b and 3.

Easements and land acquisition as well as siting permits and certification would be required for the construction and operations of the transmission lines in the West Consensus Corridor. FPL would pay market value to private landowners, as established through the appraisal process, for any new land rights required for the project. To facilitate a transmission siting alternative to minimize or avoid adverse impacts on park resources, public agencies would enter into agreements and contracts with FPL to provide easements across their respective government agency lands to the east of the park.

Much of the private property west of the urban boundary is in undeveloped or in agricultural use. It is possible that utility permanent easements could be obtained on these lands (and land acquisition would not be required), which would allow current agricultural production to continue. Easements on government-owned lands and agricultural lands would affect (likely reduce) the overall cost of the right-of way land right costs expected to be incurred by FPL under this alternative.

Capital expenditures for improvements to electric-utility infrastructure and to acquire right-of-ways are investments made to serve electricity customers in Florida. The expenditures can be passed on to the customers served in the form of increased rates. However, as a regulated utility, FPL can increase rates only on approval by Florida Public Service Commission. Such rate-increase requests are subject to rigorous analysis by regulators and others, and to public process. At this time, not all costs for transmission line development and obtaining right-of-ways are known. Additionally, there are uncertainties regarding FPL obtaining approvals and permits to construct the transmission lines. The extent to which the FPL transmission line development incrementally contributes to capital costs across FPL electrical generation and transmission infrastructure, a factor on which the Florida Public Service Commission would evaluate approvals for rate increases, is highly uncertain at this time.

Overall, indirect impacts on socioeconomic conditions in the region would be both beneficial and short-term negligible to minor adverse. The effect of the additional right-of-way costs on electricity rates is uncertain.

Cumulative Impacts

The impacts on socioeconomics from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 1b. Alternative 2 would contribute short-term and long-term minor adverse and beneficial impacts; these impacts would contribute imperceptible to noticeable impacts to overall cumulative impacts on socioeconomic resources.

The future FPL electrical generation and transmission development costs combined with the additional right-of-way costs under this alternative could have a cumulative adverse impact on electrical generation infrastructure development costs, although the extent of this effect is highly uncertain at this time.

Conclusion

There would be no impacts on socioeconomics associated with land acquisition under alternative 2. Indirect impacts would result from the construction of the transmission lines in the West Consensus Corridor to the east of the park and would include short-term beneficial impacts on jobs and income during construction, and possible short-term minor adverse impacts on adjacent residents and property values. The future FPL electrical generation and transmission development costs combined with the additional right-of-way costs under this alternative could have a cumulative adverse impact on electrical infrastructure development costs, although the extent of this effect is uncertain at this time. The impact of these costs on electricity rates is also uncertain. Alternative 2 would contribute imperceptible to noticeable impacts to overall cumulative impacts on socioeconomic resources.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

There would be no impacts on those socioeconomic resources being analyzed from the land acquisition action.

Impacts of the Transmission Line Construction

Socioeconomic resources would indirectly be affected by construction activity and siting of the transmission lines, very similar impacts as those experienced under alternative 1b. The terms and conditions associated with alternative 3 (appendix G) could affect the costs to develop the transmission lines, which could beneficially affect the regional economy, although they could adversely affect FPL development costs. These construction beneficial impacts in the context of the regional economy are very small.

The terms and conditions (appendix G) associated with transmission line construction in the FPL West Preferred Corridor would potentially affect socioeconomic resources in two ways: (1) the additional costs to develop the transmission lines adhering to the terms and conditions could beneficially affect the regional economy, although they could adversely affect FPL development costs; (2) the terms and conditions include protection for wetlands and wildlife, which could prevent adverse effects on the resources and limit the adverse impacts on recreation, such as bird watching, and associated visitor spending. These effects are expected to be negligible adverse on socioeconomic resources.

Over the construction period, there would be a temporarily and negligible increase population in the region, with negligible adverse impacts on housing resources.

There are 12 residences within 1/4 mile or in the FPL West Preferred Corridor while no residences are located within 500 feet. These residences are primarily located on the southern part of the corridor, west of the Hammocks subdivision, north of 112th Street, between 187th Ave and Krome Avenue. Under alternative 3, there would be adverse impacts on nearby residents as a result of the construction associated with increased noise from construction activities and equipment, the visual presence of construction equipment, and potential traffic and congestion resulting from construction trucks and equipment accessing the right-of-way, using local roads, and from potential short-term road closures during conductor stringing. These effects are anticipated to be short-term, adverse, and minor.

Since most property value effects occur within 1/4 mile of transmission lines when views of the lines are unobscured (within 200 feet if there is landscaping or other visual diversions), it is expected that there would be some adverse effects on property values, primarily in the neighborhood west of the Hammocks, although the effects are anticipated to be short-term. Since only 12 structures are located within 1/4 mile and none are located within 500 feet of the corridor, there would be short-term minor adverse effects on these adjacent residences, with some potentially longer-term effects, although the property values effects associated with the transmission lines are expected to diminish with time.

Similar to alternative 1b, right-of-way easements as well as USACE and other federal and state permits for the construction and operations of the new transmission lines are required for the project. FPL has secured contracts and agreements with USACE, SFWMD, Florida Department of Transportation Board of Trustees of the Internal Improvement Trust Fund to obtain easements and land rights for the right-of-way to the north and south of the park contingent on the land exchange with the park. FPL would still need to obtain siting and construction permits from federal and state agencies.

Capital expenditures for improvements to electric-utility infrastructure, and to acquire right-of-ways and siting permits are investments made to serve electricity customers in Florida. The expenditures can be passed on to the customers served in the form of increased rates. However, as a regulated utility, FPL can increase rates only on approval by Florida Public Service Commission. Such rate-increase requests are subject to rigorous analysis by regulators and others, and to public process. FPL has negotiated the right-of-way north and south of the park with various landowners, provided the land exchange is approved. At this time, not all costs for transmission line development are known, but it is expected that under alternative 3 there would be additional permitting costs which would affect FPL development costs. However, it is likely these incremental FPL permitting costs would not contribute to any electricity rate increases.

Overall, indirect impacts on socioeconomic conditions in the region would be both beneficial and short-term negligible to minor adverse. There are no adverse impacts expected to electricity rates associated with the right-of-way expenditures under alternative 3.

Cumulative Impacts

The impacts on socioeconomics from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 1b. Alternative 3 would contribute the short-term minor adverse impacts on property values and beneficial impacts of transmission line construction in the exchange corridor in the park; these impacts would contribute imperceptible adverse and beneficial cumulative impacts on socioeconomic resources.

Conclusion

Under alternative 3, there would be no impacts from the exchange of FPL and NPS lands in the EEEA. Indirect impacts would result from the construction of the transmission lines within the FPL West Preferred Corridor and, during construction, would include short-term beneficial impacts on jobs and income in the region and short-term minor adverse impacts on adjacent residents and property values. There are no expected impacts on electricity rates under alternative 3. Alternative 3 would contribute imperceptible adverse and beneficial cumulative impacts on socioeconomic resources.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

There would be no impacts on those socioeconomic resources being analyzed from the land acquisition action.

Impacts of the Transmission Line Construction

The indirect impacts on socioeconomic resources would be the same as those described under alternative 3. These would include short-term beneficial impacts on jobs and income in the region and short-term minor adverse impacts on adjacent residents and property values.

Cumulative Impacts

Cumulative impacts under this alternative would be the same as those described for alternative 3. Alternative 4 would contribute the short-term minor adverse impacts on property values and beneficial impacts of transmission line construction in the exchange corridor in the park; these impacts would contribute imperceptible adverse and beneficial cumulative impacts on socioeconomic resources

Conclusion

There would be no impacts from land exchange associated with alternative 4. Indirect impacts would be the same as described for alternative 3, and include short-term beneficial impacts on jobs and income in the region and short-term minor adverse impacts on adjacent residents and property values. There are no expected impacts on electricity rates under alternative 4. Alternative 4 would contribute imperceptible adverse and beneficial cumulative impacts on socioeconomic resources.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

There would be no impacts on those socioeconomic resources being analyzed from the land acquisition action/flowage easement.

Impacts of the Transmission Line Construction

The indirect impacts on socioeconomic resources would be the same as those described under alternative 1b and would include short-term beneficial impacts on jobs and income in the region and short-term and possibly long-term negligible adverse impacts on adjacent residents and property values.

Cumulative Impacts

Cumulative impacts under this alternative are the same as those described for alternative 1b. Alternative 5 would have short- and long-term negligible adverse (property values) and short-term beneficial (jobs and income) impacts on socioeconomic resources and contribute imperceptible adverse and beneficial cumulative impacts on socioeconomic resources

Conclusion

There would be no direct impacts on socioeconomic resources associated with alternative 5. Indirect impacts would result from the construction of the transmission lines within the FPL West Secondary Corridor and, during construction, would include short-term beneficial impacts on jobs and income in the region and short-term and possibly long-term negligible adverse impacts on adjacent residents and property values. There are no expected impacts on electricity rates under alternative 5. Alternative 5 would contribute imperceptible adverse and beneficial cumulative impacts on socioeconomic resources.

PARK OPERATIONS AND MANAGEMENT

GUIDING REGULATIONS AND POLICIES

Direction for management and operations at Everglades National Park is set forth in the park's enabling legislation, the NPS Strategic Plan, NPS *Management Policies 2006*, Superintendent's Compendium (NPS 2000b, 2006a, 2009c), and the Everglades National Park General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement (in development).

ASSUMPTIONS, METHODOLOGY, AND IMPACT INTENSITY DEFINITIONS

Park operations and management, for the purpose of this analysis, refers to the quality and effectiveness of park staff to maintain and administer park resources and provide for an effective visitor experience. This includes an analysis of the projected need for any additional NPS staff time or budget to implement each of the alternatives. The analysis considers possible staff changes necessary to address the actions proposed under the alternatives and details the adverse or beneficial effects that may occur. As noted in chapter 3, the main areas of park operations that could be affected by the alternatives include Fire Management, the South Florida Natural Resources Center (SFNRC), Exotic Vegetation Management, and Visitor and Resource Protection, and the analysis focuses on effects on these divisions.

The following definitions were used to determine the magnitude of adverse impacts on park operations and management:

- **Negligible**: Park operations would not be affected, or an action would have no measurable impact on operations in the park unit.
- **Minor**: Effects on park operations would not be readily apparent, and would be difficult to measure. The impacts on park operations and/or budget would have little material effect on other ongoing park operations.
- **Moderate**: Effects on park operations would be readily apparent, and would measurably affect park operations. The changes would be noticeable to park staff. Mitigation measures would probably be necessary to compensate for adverse effects and would likely be successful.
- **Major**: Effects on park operations would be readily apparent, and would result in a substantial change in park operations. The changes would be noticeable to park staff and would be markedly

different from existing operations. Mitigation measures would be necessary to compensate for adverse effects, and their success would not be guaranteed.

ANALYSIS AREA

The area of analysis for park operations and management includes Everglades National Park (geophysical boundary, administrative structure, and all employees), recognizing that park operations and management activities often involve projects that extend beyond the park boundary. The analysis is focused on the EEEA, because this is the area that will be most directly affected by the alternatives.

IMPACTS OF ALTERNATIVE 1A: NO NPS ACTION – NO FPL CONSTRUCTION (ENVIRONMENTAL BASELINE)

Impacts of the Land Acquisition Action

Under alternative 1a, there would be no acquisition of FPL property within the EEEA. Currently NPS and NPS contractors traverse the FPL corridor, but do not actively manage the corridor for fire management or invasive species. The NPS would continue existing management practices in the EEEA as described in chapter 3.

Alternative 1a would directly affect Exotic Vegetation Management operations in the EEEA because of the differences in management practices between FPL and the NPS. The park currently manages nonnative plants in the EEEA according to NPS *Management Policies 2006* (NPS 2006a). FPL would manage nonnative plants in the FPL West Secondary Corridor according to its own standards, which may not be as rigorous or as comprehensive as those set forth in NPS *Management Policies 2006*. This creates the potential for the FPL West Secondary Corridor to act as a breeding ground for nonnative plants which could then spread into the EEEA and increase the effort needed for successful nonnative vegetation control (Taylor pers. comm. 2012a).

There would continue to be long-term minor to moderate adverse impacts on park operations and management from the inability to manage the EEEA as one combined parcel. Management limitations include no invasive species management in this location as well as the inability to implement flowage or water restoration programs without a flowage easement from FPL.

Impacts of Transmission Line Construction

Under alternative 1b, there would be no transmission line construction anywhere within or adjacent to the park. As a result, park operations and management would continue to operate as-is and there would be no impact on park operations and management from transmission line construction.

Cumulative Impacts – Alternative 1a

Ongoing projects affecting park operations and management include the Everglades restoration projects listed in table 18 and the acquisition of lands in the expansion areas under the Expansion Act. These ongoing projects involve staff time and oversight in addition to the hours spent on regular duties described above. These projects increase the total area of the park and create the need to monitor the status of the projects' outcomes, necessitating additional monitoring from the SFNRC. The increase in total land area necessitates additional security and natural resources management oversight from the Fire Management and Visitor and Resource Protection divisions. The past, present, and reasonably foreseeable future actions described above would result in minor adverse impacts on park operations and management

resulting from the increased oversight required. Alternative 1a would contribute long-term minor to moderate adverse impacts; these impacts would contribute noticeable adverse impacts to the overall cumulative impacts on park operations and management.

Conclusion – Alternative 1a

Under alternative 1a, there would no land acquisition and no transmission line construction within or adjacent to the EEEA. There would continue to be long-term minor to moderate adverse impacts on park operations and management from the inability to manage the EEEA as one contiguous parcel. There would be no impacts related to transmission line construction under this alternative. Alternative 1a would contribute noticeable adverse impacts to overall cumulative effects on park operations and management in this area.

IMPACTS OF ALTERNATIVE 1B: NO NPS ACTION – FPL CONSTRUCTION IN THE PARK

Impacts of the Land Acquisition Action

Impacts on park operations and management from alternative 1b would be the same as described under alternative 1a. There would be continued long-term minor to moderate adverse impacts from the inability to manage the EEEA as one contiguous parcel.

Impacts of Transmission Line Construction

Impacts related to transmission line construction are described below by area of park operations that would be affected.

Construction and presence of transmission lines in the EEEA would increase the hazards to, and obstruct freedom of movement of, aircraft. Many of the routine park operations that take place in EEEA rely on aviation, and some parts of the EEEA are accessible only by aircraft during the dry season. Transmission lines would make aviation more difficult and increase the level of effort needed to conduct park operations and management. The presence of transmission lines in the FPL West Secondary Corridor would eliminate certain areas as potential landing and/or staging sites, which could increase the distance between landing/staging sites and the sites at which park operations are conducted. This would result in a loss of efficiency and a corresponding increase in cost, resulting in a long-term minor adverse impact on park operations and management.

NPS contractors must have an insurance policy that covers them while they are on NPS land. This insurance policy would not cover contractors while they are on FPL-owned land, and contractors would therefore not be allowed to traverse the developed corridor. This could bring about a loss of efficiency, because contractors would have to either fly over the corridor or go around it. Alternatively, the NPS could require contractors to acquire more expensive insurance policies that would cover them while on the developed corridor parcel. In either case, the cost of contractors would increase. This would have the greatest impact on the SFNRC, which makes regular use of contractors to conduct the routine operations related to its mission (Mitchell pers. comm. 2012).

During the construction phase, the NPS would monitor the transmission line construction to ensure that the construction remains within the appropriate area and that environmental protection measures are in place. This would necessitate one staff member at a time, rotated between the SFNRC and the Visitor and Resource Protection divisions, traveling to the construction site via whatever methods of transportation would be suitable. It is possible that this would require helicopter transportation, which would impose costs of $1,000/day or more for the duration of construction (Whisenant pers. comm. 2012b). This would

impose short-term minor to moderate adverse impacts on park operations and management due to the staff time and money required.

Fire Management

The presence of transmission lines could create problems during fire events if the optimal point for stopping the fire was obstructed by the lines. Creating barriers to fire spread often involves wetting or burning a line of vegetation between two points. If the optimal barrier line were interrupted by transmission lines in the FPL West Secondary Corridor, then this would impede fire management efforts that rely on these techniques. If a fire were moving and the transmission lines occupied a point where the Fire Management Division would normally wet the area to stop the fire, then the division would have to develop some other strategy to stop the fire. They would not be able to work in the transmission line area. If a fire came from the eastern boundary of the park, the Fire Management Division would not be able to use the transmission line space for fire suppression. This would be a problem not only for fire response activities, but also for prescribed burns (Anderson pers. comm. 2012).

The presence of transmission lines would also create problems for EEEA aviation activities associated with fire management. While it is possible for aviators to go around the transmission lines, it is not possible to get close to them or to land near them. In order to fly safely above the lines, it would be necessary for aircraft to fly above the usual altitude of 200–300 feet to go over them. Aviators would therefore practice avoidance measures, decreasing the efficiency of conducting aviation activities necessary for fire management and increasing the field time required. Additionally, the Fire Management Division would not be able to deliver air support or bucket support to points underneath the transmission lines. This would reduce efficiency and could also create safety concerns for Fire Management Division personnel (Anderson pers. comm. 2012).

For these reasons, impacts from alternative 1b associated with the construction of transmission lines in the FPL West Secondary Corridor would have long-term minor to moderate adverse impacts on Fire Management Division operations.

South Florida Natural Resources Center

Transmission line construction in the FPL West Secondary Corridor would impact all SFNRC projects that involve aviation. The efficiency of aviation would decrease due to avoidance and safety measures and due to the loss of potential landing and staging sites. This would affect SFNRC's ability to accomplish its mission of ecological monitoring, because aviation is extremely important to SFNRC's work. During the dry season, helicopters are the only way to access the EEEA (Mitchell pers. comm. 2012).

The transmission lines could also affect any of the research projects conducted through SFNRC by external contractors. The insurance policy currently used by contractors does not protect them unless they are on NPS land. Therefore, should contractor operations require them to traverse the developed FPL West Secondary Corridor, they would have to either pay for a more expensive insurance policy or take the time to go around or fly over the corridor. In either case, this would increase the cost of hiring contractors. This would ultimately affect the ways in which SFNRC can issue research permits and funding for these projects (Mitchell pers. comm. 2012).

The presence of transmission lines along the FPL West Secondary Corridor would affect nearly all SFNRC operations. For this reason, the impacts on SFNRC operations from alternative 1b would be long term, minor to moderate, and adverse.

Exotic Vegetation Management

Exotic Vegetation Management operations in the EEEA rely on aviation, and are subject to the same aviation-related impacts as described for the Fire Management Division and the SFNRC. Given that approximately 70 percent of Exotic Vegetation Management operations in the EEEA are carried out by helicopter, this would impose difficulties on the subdivision and its work (Taylor pers. comm. 2012b). It is difficult to provide a quantitative estimate of the impacts on the Exotic Vegetation Management subdivision in terms of additional cost or additional staff needed, but the loss of potential staging/landing sites due to the presence of transmission lines in the FPL West Secondary Corridor could decrease the efficiency of nonnative plant management operations (Taylor pers. comm. 2012b). Also, the Exotic Vegetation Management subdivision uses fire as a tool in its operations, and any impacts on the Fire Management Division would therefore affect Exotic Vegetation Management operations as well (Taylor pers. comm. 2012a).

Transmission line structures can act as especially suitable habitat for nonnative plants, adding to the potential for the FPL West Secondary Corridor to act as a breeding ground for nonnative plant populations (Taylor pers. comm. 2012a) and increasing the burden on the Exotic Vegetation Management subdivision. The Exotic Vegetation Management subdivision is currently understaffed (Taylor pers. comm. 2012a, 2012b). The additional issues that are expected to arise as a result of alternative 1b would add to the current demands on staff and result in long-term minor to moderate adverse impacts.

Visitor and Resource Protection

Alternative 1b would affect the Visitor and Resource Protection division to the degree that illegal activities took place on transmission structure pads. These pads and the FPL West Secondary Corridor could foreseeably become an attractant for illegal activities, especially illegal camping (Whisenant pers. comm. 2012a; Foist pers. comm. 2012). However, NPS would not own the corridor and therefore would have no jurisdiction over any illegal activities. Any enforcement actions would come from Florida Wildlife Commission officers or Miami-Dade Police Department. Given the small parcel of land and lack of highly desirable camping opportunities, there would likely be a negligible adverse impact on the Visitor and Resource Protection division.

Cumulative Impacts – Alternative 1b

The impacts on park operations and management from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 1a. Alternative 1b would contribute short and long-term minor to moderate adverse impacts; these impacts would contribute noticeable adverse impacts to the overall cumulative impacts on park operations and management.

Conclusion – Alternative 1b

Under alternative 1b, there would be long-term minor to moderate adverse impacts from the FPL retention of property in the EEEA and the construction of transmission lines in the FPL West Secondary Corridor and would include short- and long-term minor to moderate adverse impacts both during the construction phase and following the completion of the lines. Alternative 1b would contribute noticeable adverse impacts to overall cumulative effects on park operations and management in this area.

IMPACTS OF ALTERNATIVE 2: NPS ACQUISITION OF FPL LAND

Impacts of the Land Acquisition Action

Under alternative 2, there would be a gain of 320 acres in the park, resulting in long-term benefits from having this area consolidated under NPS ownership, which would allow the park to proceed with its operations without having to account for the FPL West Secondary Corridor. Short-term negligible to minor adverse impacts would also occur from the administrative requirements associated with the land purchase, requiring additional staff time.

Impacts of Transmission Line Construction

Alternative 2 would not result in any impacts associated with the construction of transmission lines because no lines would be constructed on NPS land. It is expected that FPL would construct the transmission lines in the West Consensus Corridor east of the park boundary, resulting in no impacts on park operations and management because park operations and management activities do not extend past the boundary of the park's property, and no activities involving park staff occur in that area.

Cumulative Impacts

The impacts on park operations and management from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 1b. Alternative 2 would contribute short-negligible to minor adverse impacts and long-term beneficial impacts from the ability to manage the EEEA as one contiguous parcel; these impacts would contribute appreciable beneficial impacts to the overall cumulative impacts to park operations.

Conclusion

Under alternative 2, direct impacts would result from the acquisition of FPL land and would include long-term beneficial impacts from the consolidation of ownership in the EEEA as well as short-term negligible to minor adverse impacts. There would be no impacts from transmission line construction because no lines would be constructed on NPS land. Alternative 2 would contribute appreciable beneficial impacts to cumulative effects on park operations and management in this area.

IMPACTS OF ALTERNATIVE 3: FEE FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Under alternative 3 there would be a net gain of 60 acres (a gain of 320 acres of the former FPL corridor, and a loss of 260 acres of the exchange corridor). This would result in long-term benefits from having the area of the former FPL corridor consolidated under NPS ownership, which would allow the park to manage the EEEA as one contiguous parcel without requiring FPL consent for management projects. There would be negligible to minor long term adverse impacts from the loss of area within the park and from access restrictions from the FPL ownership of the corridor along the canal, which is used by park staff to access the EEEA There would be short-term minor to moderate adverse impacts on park operations and management for the increase in administrative requirements during the land exchange process.

Impacts of Transmission Line Construction

Impacts related to transmission line construction are described below by area of park operations that would be affected.

Indirect impacts would result from the construction of transmission lines in the exchange corridor, directly adjacent to park lands, as described earlier in this chapter and appendix F. As one of the terms and conditions associated with alternative 3, the NPS would have to request permission from FPL every time it wished to access the FPL West Preferred Corridor, except for emergencies or visitor and resource protection, and those accessing the route would need to have appropriate safety training. This would impose a long-term negligible to minor adverse impact on park operations and management.

During the construction phase, the NPS would monitor the transmission line construction to ensure that the construction remains within the appropriate area and that environmental protection measures are in place. This would necessitate one staff member at a time, rotated between the SFNRC and the Visitor and Resource Protection divisions, traveling along the L-31N canal at a cost of approximately $1,000/day (Whisenant pers. comm. 2012b). This would impose short-term minor to moderate adverse impacts on park operations and management due to the staff time and money required.

Fire Management

There would be no direct impacts on the Fire Management Division from the fee for fee land exchange associated with alternative 3 other than those already discussed. Should FPL construct the transmission lines in the FPL West Preferred Corridor, there would be indirect impacts on fire management operations, because the lines would impose difficulties on aviation activities and on fire response operations and would also act as an electrical hazard (Anderson pers. comm. 2012). However, these impacts would not be as severe as those described for alternative 1b due to the location of the FPL West Preferred Corridor. The location of the FPL West Preferred Corridor on the eastern boundary of the EEEA would reduce some of the indirect impacts that would accrue to the Fire Management Division if the lines were constructed. For this reason, impacts on the Fire Management Division would be long term, minor, and adverse.

South Florida Natural Resources Center

Indirect impacts would result from the presence of transmission lines in the FPL West Preferred Corridor. This would limit the use of the L-31N canal levee by airboats and would eliminate this levee as a helicopter staging/landing area. This reduction in accessibility by vehicles would lead to a reduction in efficiency for SFNRC operations (Mitchell pers. comm. 2012). Impacts on the SFNRC would be long term, minor, and adverse.

Exotic Vegetation Management

Impacts following line construction would result from the loss of the eastern levee along the L-31N canal as a staging site for helicopters and for airboats. This levee is used as a staging site for at least one major nonnative plant management project per year, and it would be impossible to use as a helicopter staging site and difficult to impossible to use as a staging site for airboats if transmission lines were constructed in the FPL West Preferred Corridor (Taylor pers. comm. 2012). The use of alternate staging sites could potentially decrease the efficiency with which nonnative plant management activities are conducted. Additionally, alternative 3 would require monitoring of the 90-foot exotic species vegetation easement on the NPS property adjacent to the transmission line corridor. Overall, alternative 3 would result in long-term minor adverse impacts on the Exotic Vegetation Management subdivision.

Visitor and Resource Protection

Impacts would be the same as those listed under alternative 1b, but would be relatively reduced due to the location of the FPL West Preferred Corridor. The FPL West Preferred Corridor does not enjoy the same amount of vegetation cover, and the area experiences much higher visitor traffic, which would make it less attractive as a site for illegal activities such as illegal camping or firearm use. Indirect impacts on the Visitor and Resource Protection division resulting from the construction of transmission lines in the FPL West Preferred Corridor would therefore be long term, negligible to minor, and adverse.

Cumulative Impacts

The impacts on park operations and management from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 1a. Alternative 3 would contribute long-term beneficial as well as short-term negligible to moderate adverse impacts and long-term negligible to minor adverse impacts from the land exchange, construction, and operation of transmission lines in the exchange corridor; these impacts would contribute noticeable adverse and beneficial cumulative impacts to park operations and management.

Conclusion

Under alternative 3, impacts would result from the fee for fee land exchange and would include long-term negligible to minor adverse impacts and beneficial impacts. Impacts would result from the construction of the transmission lines in the FPL West Preferred Corridor, and would include short-term minor to moderate adverse impacts during the construction phase and long-term negligible to minor adverse impacts following the completion of the lines. Alternative 3 would contribute noticeable adverse and beneficial impacts to overall cumulative effects on park operations and management in this area.

IMPACTS OF ALTERNATIVE 4: EASEMENT FOR FEE LAND EXCHANGE

Impacts of the Land Acquisition Action

Impacts under this alternative would be essentially identical to those discussed under alternative 3. However, the NPS would still own the property under this alternative and would be responsible for ensuring that the terms of the easement are met.

The NPS could have more control over the management of the land in an easement situation as opposed to an outright fee exchange. The easement would have little effect on park operations and management because the terms and conditions of use (appendix H) are the same for this alternative as for alternative 3, although this is an easement agreement that may require more staff involvement to monitor use of park property. Impacts of the land acquisition action would include long-term beneficial impacts from the ability to manage the EEEA as one contiguous parcel without requiring FPL consent for management projects, and short and long term negligible to minor adverse impacts from the administrative requirements of managing the easement property.

Impacts of Transmission Line Construction

Indirect impacts would result from the construction of the transmission lines in the FPL West Preferred Corridor, and would include short-term minor to moderate adverse impacts during the construction phase and long-term negligible to minor adverse impacts following the completion of the lines, as described under alternative 3. Under alternative 4, there would be more responsibilities for NPS staff for continued

management of the parcel as well as coordination with FPL for approval of FPL actions and requests than would occur under alternative 3.

Cumulative Impacts

The impacts on park operations and management from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 1a. Alternative 4 would contribute short-term negligible to moderate adverse impacts and long-term negligible to minor adverse impacts and long-term benefits; these impacts would contribute noticeable adverse and beneficial cumulative impacts to park operations.

Conclusion

Under alternative 4, impacts would be the same as under alternative 3, with long-term minor adverse impacts and beneficial impacts from the land exchange except that this is an easement agreement that may require more staff involvement to monitor use of park property. Impacts would result from the construction of the transmission lines in the FPL West Preferred Corridor, and would include short-term minor to moderate adverse impacts during the construction phase and long-term negligible to mostly minor adverse impacts following the completion of the lines. Alternative 4 would contribute noticeable adverse and beneficial impacts to overall cumulative effects on park operations and management in this area.

IMPACTS OF ALTERNATIVE 5: PERPETUAL FLOWAGE EASEMENT ON FPL PROPERTY

Impacts of the Land Acquisition Action

All of the direct and indirect impacts described under alternative 1b would occur under alternative 5. However, there would be an additional impact associated with the additional staff and resources required to conduct oversight and monitoring and to coordinate with FPL for park programs in this area. For this reason, impacts on park operations and management under alternative 5 would be long term, minor to moderate, and adverse.

Impacts of Transmission Line Construction

Impacts associated with the construction and placement of the transmission lines would be short and long term, minor to moderate, and adverse for the reasons discussed under alternative 1b.

Cumulative Impacts

The impacts on park operations and management from other past, present, and reasonably foreseeable future projects would be the same as described under alternative 1a. Impacts from alternative 5 would be the same as described under alternative 1b, with long-term minor to moderate adverse impacts; these impacts would contribute noticeable adverse impacts to the overall cumulative impacts on park operations and management.

Conclusion

Under alternative 5, there would be long-term minor adverse impacts from the FPL retention of property in the EEEA. Indirect impacts resulting from the construction of the transmission lines in the FPL West Secondary Corridor would include short- and long-term minor to moderate adverse impacts both during

the construction phase and following the completion of the lines. Alternative 5 would contribute noticeable adverse impacts to overall cumulative effects on park operations and management in this area.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

NEPA regulations (40 CFR 1502.16) require an EIS to consider the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. Special attention should be given to impacts that narrow the range of beneficial uses of the environment or pose a long-term risk to human health or safety.

Common to All Alternatives with Transmission Line Construction. The activities associated with the construction and maintenance of the right-of-way for any alternative would result in a number of impacts that would alter long-term uses of park resources despite mitigation measures and BMPs that would offset the level of the impacts. The drilling into soils and bedrock; the possible alteration of hydrology; the filling of wetland communities; long-term alterations of visual aesthetics and changes to visitor experience from the presence of a transmission line and permanent access roads; and the vegetation maintenance of a right-of-way are all long-term impacts that would affect resources and the uses of those resources by wildlife, visitors, and park personnel as well as influencing park operations in the long term.

Alternative 1a: No NPS Action – No FPL Construction (Environmental Baseline). NPS would not acquire the FPL land within the park or a flowage easement or sufficient rights to flow additional water over the FPL right-of-way within the park, and would be unable to implement regional restoration activities that rely on additional flow. Since this is the environmental baseline and includes no transmission line construction, no short-term impacts are expected. The long-term productivity of the park's resources is expected to decline because the inability to flow additional water across the FPL property would prevent restoration on a regional scale. Habitat degradation would continue due to altered hydrology and would adversely impact management efforts for exotic species, wildlife, and special-status species.

Alternative 1b: No NPS Action – FPL Construction in the Park. The impacts on productivity from the not acquiring a flowage easement or sufficient rights to flow additional water over the FPL right-of-way within the park would be the same as described for alternative 1a. Short-term productivity of park resources such as vegetation, wetlands, wildlife, and special-status species is expected to decline due to disturbance while the transmission line and access roads are being constructed. Long-term productivity of park resources is also expected to decline due to construction inside the park, which would result in changes to hydrological patterns, changes in water quality, soil disturbance and a permanent loss of 182 acres of soils (including 89 acres in the park), disturbance of wetlands and a permanent loss of approximately 179.7 wetland acres (89.1 acres of which are within the park boundary), permanent loss of habitat for wildlife and special-status species, and avian collisions with the transmission line and electrocutions.

Alternative 2: NPS Acquisition of FPL Land. Acquiring FPL lands within the park is expected to result in long-term increases in the productivity of park resources since ownership would not be bisected. Ownership of this land would allow the park to better manage for exotic species, wildlife, and special-status species. NPS ownership of this land would also facilitate regional restoration goals, which would, in turn, increase the productivity of park resources.

Alternative 3: Fee for Fee Land Exchange. There would be a long-term adverse impact on the productivity of park resources from the land exchange due to the removal of 260 acres of soils, wetlands, and wildlife habitat from the park and park management. Long-term adverse impacts on productivity would also result from construction in the exchange corridor due to changes to hydrological patterns, changes in water quality (including possible increases in heavy metal concentrations or other constituents from the L-31N canal area), soil disturbance and a permanent loss of an estimated 181 acres of soil surface (including 80 acres in the exchange corridor), permanent loss of 180.8 acres of wetlands (including 80.1 acres within the park), permanent loss of habitat for wildlife and special-status species, and avian collisions with the transmission line and electrocutions. Some long-term benefits to productivity would accrue from the land exchange because NPS ownership of the FPL land in the interior of the park would allow the park to better manage for exotic species, wildlife, and special-status species, and facilitate regional restoration goals, which would increase the productivity of park resources.

Alternative 4: Easement for Fee Land Exchange. The impacts on the productivity of park resources associated with alternative 4 would be the same as described for alternative 3.

Alternative 5: Perpetual Flowage Easement on FPL Property. Long-term adverse impacts on the productivity of park resources would occur from the NPS decision not to acquire the FPL property since NPS would not have management control over this land that is in the interior of the park and this could hinder park management efforts on adjacent lands. However, the perpetual flowage easement would facilitate regional restoration goals, which would, in turn, increase the productivity of park resources. Long-term productivity would also be impacted by construction inside the park due to changes in hydrological patterns and water quality, soil disturbance and a permanent loss of 182 acres of soils (including 89 acres in the park), disturbance of wetlands and a permanent loss of approximately 179.7 wetland acres (89.1 acres of which are within the park boundary), permanent loss of habitat for wildlife and special-status species, and avian collisions with the transmission line and electrocutions.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

NEPA regulations (40 CFR 1502.16) require an EIS to address the irreversible and irretrievable commitment of resources caused by the alternatives. An *irreversible* commitment of resources is defined as the loss of future options. The term applies primarily to the effects of using nonrenewable resources (such as minerals or cultural resources) or resources that are renewable only over long periods (such as soil productivity). It could also apply to the loss of an experience as an indirect effect of a “permanent” change in the nature or character of the land. An *irretrievable* commitment of resources is defined as the loss of production, harvest, or use of natural resources; irretrievable resource commitments may or may not be irreversible. The following identifies commitments of resources that are either irreversible or irretrievable.

Because the land used for construction of the transmission lines could be converted to another use at a future date if the transmission lines were removed (although that is not likely), these effects could be characterized as irretrievable. However, the level of restoration effort needed would be intensive and costly, and would span the course of several years to decades. Therefore, some of the impacts described below are likely irreversible. For example, wetland impacts resulting from removal of soils and replacement with fill in the project area are likely not reversible even if the fill is removed. Restored wetland habitats would have different plant species composition, hydrology, and/or different soil characteristics depending on how restoration of the resulting holes was attempted.

For all alternatives, the loss of geologic resources, special-status species (individuals), wetlands (through changes to hydrology, soils, vegetation), or wildlife habitat would be considered an irretrievable or irreversible resource commitment. Mitigation would be required for the loss of some resources, but would not fully offset impacts. Drilling or excavation could have an irreversible impact on subsurface geology if resources are lost or destroyed. Changes to rare and unique communities and important foraging and nesting habitat could be considered an irreversible resource commitment if construction activities permanently alter the resource such that it can no longer support special-status species or function as a rare and unique community. In addition to natural resources, impacts on historic resources such as archeological sites and cultural landscapes could be considered an irretrievable resource commitment if construction activities permanently alter or destroy the resource, or the resource is completely lost. Impacts on these resources would be mitigated through various mitigation measures required by the park or by permitting requirements, but the impact would be irretrievable unless the known resources are completely recovered prior to construction activities. The use of land for permanent access roads and the right-of-way for the transmission line would be an irreversible commitment of resources during the period that the land is used for transportation infrastructure or energy requirements. The following highlights irreversible/irretrievable impacts by alternative.

Alternative 1a: No NPS Action – No FPL Construction (Environmental Baseline). NPS would not acquire the FPL land within the park or a flowage easement or sufficient rights to flow additional water over the FPL right-of-way within the park, and would be unable to implement regional restoration activities that rely on additional flow. Continued habitat degradation due to altered hydrology is expected to result in irretrievable or irreversible losses of wetland soils, wetland habitat, and wildlife and special-status species in the park. Prolonged continuation of altered hydrology in this area could preclude restoration of wetland soil and habitat types.

Alternative 1b: No NPS Action – FPL Construction in the Park. The irretrievable or irreversible commitment of resources from not acquiring a flowage easement or sufficient rights to flow additional water over the FPL right-of-way within the park would be the same as described for alternative 1a. Irretrievable or irreversible commitments of resources due to construction within the park include a permanent loss of 182 acres of soils (including 89 acres in the park), disturbance of wetlands and a permanent loss of approximately 179.7 wetland acres (89.1 acres of which are within the park boundary), permanent loss of habitat for wildlife and special-status species including protected native plant populations, loss of foraging and nesting habitat, and avian collisions with the transmission line and electrocutions. Prolonged continuation of altered hydrology in this area could preclude restoration of wetland soil and habitat types.

Alternative 2: NPS Acquisition of FPL Land. Acquiring FPL lands within the park is not expected to result in any irretrievable or irreversible commitments of resources within the park. Ownership of this land would allow the park to better manage for exotic species, wildlife, and special-status species and facilitate regional restoration goals. Construction would take place outside the park thereby minimizing impacts on park resources, but construction of the transmission lines would have similar irretrievable or irreversible impacts on resources located outside the park in the West Consensus Corridor. The type and extent of those impacts would depend on the location within the corridor.

Alternative 3: Fee for Fee Land Exchange. The removal of 260 acres of soils, wetlands, and wildlife habitat from the park and park management, resulting in an adjustment of the park boundary is an irretrievable or irreversible commitment of resources. There would be a permanent loss of 180.8 acres of wetlands (including 80.1 acres within the park), permanent loss of habitat for wildlife and special-status species including protected native plant populations, loss of foraging and nesting habitat, and avian collisions with the transmission line and electrocutions.

Alternative 4: Easement for Fee Land Exchange. The irretrievable or irreversible impacts on park resources associated with alternative 4 would be the same as described for alternative 3 except that 260 acres would not be lost and would remain in the park. Under the easement agreement, the park would have a reduced ability to control all actions in the corridor as opposed to owning the land outright with no encumbrance, which would result in irretrievable commitment of those lands.

Alternative 5: Perpetual Flowage Easement on FPL Property. Irretrievable or irreversible commitments of resources due to construction within the park include a permanent loss of 182 acres of soils (including 89 acres in the park), disturbance of wetlands and a permanent loss of approximately 179.7 wetland acres (89.1 acres of which are within the park boundary), permanent loss of habitat for wildlife and special-status species including protected native plant populations, loss of foraging and nesting habitat, and avian collisions with the transmission line and electrocutions.

UNAVOIDABLE ADVERSE IMPACTS

Implementation of any of the alternatives would lead to unavoidable adverse environmental impacts. These are described below by alternative.

Alternative 1a: No NPS Action – No FPL Construction (Environmental Baseline). NPS would not acquire the FPL land within the park or a flowage easement or sufficient rights to flow additional water over the FPL right-of-way within the park, and would be unable to implement regional restoration activities that rely on additional flow. Inability to allow increased water levels across the FPL property would result in preventing restoration on a regional scale, an indirect adverse impact. Habitat degradation would continue due to altered hydrology and would adversely impact management efforts for exotic species, wildlife, and special-status species. Since construction is not included in this alternative, there would be no construction-related impacts.

Alternative 1b: No NPS Action – FPL Construction in Park. The direct adverse impacts from not acquiring a flowage easement or sufficient rights to flow additional water over the FPL right-of-way within the park would be the same as described for alternative 1a. Indirect adverse impacts would result from construction inside the park and would include changes to hydrological patterns, changes in water quality, soil disturbance and a permanent loss of 182 acres of soils (including 89 acres in the park), disturbance of wetlands and a permanent loss of approximately 179.7 wetland acres (89.1 acres of which are within the park boundary), changes to soundscapes due to construction and corona noise, permanent loss of habitat for wildlife and special-status species, avian collisions with the transmission line and electrocutions, permanent changes to the visual landscape, and changes in visitor use.

Alternative 2: NPS Acquisition of FPL Land. There would be no direct adverse impacts from acquiring FPL lands within the park. Indirect adverse impacts would result from construction outside the park and include changes to hydrological patterns, changes in water quality, soil disturbance (including long-term impacts on designated “unique” farmlands soils outside of the park, disturbance of wetlands and a permanent loss of approximately 149.3 wetland acres, changes to soundscapes due to construction and corona noise, permanent loss of habitat for wildlife and special-status species, avian collisions with the transmission line and electrocutions, and permanent changes to the visual landscape).

Alternative 3: Fee for Fee Land Exchange. Direct adverse impacts from the land exchange include removal of 260 acres of soils, wetlands, and wildlife habitat from the park and park management, resulting in an adjustment of the park boundary. Indirect adverse impacts would result from construction in the exchange corridor and include changes to hydrological patterns, changes in water quality (including possible increases in heavy metal concentrations or other constituents from the L-31N canal area), soil disturbance and a permanent loss of an estimated 181 acres of soil surface (including 80 acres in the

exchange corridor), disturbance to unique farmland soils outside of the park, permanent loss of 180.8 acres of wetlands (including 80.1 acres within the park), permanent loss of habitat for wildlife and special-status species, avian collisions with the transmission line and electrocutions, permanent changes to the visual landscape, and changes in visitor use.

Alternative 4: Easement for Fee Land Exchange. The adverse impacts associated with alternative 4 would be the same as described for alternative 3, but 260 acres would not be removed from the park.

Alternative 5: Perpetual Flowage Easement on FPL Property. Adverse impacts would accrue from not acquiring the FPL property since NPS would not have management control over this land that is in the interior of the park. Indirect adverse impacts would result from construction inside the park and would include changes to hydrological patterns, changes in water quality, soil disturbance and a permanent loss of 182 acres of soils (including 89 acres in the park), disturbance of wetlands and a permanent loss of approximately 179.7 wetland acres (89.1 acres of which are within the park boundary), changes to soundscapes due to construction and corona noise, permanent loss of habitat for wildlife and special-status species, avian collisions with the transmission line and electrocutions, permanent changes to the visual landscape, and changes in visitor use.

CHAPTER 5
Consultation and Coordination

CHAPTER 5: CONSULTATION AND COORDINATION

The intent of the National Environmental Policy Act (NEPA) is to encourage the participation of federal and state involved agencies and affected citizens in the assessment procedure, as appropriate. This chapter describes the consultation that occurred during development of this Acquisition of Florida Power & Light Company Land in the East Everglades Expansion Area Environmental Impact Statement (EIS), including consultation with stakeholders and other agencies. This chapter also includes a description of the public involvement process and a list of the recipients of the draft document.

HISTORY OF PUBLIC INVOLVEMENT

The public involvement activities for this EIS fulfill the requirements of NEPA and National Park Service (NPS) Director's Order 12 (NPS 2011).

THE SCOPING PROCESS

The NPS divides the scoping process into two parts: internal scoping and external or public scoping. Internal scoping involved discussions among NPS personnel regarding the purpose of and need for management actions, issues, management alternatives, mitigation measures, appropriate level of documentation, available references and guidance, and other related topics.

Public scoping is the early involvement of the interested and affected public in the environmental analysis process. The public scoping process helps ensure people have an opportunity to comment and contribute early in the decision-making process. For this EIS, project information was distributed to individuals, agencies, and organizations early in the scoping process, and each was given the opportunity to express concerns or views and to identify important issues or other alternatives.

Taken together, internal and public scoping are essential elements of the NEPA planning process. The following sections describe the various ways scoping was conducted for this impact statement.

As described in chapter 1, the NPS initially began the land transfer NEPA process as an environmental assessment (EA). The public scoping process began in July 2008, with two notices in the Miami Herald announcing an open house meeting in Homestead, Florida.

A newsletter was also distributed by electronic and conventional mail in July 2009 to the project mailing list of government agencies, organizations, businesses, and individuals. On July 9, 2008, a public scoping open house was held at the John D. Campbell Agricultural Center, in Homestead, Florida. The first hour of the meeting was an open house in which the NPS gave a brief slideshow presentation discussing the project and the EA. Both NPS and Florida Power & Light Company (FPL) staff were available at the public meeting to answer questions. Topics raised by the public and agencies during the presentation included management options or alternatives, environmental resource impacts and protection, consistency with laws and regulations, relationship of the project to energy production and transmission, and other concerns about the project. After careful consideration of the issues and analysis developed during the EA process, the NPS has determined that implementation of a land exchange with FPL could result in potential significant impacts to the human environment. Given this decision, the NPS published a Notice of Intent to proceed with the plan in the Federal Register on May 26, 2011, pursuant to the NEPA and associated implementing regulations, and NPS guidance on meeting NPS NEPA obligations.

INTERNAL SCOPING

The NPS held an internal scoping meeting for this project from April 26 to 28, 2011. This meeting was attended by representatives from the NPS, including Everglades National Park and Biscayne National Park, the United States Department of the Interior (DOI), and the NPS contractor. Internal scoping involves discussions among participants to decide what is necessary to analyze in the EIS. Meeting attendees defined the purpose, need, and objectives of the plan; identified potential issues; discussed preliminary alternatives; and defined data needs. Attendees also discussed potential adaptive management strategies, indicators for such strategies, and issues and impact topics. Various roles and responsibilities for developing the EIS were also clarified.

PUBLIC SCOPING

The public scoping process began on June 7, 2011, and the public comment period was opened with the posting of a public scoping newsletter on the NPS Planning, Environment, and Public Comment (PEPC) website. The NPS provided several methods for the community to provide input on the proposed project, including directing comments to the NPS PEPC website at http://parkplanning.nps.gov/ever. The public was encouraged to submit comments regarding the public scoping newsletter through the PEPC website, by emailing park staff, or by mailing a letter to the NPS Service Center located in Denver, Colorado. The public comment period was closed on July 25, 2011.

In support of the public scoping effort, the NPS hosted one public scoping meeting intended to initiate public involvement early in the planning stages of the EIS and to obtain community feedback on the initial purpose, need, and objective statements for the acquisition of FPL land in the East Everglades Expansion Area (EEEA). This meeting was held at the Florida International University Stadium Club in Miami, Florida, from 5:30 p.m. to 8:30 p.m. on June 22, 2011. A total of 108 people attended. Meeting attendees were given information on the issues related to the EIS and a brief presentation was provided to explain the project. Attendees provided comments on this presentation by submitting completed comment forms at the meeting, mailing them in during the comment period, or submitting their comments directly to the meeting's court reporter.

During the public scoping period, the park received 10,120 correspondences containing 39,739 individual comments. There were 9,714 form letters received. The comments received were reflective of a public that is passionate about the future of the park's resources, their uses and management. The most common comment received expressed opposition to installation of any transmission lines in or adjacent to the park, representing 74 percent of all comments. The second most prevalent comment expressed opposition to "Alternative 2: Land Exchange with Conditional Requirements," representing 25 percent of all comments. Approximately 99 percent of all comments expressed opposition to all transmission lines construction or completion of the land exchange for the purposes of constructing transmission lines.

PUBLIC REVIEW OF THE DRAFT EIS

On January 17, 2014, the NPS published a Notice of Availability in the Federal Register for the draft EIS. The 60-day public comment period was open through March 18, 2014. The public comment period was on the park's website, posted at the Everglades visitor centers, and announced through a press release. The draft EIS was available on the PEPC website and via hard copy upon request from the park.

Hard copies of the draft EIS were mailed to the U.S. Environmental Protection Agency (EPA), interested parties, elected officials, and other appropriate local and state agencies. Members of the public were able to submit their comments on the project through the PEPC website and by mailing comments to the park.

During the comment period, one public meeting was held on February 19, 2014, from 5:30 to 8:30 p.m. at the Florida International University-Stadium Club at 11310 Southwest 17th Street, Miami Florida, 33199. A total of 84 community members signed in at the meeting.

Posters and handouts were provided to inform the public about the purpose and need of the project, the plan objectives, the history of the expansion area, and the possible alternatives. NPS staff members were available to answer questions, provide additional information about the plan, and describe how to submit comments. During the meeting, members of the public provided formal oral comments. Attendees also had the option of either completing a comment form and submitting it at the meeting or mailing it to the park at any time during the public comment period, or submitting comments directly to the meeting's court reporter. The proceedings of the full public meeting were documented by a court reporter and a transcript was provided to the NPS. The meeting agenda, Superintendent's power point presentation, and meeting transcript can be found at the park website: http://parkplanning.nps.gov/ever.

During the prescribed comment period, 275 correspondences were received. Two of the correspondences were petitions or letters containing 14,075 total signatures; a third form letter contained 178 signatures and 70 individual correspondences, which are included in the 275 total correspondences received. All letters that were submitted outside of the PEPC system were entered into PEPC. Letters received by email or through the U.S. mail and comments received at the public meetings were entered into the PEPC system for analysis. Each of these letters or submissions is referred to as a piece of correspondence. Once all correspondences were entered into PEPC, each was read, and specific comments within each piece of correspondence were identified. A total of 707 comments were derived from the correspondences received.

A coding structure was developed to help sort comments into logical groups by topics and issues. During coding, comments were classified as substantive or non-substantive. A substantive comment is defined in the NPS Director's Order 12 Handbook as one that does one or more of the following (Director's Order 12 Handbook, Section 4.6A):

- Questions, with reasonable basis, the accuracy of information presented in the EIS;
- Questions, with reasonable basis, the adequacy of the environmental analysis;
- Presents reasonable alternatives other than those presented in the EIS; and/or
- Causes changes or revisions in the proposal.

As further stated in the Director's Order 12 Handbook, substantive comments "raise, debate, or question a point of fact or policy. Comments in favor of or against the proposed action or alternatives, or comments that only agree or disagree with NPS policy are not considered substantive." Although all comments were read and considered and will be used to help create the final EIS, only those determined to be substantive were analyzed for creation of concern statements for response from the NPS, as described below.

Sixty-five codes were used to categorize all the comments received on the draft EIS. In some cases, the same comment may be categorized under more than one code because the comment may contain more than one issue or idea. Under each code, all substantive comments were grouped by similar themes, and those groups were summarized with a concern statement. For example, under the code "AL1600 – Alternatives: Alternative 2" one concern statement was "Multiple commenters requested that the EIS include a full analysis of the cost of each alternative, specifically the cost of acquiring the FPL property in the EEEA (alternative 2). To properly analyze alternative 2, commenters requested inclusion of previous land appraisals, acceptable compensation, the cost of condemnation, and the cost for FPL to purchase a new corridor." This one concern statement captured several comments. Following each concern statement

are one or more "representative quotes," which are comments taken from the correspondences to illustrate the issue, concern, or idea expressed by the comments grouped under that concern statement. The Public Comment Report containing all concern statements and NPS responses to substantive comments is provided in appendix L.

AGENCY CONSULTATION

ENVIRONMENTAL ASSESSMENT CONSULTATION

Agency consultation with state agencies began during the initial EA process in 2008. All correspondence sent and received regarding the land exchange EA or EIS is available in appendix E.

In 2008, the park provided the Florida State Clearinghouse with the scoping notice for processing through the appropriate state agencies. Representatives from the State of Florida agencies that have been actively involved include the Florida Department of Environmental Protection (FDEP), the Florida Department of State and the South Florida Water Management District (SFWMD).

These state agencies actively commented on the proposed project during the EA process. The FDEP fully supported the NPS in the acquisition of FPL lands in the EEEA. The FDEP requested continued coordination with the appropriate agencies to ensure that adjacent areas or restoration projects would not be impacted.

The Florida Department of State conducted a review of the project for possible impacts to historic properties listed, or eligible for listing, in the National Register of Historic Places. The review was conducted in accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA).

The SFWMD also reviewed the scoping notice and noted that the SFWMD's Governing Board had previously approved the proposed land swap in August 2008 (Resolution # 2008-640).

ENVIRONMENTAL IMPACT STATEMENT CONSULTATION

Between June 10 and 13, 2011, the NPS sent scoping coordination and consultation letters to various federal agencies, state agencies, elected officials, and tribes. The NPS sent five letters to federal government agencies, including the, EPA, U.S. Fish and Wildlife Service (USFWS), the Advisory Council on Historic Preservation (ACHP), and the United States Army Corps of Engineers (USACE); ten letters to elected officials; three letters to state and local agencies, including the Florida State Clearinghouse, SFWMD and the State Historic Preservation Office (SHPO); and nine letters to various tribal officials with the Miccosukee Tribe of Indians of Florida, the Seminole Tribe of Florida, and the Seminole Nation of Oklahoma. The NPS also published a Notice of Intent to complete an EIS in the Federal Register.

On June 21, 2011, NPS staff held an agency scoping meeting attended by a variety of federal, state, and local agencies to present the preliminary alternatives for the EIS, discuss the scope of the EIS analysis, and listen to the concerns of these other agencies related to the proposed land acquisition. The meeting was held in Miami, Florida at the Miami-Dade County Department of Resource Management offices, from 1:00 p.m. to 4:30 p.m. Participants at the meeting included:

- Everglades National Park
- NPS Southeast Regional Office
- Biscayne National Park

- USFWS
- USACE
- Nuclear Regulatory Commission (NRC)
- Miami-Dade County Department of Environmental Resources Management
- Miami-Dade County Department of Planning and Zoning
- Florida Fish and Wildlife Conservation Commission (FFWCC)
- Members of the EIS contractor team.

Topics discussed at the meeting included:

- The need to consider additional alternatives or components of alternatives in order to accurately describe the likely outcomes and impacts of NPS decisions regarding the land exchange.
- How to determine the scope of analysis for the EIS. This included:
  - Determining how the NPS decision will ultimately affect overall routing and development of the power transmission corridor from the Turkey Point Power Plant to a point north of metropolitan Miami
  - Defining the geographic extent of impacts for each resource topic analyzed, and
  - Determining the projects, plans, and geographic boundaries for the cumulative impacts analyses.
- Additional information from FPL that is needed in order to accurately assess impacts and facilitate informed decision making regarding:
  - Facility design and construction methods (related to wetland impacts and interaction of the proposed transmission corridor with hydrologic and ecosystem restoration activities, including seepage management)
  - Electromagnetic field (EMF) and noise calculations for the proposed 500-kilovolt (kV) and 230-kV lines for the EIS analysis.

A second meeting was held on June 26, 2012, at the SFWMD's Fort Lauderdale Field Station Conference Room in Davie, Florida. This meeting was focused on the potential for construction of the FPL transmission lines outside the park. Participants in this meeting discussed transmission siting issues, gave an overview and held an interactive group mapping exercise, discussed the next steps and path forward.

This meeting was attended by representatives from:

- Everglades National Park
- DOI
- FPL
- Miami-Dade Limestone Products Association
- National Parks Conservation Association
- Miami-Dade Department of Environmental Resources
- SFWMD

- Miccosukee Tribe of Indians of Florida
- FDEP.

ENDANGERED SPECIES ACT CONSULTATION

In accordance with the Endangered Species Act of 1973 (ESA), Section 7 consultation with the USFWS concerning impacts to threatened and endangered species has been initiated by the NPS, as needed. USFWS responded to the park's EA scoping notice in a July 29, 2009 letter to the NPS. Issues and concerns raised in the letter from the USFWS include potential impacts on wetland habitats, hydrology, fire ecology, plants and wildlife, particularly threatened and endangered species such as the eastern indigo snake, Everglade snail kite, Florida panther, and wood stork in accordance with Section 7 of the ESA, as amended. The USFWS also recommended the evaluation of potential impacts to migratory birds in accordance with the Migratory Bird Treaty Act (40 Stat. 755; 16 USC 701 et seq.).

In March 2010, the NPS requested technical assistance from the USFWS regarding potential effects of transmission lines on wood storks, snail kites, migratory birds, and their habitats in the vicinity of the exchange corridor. By memorandum dated August 12, 2010 the USFWS submitted a preliminary assessment of potential effects to threatened and endangered species and Everglades wetlands resulting from FPL's proposed construction of transmission lines in the exchange corridor along the eastern boundary of the park. Based on this preliminary assessment, the USFWS concluded that the proposed transmission lines, if constructed, are likely to (1) adversely affect the Everglades snail kite by eliminating or altering existing nesting habitat; (2) adversely affect the Everglade snail kite and wood stork by eliminating or reducing foraging habitat; and (3) may increase the risk of injury or death of wood storks and migratory birds from collision impacts. The USFWS stated that if they were reviewing a proposed federal action for the transmission corridor, they would consult on potential effects from the proposed action to wood storks and snail kites under Section 7 of the ESA and provide technical assistance to avoid and minimize impacts to migratory birds. A copy of this memorandum is included in appendix E.

In addition, a letter was sent inviting the USFWS to participate in the agency scoping meeting held on June 21, 2011, and notifying them in the letter that impacts to endangered species were possible. A copy of this letter is included in appendix E. The USFWS also participated in the two inter agency meetings described above.

Following further communication with the chief biologist from Everglades, the USFWS informed the NPS that a stand-alone biological assessment was not required for the project, and that the project could self-generate an endangered species list using the USFWS automated system (Wrublik pers. comm. 2012). This automated system, known as the Information, Planning, and Conservation System, is available online and was used to generate an initial species list for the project area. The Special-status Species sections in "Chapter 3: Affected Environment" and "Chapter 4: Environmental Consequences" of this EIS contain information on those federally listed species and the potential impacts of the project on those species and serves as the biological assessment for the project. The NPS is not seeking Section 7 consultation, informal or formal, for any alternative in which future transmission lines could be built on lands where the NPS lacks a property interest. For example, if FPL chooses to build its transmission lines east of the park boundary, the NPS would lack any authority to require ESA-based mitigation or conservation measures. However, the NPS has included information for such lines in a zone outside the park in order to complete a full and equitable comparison of alternatives and indirect effects of those alternatives. In the draft EIS, the NPS indicated it would seek consultation with the USFWS for alternatives 3 or 4, because the NPS would be providing land use with the expectation of transmission line development. In these cases, the construction of transmission lines would be considered an

interrelated and interdependent action, and expectations of adverse effects to listed species would be analyzed to ensure that there is no jeopardy to these species. Under the revised alternative 3, which includes the expectation that FPL would endeavor to locate transmission lines outside the current park boundary, the proposed NPS exchange lands may not be used and would be reconveyed to the NPS if not needed for proposed transmission line construction. Based on this change, the NPS action under alternative 3 no longer results in a clear expectation that transmission lines would be constructed on exchanged lands and, consequently, the construction of transmission lines no longer meets the definition of an interrelated and interdependent action for Section 7 consultation. As a result, the scope of effects to listed species is limited to those effects resulting from the land exchange itself. Under the preferred alternative, alternative 3, these effects would be insignificant and discountable, and formal consultation with USFWS would not be required. However, additional consultation between the USACE and the USFWS would be required in the future to address the impacts specific to the route and design of the transmission lines once they are finalized. This final EIS still includes the description of the expected effects of transmission line construction since the NPS continues to believe that construction is reasonably foreseeable. This final EIS provides the NPS' expectation of the effect determinations that the USACE would make if construction occurred within the FPL West Preferred Corridor when conducting Section 7 consultation on the issuance of USACE permits under the Clean Water Act (CWA).

The USFWS has been included on the mailing list for the distribution of information about this project. Copies of this draft EIS have been sent to the agency for review and comment.

NATIONAL HISTORIC PRESERVATION ACT CONSULTATION

The NPS has initiated consultation with several groups under Section 106 of the NHPA. Representatives from the Florida Division of Historical Resources have been involved in consultations throughout the process. An archeological survey was conducted in July and August of 2009 in which no supporting evidence of archeological resources were found in the land under consideration for the land exchange. As part of the Section 106 process, the NPS also provided the Phase I Archeological Survey Report to the Florida Division of Historical Resources on August 27, 2009. In response to the results in the archeological survey report, the Florida SHPO concurred with the finding of New South Associates, Inc. that the proposed project would have no effect on cultural resources listed or eligible for listing.

On June 8, 2011, the NPS submitted a letter to the Florida Division of Historical Resources, State Historic Preservation Officer and the ACHP at the Office of Federal Agency Programs containing information about the EIS and a scoping newsletter. Copies of these letters and the responses received from the agencies are in appendix E. Possible impacts and mitigation relating to the protection of cultural resources are addressed in the EIS in chapter 1 under "Impact Topics Dismissed from Further Analysis." The discussion provides information about cultural resources in the area of analysis and the results of surveys conducted to date. The dismissal is based on the absence of cultural resources in the project area and the assumption that surveys would be required for cultural resources along any transmission route selected. A USACE 404 permit with Section 106 consultation and avoidance/mitigation measures would be needed prior to any construction of transmission lines in any corridor selected and the agencies will have an opportunity to review and comment on this draft EIS.

TRIBAL CONSULTATION

A letter to initiate government-to-government consultations and provide information about the project was sent to the following tribes in July 2009: Miccosukee Tribe of Florida, Seminole Nation of Oklahoma, and Seminole Tribe of Florida. Representatives of the Miccosukee Tribe of Florida did not participate in the public meeting or the formal consultations.

On June 10, 2011, the Superintendent of Everglades National Park sent nine letters to representatives from three tribes: the Miccosukee Tribe of Indians of Florida, the Seminole Nation of Florida, and the Seminole Nation of Oklahoma, as follows:

Official's Name and Title	Tribe
Colley Billie, Chairman	Miccosukee Tribe of Indians of Florida
Bernie Roman, Tribal Attorney	Miccosukee Tribe of Indians of Florida
Fred Dayhoff, Tribal Representative	Miccosukee Tribe of Indians of Florida
Terry L. Rice, Tribe Consultant	Miccosukee Tribe of Indians of Florida
Curtis Osceola, Tribe Consultant	Miccosukee Tribe of Indians of Florida
Betty Osceola, Tribe Administrator	Miccosukee Tribe of Indians of Florida
James E. Billie	Seminole Nation of Florida
Willard S. Steele, Tribal Historic Preservation Officer	Seminole Nation of Florida
Leonard Harjo, Principal Chief	Seminole Nation of Oklahoma

These letters updated all recipients that the EA had become an EIS and that a Notice of Intent had been published. The letters invited tribal representatives to both the agency scoping meeting on June 21, 2011 and the public scoping meeting on June 22, 2011. Copies of these letters are included in appendix E. The Miccosukee Tribe was consulted during the EIS on possible impacts to its property located to the north of Tamiami Trail and provided its input at several meetings (including the June 26, 2012 meeting) to discuss possible routes outside the park. In general, the tribe expressed concern about visual impact to the visitors to its casino along Tamiami Trail and requested that any transmission lines sited outside the park avoid Bureau of Indian Affairs properties. In addition, contact was made with the Bureau of Indian Affairs (Chet McGhee, Regional Environmental Scientist, Bureau of Indian Affairs Nashville office) regarding potential impacts on tribal lands and Indian trust resources. As a result of that discussion, tribal lands was included as an impact topic in the EIS. All tribes contacted had the opportunity to review and comment on the draft EIS. The Miccosukee Tribe provided comments on the draft EIS that disagreed with the analysis. As a result of their comments, the tribal analysis was revised for this final EIS.

FUTURE COMPLIANCE REQUIREMENTS

COMPLIANCE WITH FEDERAL AND STATE REGULATIONS

The table below identifies regulatory authorities, federal and state permits, approvals, and consultations necessary to ensure regulatory compliance with the project including those associated with the future construction and operation of FPLs proposed transmission lines that would occur as a result of the NPS decision. Most of the permit requirements will be required of FPL if and when they move forward with the construction of the proposed transmission lines. Additional compliance may be required by other state and federal agencies in order to issue permits to FPL.

Responsible Agency/Department	Permit/Approval/Consultation	Agency Responsibility
EPA Region 4	Section 404 Clean Water Act (CWA) Permit	EPA is responsible for overseeing compliance with Section 404(b)(1) guidelines, which provide criteria which must be met to receive a Section 404 permit. EPA also reviews CWA, Section 404 applications for the USACE. The final authority regarding CWA wetland jurisdiction remains with EPA.
	Section 402 CWA, National Pollutant Discharge Elimination System (NPDES)	Although the State of Florida, (through the Florida Dept. of Environmental Protection) is authorized to issue NPDES permits, EPA reviews applications to ensure that permits have been developed in accordance with state and federal laws. A NPDES permit will be necessary to address stormwater issues resulting from the increase of impervious surfaces and dewatering activities.
USACE (Jacksonville District)	Wetland/Waters of the United States Jurisdiction and Section 404 Permit	Responsible for the determination of boundaries of waters of the U.S. within the project area and issuance of dredge and fill permits to address impacts to wetlands and other waters of the U.S. (joint permitting process with FDEP)
USFWS, Region 4	ESA Section 7 Consultation	Provides affect determination (Biological Opinion) documenting the project's likelihood to impact federally listed species. Responsible for overseeing proposed mitigation measures.
	Migratory Bird Treaty Act	Ensures protection of migratory species.
	Bald and Golden Eagle Protection Act	Ensures protection of eagles.
ACHP	Consultation involving the NHPA	The ACHP has a significant role under Section 106 of the NHPA which requires federal agencies to take into account the effects of their undertakings on properties listed, or eligible for listing, on the National Register of Historic Places, and give the ACHP an opportunity to comment on projects.
U.S. Department of Transportation, Federal Highway Administration	Encroachment Permit	Responsible for issuing permits for transmission lines crossing of federally funded roads.
Seminole and Miccosukee Indian Tribes (or Tribal Historic Preservation Office)	Consultation	Responsible for preserving historic sites and Indian culture.
Florida State Clearinghouse	Section 403.061(42), F.S.	The Florida State Clearinghouse administers the intergovernmental coordination and review process of activities within the state of Florida which involve federal financial assistance and/or direct federal activity. (These agencies are listed below separately).
FDEP	Wetland Delineation	Responsible for the determination of boundaries of waters of the state (which can differ from Waters of the United States that are under the jurisdiction of the USACE.

Responsible Agency/Department	Permit/Approval/Consultation	Agency Responsibility
	Environmental Resource Permit under Part IV of Chapter 373, F.S.	Florida's water resources are regulated by the Environmental Resource Permit program. The program covers virtually all alterations to the landscape. The Environmental Resource Permit program regulates dredging and filling in wetlands and other surface waters, stormwater runoff quality and quantity, including runoff resulting from alterations of uplands, and direct, secondary and cumulative impacts.
	Section 401 Permit	FDEP issuance of an Environmental Resource Permit also constitutes a water quality certification under Section 401 of the CWA.
	Transmission Line Siting Act 403.52 - 403.539, F.S	Process for licensing electrical transmission lines. Requires Siting Board (Governor & Cabinet) certification.
FFWCC	Title XXVIII, Chapters 369-380, F.S.	Coordination with USFWS; protection of state listed species. Also reviews and comments on Environmental Resource Permit applications.
SHPO	Title XVIII, Chapter 267, F.S.	Reviews development project and provides technical assistance on preservation laws to ensure compliance with state and federal laws mandating consideration of a project's impact on historic and archeological properties.

LIST OF RECIPIENTS OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The following federal, state, local, and tribal government agencies and organizations and businesses that participated in scoping were sent a copy of the draft EIS. In addition, elected officials, libraries, individuals, other businesses and organizations, media outlets, and other groups that have expressed interest in Everglades National Park in the past were sent letters stating that the draft EIS was available for review and comment.

FEDERAL AGENCIES

- United States Fish and Wildlife Service
- United States Army Corps of Engineers
- United States Bureau of Indian Affairs
- National Park Service, Southeast Regional Office
- National Park Service, Denver Service Center
- National Park Service, Biscayne National Park
- National Park Service, Environmental Quality Division
- United States Geological Survey
- Nuclear Regulatory Commission
- Advisory Council on Historic Preservation

STATE AND LOCAL GOVERNMENTS

- Florida Department of Transportation
- Florida Department of State
- Florida Department of Environmental Protection
- South Florida Water Management District
- Florida Fish and Wildlife Conservation Commission
- Miami-Dade County Department of Environmental Resources Management
- Miami-Dade County Department of Planning and Zoning
- Florida Department of State - Division of Historical Resources

AFFILIATED NATIVE AMERICAN GROUPS

- Miccosukee Tribe
- Seminole Tribe
- Seminole Nation of Oklahoma

OTHER ORGANIZATIONS AND BUSINESSES

- Audubon
- Audubon - Native Plant Society
- Audubon Society - Everglades Chapter
- Broward Sierra Club
- Calusa Group Sierra Club
- Clean Water Action
- Coalition of NPS Retirees
- Connecticut Sierra Club
- Dade County Public Schools
- Desert Protective Council
- Environmental Defense
- Environmental Services
- Everglades Committee for the Sierra Club
- Everglades Forever
- Fairchild Junior Naturalists
- Florida Biodiversity Project
- Florida Native Plant Society
- Florida Power and Light
- Florida Trail Association
- Florida Wildlife Federation
- Florida Yes
- Floridan Aquifer Legal Defense Organization
- Friends of Fakahatchee
- Green League
- Heifer International
- International Society for the Preservation of the Tropical Rainforest
- Isaak Walton League
- K&K Development, Inc.
- Miami-Dade NAACP
- National Parks Conservation Association
- National Wildlife Foundation
- Nature Coast Coalition
- Nature Conservancy
- Palm Beach County Environmental Coalition

- Parkland News & Commentary
- Palm Beach County Environmental Coalition
- Progressive Democrats of America
- Responsible Growth Management Coalition
- Save it Now Glades
- Sierra Club
- Sierra Club Miami Group
- South Florida Audubon Society
- South Florida Wildlands Association
- Tropical Audubon
- Under Sea Adventures, Inc.
- Western Lands Project
- Wildlands Network

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Name	Title	Experience	Responsibilities
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GLOSSARY

Action Alternative—An alternative that proposes a different management action or actions to address the purpose, need, and objectives of the plan; one that proposes changes to the current management.

Affected Environment—A description of the existing environment that may be affected by the proposed action (40 CFR 1502.15).

Alternative—Combination of actions to achieve the project's purpose and need and meet objectives.

Ambient—Existing as background in the surrounding area or environment, particularly with regard to air quality or noise conditions.

Amphibian—Any of a class (Amphibia) of cold-blooded vertebrates intermediate between fishes and reptiles and having gilled aquatic young and air-breathing adults.

Anaerobic—Not containing oxygen or not requiring oxygen.

Aquatic environment—Marine, estuarine, or freshwater resources that support animal and plant species.

Aquatic resources—Water bodies and the flora and fauna within them.

Archeological resources—Any material remnants or physical evidence of past human life or activities of archeological interest, including the record of the effects of human activities on the environment. They are capable of revealing scientific or humanistic information through archeological research. Any material remnants of human life or activities at least 100 years of age, and of archeological interest (32 CFR 229.3(a)).

Area of possible relocated corridor—An area located east of the park in which possible future construction of transmission lines may occur pending specific project-level decisions related to the land exchange.

Avian—Pertaining to birds

Best management practices (BMPs)—BMPs are state-of-the-art mitigation measures to help ensure that operations are conducted in an environmentally responsible manner. BMPs can be simple, such as use of hay bales for erosion control, while others involve cutting-edge monitoring and production technologies.

Bioaccumulation—The accumulation of a substance, such as a toxic chemical, in various tissues of a living organism. Bioaccumulation takes place within an organism when the rate of intake of a substance is greater than the rate of excretion or metabolic transformation of that substance.

Bird Drive Basin—An area of vacant land south of Tamiami Trail and east of Krome Avenue managed for the purpose of recharging groundwater and restoring wetland hydropatterns in the Everglades National Park.

Candidate species (federal definition)—A species for which the U.S. Fish and Wildlife Service has on file sufficient information to support a proposal to list the species as endangered or threatened, but for which proposed rules have not yet been issued.

Code of Federal Regulations—The codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

Council on Environmental Quality (CEQ)—Established by Congress within the Executive Office of the President with passage of the National Environmental Policy Act of 1969. CEQ coordinates federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives.

Consultation—The inclusion of public agencies and stakeholders in the planning process for the purpose of providing adequate attention to stated concerns and ensuring project conformity with existing protections.

Corona noise—Noise produced by high-voltage power lines caused by the electric field the power line generates by carrying electricity. The sound may be louder if there is increased moisture or pollutants in the air.

Corridor—A linear tract of land affording passage through which transmission lines can be installed and operated; contains the transmission line right-of-way.

Crepuscular—A term referring to species, especially certain bats and insects, that are active at dawn and dusk.

Critical habitat—The specific areas within the geographical area occupied by the species at the time it is listed in accordance with the provisions of Section 4 of the Endangered Species Act, on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection; and specific areas outside the geographical area occupied by the species at the time it is listed; this is based upon a determination by the Secretary that such areas are essential for the conservation of the species.

Cultural landscapes—Combinations of elements including vegetation, earthworks, roads, paths, buildings, views, and other man-made and natural features that truly represent or suggest a particular event or time period.

Cultural resources—Archeological, traditional, and built environment resources, including cultural landscapes.

Culvert—A water conduit comprised of a corrugated metal tube crossing under a road, sidewalk, or earthen embankment.

Decibel— A unit used to express the intensity of a sound wave.

8.5 square mile area—A sparsely populated agricultural community located on the eastern fringe of the Everglades, in the general area where the FPL West Secondary and West Preferred routes diverge south of the park.

Easement—A portion of land held by one property owner but with covenants in place to allow another entity to make use of the land for a limited purpose, as right of passage.

Ecology—The pattern of relations between organisms and their environment.

Ecosystem—The complex of a community of organisms and its environment functioning as an ecological unit.

Ecotone—A transition zone between two ecosystems.

Electric fields—The spaces surrounding charged particles which exert a force on other charged objects.

Eutrophication—Having waters rich in mineral and organic nutrients that promote a proliferation of plant life, especially algae, which often reduces the dissolved oxygen content.

Exotics—Non-native and/or invasive plant animal species.

Fauna—Animals of a given region taken as a whole.

Federal Register—Published by the Office of the Federal Register, National Archives and Records Administration (NARA), the Federal Register is the official daily publication for rules, proposed rules, and notices of federal agencies and organizations, as well as executive orders and other presidential documents (http://www.gpoaccess.gov/fr/).

Floodplain—A nearly flat plain along the course of a stream or river that is naturally subject to flooding.

Flora—Plant life characteristic of a region.

Flowage easement—An easement that allows another entity to make use of the land for the conveyance of water.

Forage—*verb* To search (as animal) for food; browse.

Geographic information system (GIS)—Any system that captures, stores, analyzes, manages, and presents data that are linked to location.

Graminoid—Grass-like or composed of grasses.

Guy wire—A tensioned cable designed to add stability to a free-standing structure.

Habitat—The place or environment where a plant or animal naturally lives. Can be classified as nesting habitat, foraging habitat, wintering habitat, and other life-cycle divisions.

Historic structures—Buildings or other man-made structures representative of a particular period in history.

Hydric soil—A soil formed under conditions of flooding, saturation, or ponding long enough to develop anaerobic conditions.

Hydrology—The scientific study of the properties, distribution, and effects of water on the earth's surface, in the soil and underlying rocks, and in the atmosphere.

Impacts—The likely effects of an action upon specific natural, cultural, or socioeconomic resources. Impacts may be beneficial, or adverse and direct, indirect, and / or cumulative.

Impairment—As defined in NPS Management Policies, “impairment” means an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or

values including the opportunities that otherwise would be present for the enjoyment of those park resources and values.

Indian Trust Resources—Indian trust assets are owned by Native Americans but held in trust by the United States.

Invasive species—Usually nonnative species, which can outcompete native species for habitat and resources.

Jurisdictional wetlands—Wetlands which meet the criteria of "waters of the United States" and are thereby under the jurisdiction of the Corps and the USEPA. The definition developed by the Corps considers as wetlands those areas which "…are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Under this definition, all three of the following conditions must be present: a) a dominance of wetland plants; b) hydric soils (soils with low oxygen concentrations in the upper layers during the growing season); and c) wetlands hydrology.

Key observation point (KOP)—One or a series of points on a travel route or at a use area or a potential use area, where the view of a management activity would be most revealing. KOPs are typically used as viewpoints for assessing potential visual impacts resulting from a proposed management activity.

Logarithmic scale—A scale a scale of measurement which uses the logarithm of a physical quantity instead of the quantity itself and which can be displayed using intervals corresponding to orders of magnitude, rather than a standard linear scale.

Macrophyte—An aquatic plant that grows in or near water and is emergent, submergent, or floating.

Magnetic field— A condition found in the region around a magnet or an electric current, characterized by the existence of a detectable magnetic force at every point in the region and by the existence of magnetic poles.

Mammal—Any of various warm-blooded vertebrate animals of the class Mammalia, including humans, characterized by a covering of hair on the skin and, in the female, milk-producing mammary glands for nourishing the young.

Marl—mud high in calcium.

Marsh—A common term applied to describe treeless wetlands characterized by shallow water and abundant emergent, floating, and submerged wetland flora. Typically found in shallow basins, on lake margins, along low gradient rivers, and in calm tidal areas. Marshes may be fresh, brackish or saline, depending on their water source(s).

Melaleuca—A genus of plants in the myrtle family Myrtaceae that is known to be a non native invasive species in southern Florida.

Methylation—This process converts inorganic mercury to methylmercury in the natural environment; mercury is transformed into a form that can be accumulated in the muscle and fatty tissue of fish.

Migratory birds—Birds that move periodically from one region to another for feeding, breeding, or wintering.

Mitigation—"Mitigation" as defined in the National Environmental Policy Act (40 CFR § 1508.20), includes: avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its Implementation; rectifying the impact of repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; compensating for the impact by replacing or providing substitute resources or environments.

National Environmental Policy Act (NEPA)—An environmental law enacted in 1969 that established a national policy promoting the enhancement of the environment and also established the President's Council on Environmental Quality (CEQ). The most significant effect of NEPA was to set up procedural requirements for all federal government agencies to prepare environmental impact statements.

Native American—Any of the indigenous peoples living within the United States.

Native plant communities—Interdependent complexes of naturally occurring vegetation, which nourish native wildlife and which require specific soil conditions and other habitat characteristics to survive.

No-action alternative—An alternative that maintains established actions or management direction.

North American Vertical Datum (NAVD)—All elevations presented in this EIS/EIR are based on the NAVD88. NAVD88 replaced National Geodetic Vertical Datum of 1929 (NGVD 29) as a result of greater accuracy and the ability to account for differences in gravitational forces in different areas based on satellite systems. NAVD88 is 0.86 feet lower in elevation than NGVD 29.

Oligotrophic—Lacking in plant nutrients.

Organisms—Plants and animals, bacteria, and other living things.

Palustrine wetlands—All nontidal wetlands dominated by trees, shrubs, persistent emergent plants, or emergent mosses or lichens, as well as small, shallow open-water ponds or potholes. Often called swamps, marshes, potholes, bogs, or fens.

Peat—Organic deposit formed from decaying plant matter under anaerobic conditions.

Pennsuco wetlands—The Pennsuco wetlands are located north and east of the park, generally bordered on the west and north by Krome Avenue, to the south by Tamiami Trail (US 41) and to the east by the Dade-Broward Levee.

Perennial—Persisting for several years, usually with new herbaceous growth.

Periphyton—A complex matrix of algae and heterotrophic microbes attached to submerged substrata in almost all aquatic ecosystems.

pH—Measure of the acidity or alkalinity (basicity) of water (pH 7 is neutral, increasing values indicate alkalinity and decreasing value indicate acidity).

Prescribed burns (fires)—The controlled application of fire to the land to accomplish specific land management goals.

Raptors—Birds of prey; any bird that hunts other animals.

Revegetation—Reestablishment and development of self-sustaining plant cover. On disturbed sites, this normally requires human assistance, such as seedbed preparation, reseeding, and mulching.

Right-of-Way—A property right that allows its owner to make some specified use of land that is otherwise owned by another, such as a right of passage.

Scoping—Scoping is a process during the initial phase of project planning to seek input from a variety of sources. This input is used to identify issues, areas requiring additional study, alternative methods and locations, and topics to be analyzed in the National Environmental Policy Act document. Scoping is done internally with National Park Service staff and externally with the interested public, other agencies, and stakeholders.

Silt fence—a temporary sediment control device used on construction sites to protect water quality in nearby streams, rivers, lakes and seas from sediment (loose soil) in stormwater runoff.

Slough—A low-lying area of land that channels water through the Everglades; essentially a marshy river. Though they are the main avenue of waterflow, the current remains leisurely, moving about 100 feet (30 meters) per day.

Socioeconomics—Relating to a combination of social and economic factors.

Soundscapes—The overall auditory character of an area.

Special-status species—Plant and animal species federally or state listed as endangered or threatened, or otherwise judged to be in need of protection.

Species of concern (federal definition)—An informal term that refers to those species which USFWS believes might be in need of concentrated conservation actions. (Formerly known as Category 1 or 2 Candidate).

Taking (per Endangered Species Act)—Section 9 of the Endangered Species Act prohibits the “taking” of an endangered or threatened species, where “taking” means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct.”

Transmission line—Structure that is used to move large quantities of power at high voltage between generating or receiving point and major substations.

Turbidity—The relative clarity of water, which depends in part on the material in suspension in the water.

Untrammeled—In the Wilderness Act, "not being subject to human controls and manipulations that hamper the free play of natural forces.”

Water conservation area—Sections of Everglades habitat designated primarily to receive flood waters from adjacent areas and store them for beneficial municipal, urban, and agricultural uses. WCAs are managed for multiple uses. Aside from providing wildlife habitat, water from the Everglades water conservation areas is used to restock water supplies for South Florida communities.

Wetlands—Lands transitional between terrestrial and aquatic systems, where the water table is usually at or near the surface or the land is covered by shallow water. The U.S. Army Corps of Engineers (Federal Register, 1982) and the Environmental Protection Agency (Federal Register, 1980) jointly define

wetlands as: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Wilderness—An area of undeveloped federal land retaining its primeval character and influence without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions. Such areas are designated under the National Wilderness Preservation System.

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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic places, and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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United States Department of the Interior · National Park Service

National Park Service
U.S. Department of the Interior

Everglades National Park
Florida

Acquisition of Florida Power & Light Company Land in the East Everglades Expansion Area Final Environmental Impact Statement

Volume Two

November 2015

Appendices

APPENDIX A: ENABLING LEGISLATION

48 Stat 816

An Act To provide for the establishment of the Everglades National Park in the state of Florida and for other purposes, approved May 30, 1934

- **6. Everglades National Park project**

- **SEC. 2.**
- **SEC. 3.**
- **SEC. 4.**

Statute:
48 Stat 816

Short Title:
An Act To provide for the establishment of the Everglades National Park in the state of Florida and for other purposes, approved May 30, 1934 (48 Stat 816)

Public Law:

- **6. Everglades National Park project**

Establishment of park authorized.....Act of May 30, 1934.....Page 34

An Act To provide for the establishment of the Everglades National Park in the state of Florida and for other purposes, approved May 30, 1934 (48 Stat 816)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That when title to all the lands within boundaries to be determined by the Secretary of the Interior within the area of approximately two thousand square miles in the region of the Everglades of Dade, Monroe, and Collier Counties, in the State of Florida, recommended by said Secretary, in his report to Congress of December 3, 1930, pursuant to the Act of March 1, 1929 (45 Stat., pt. 1, p. 1443), shall have been vested in the United States, said lands shall be, and are hereby, established, dedicated, and set apart as a public park for the benefit and enjoyment of the people and shall be known as the Everglades National Park: Provided, That the United States shall not purchase by appropriation of public moneys any land within the aforesaid area, but such lands shall be secured by the United States only by public or private donation.

(16 U.S.C. sec. 410.)

- **SEC. 2.** The Secretary of the Interior is hereby authorized, In his discretion and upon submission of evidence of title satisfactory to him, to accept on behalf of the United States, title to the lands referred to in the previous section hereof as may be deemed by him necessary or desirable for national-park purposes: Provided, That no land for said park shall be accepted until exclusive jurisdiction over the entire park area, in form satisfactory to the Secretary of the Interior, shall have been ceded by the State of Florida to the United States. (16 U.S.C. sec. 410a.)

- **SEC. 3.** The administration, protection, and development of the aforesaid park shall be exercised under the direction of the Secretary of the Interior by the National Park Service, subject to the provisions of the Act of August 25, 1916 (39 Stat. 535), entitled "An Act to establish a National Park Service, and for other purposes", as amended: Provided, That the provisions of the Act approved June 10 1920, known as the Federal Water Power Act, shall not apply to this park: Provided further, That nothing in this Act shall be construed to lessen any existing rights of the Seminole Indians which are not in conflict with the purposes for which the Everglades National Park is created: And provided further, That the United States shall not expend any public moneys for the administration, protection. or development of the aforesaid park within a period of five years from the date of approval of this Act. (16 U.S.C. sec. 410b.)

- **SEC. 4.** The said area or areas shall be permanently reserved as a wilderness, and no development of the project or plan for the entertainment of visitors shall be undertaken which will interfere with the preservation intact of the unique flora and fauna and the essential primitive natural conditions now prevailing in this area. (16 U.S.C. sec. 410c.)

APPENDIX B: LEGISLATION AND PLANS RELATED TO THE EAST EVERGLADES EXPANSION AREA

H.R.1727

Everglades National Park Protection and Expansion Act of 1989 (Enrolled as Agreed to or Passed by Both House and Senate)

--H.R.1727--
H.R.1727

One Hundred First Congress of the United States of America
AT THE FIRST SESSION

Begun and held at the City of Washington on Tuesday, the third day of January,
one thousand nine hundred and eighty-nine

An Act

To modify the boundaries of the Everglades National Park and to provide for the protection of lands, waters, and natural resources within the park, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the `Everglades National Park Protection and Expansion Act of 1989'.

TITLE I--EVERGLADES NATIONAL PARK EXPANSION

SEC. 101. FINDINGS, PURPOSES AND DEFINITION OF TERMS.

(a) FINDINGS- The Congress makes the following findings:

(1) The Everglades National Park is a nationally and internationally significant resource and the park has been adversely affected and continues to be adversely affected by external factors which have altered the ecosystem including the natural hydrologic conditions within the park.

(2) The existing boundary of Everglades National Park excludes the contiguous lands and waters of the Northeast Shark River Slough that are vital to long-term protection of the park and restoration of natural hydrologic conditions within the park.

(3) Wildlife resources and their associated habitats have been adversely impacted by the alteration of natural hydrologic conditions within the park, which has contributed to an overall decline in fishery resources and a 90 percent population loss of wading birds.

(4) Incorporation of the Northeast Shark River Slough and the East Everglades within the park will limit further losses suffered by the park due to habitat destruction outside the present park boundaries and will preserve valuable ecological resources for use and enjoyment by future generations.

(5) The State of Florida and certain of its political subdivisions or agencies have indicated a willingness to transfer approximately 35,000 acres of lands under their jurisdiction to the park in order to protect lands and water within the park, and may so transfer additional lands in the future.

(6) The State of Florida has proposed a joint Federal-State effort to protect Everglades National Park through the acquisition of additional lands.

(b) PURPOSE- The purposes of this Act are to--

(1) increase the level of protection of the outstanding natural values of Everglades National Park and to enhance and restore the ecological values, natural hydrologic conditions, and public enjoyment of such area by adding the area commonly known as the Northeast Shark River Slough and the East Everglades to Everglades National Park; and

(2) assure that the park is managed in order to maintain the natural abundance, diversity, and ecological integrity of native plants and animals, as well as the behavior of native animals, as a part of their ecosystem.

(c) DEFINITIONS- As used in this Act:

(1) The term `Secretary' means the Secretary of the Interior.

(2) The term `addition' means the approximately 107,600 acre area of the East Everglades area authorized to be added to Everglades National Park by this Act.

(3) The term `park' means the area encompassing the existing boundary of Everglades National Park and the addition area described in paragraph (2).

(4) The term `project' means the Central and Southern Florida Project.

SEC. 102. BOUNDARY MODIFICATION.

(a) AREA INCLUDED- The park boundary is hereby modified to include approximately 107,600 acres as generally depicted on the map entitled `Boundary Map, Everglades National Park Addition, Dade County, Florida', numbered 160-20,013B and dated September 1989. The map shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior.
(b) BOUNDARY ADJUSTMENT- The Secretary may from time to time make minor revisions in the boundaries of the park in accordance with section 7(c) of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601-4 and following). In exercising the boundary adjustment authority the Secretary shall ensure all actions will enhance resource preservation and shall not result in a net loss of acreage from the park.
(c) ACQUISITION- (1) Within the boundaries of the addition described in subsection (a), the Secretary may acquire lands and interests in land by donation, purchase with donated or appropriated funds, or exchange. For purposes of acquiring property by exchange, the Secretary may, notwithstanding any other provision of law, exchange the approximately one acre of Federal land known as `Gilberts' Marina' for non-Federal land of equal value located within the boundaries of the addition. Any lands or interests in land which are owned by the State of Florida or any political subdivision thereof, may be acquired only by donation.
(2) It is the express intent of Congress that acquisition within the boundaries of the addition shall be completed not later than 5 years after the date of enactment of this section. The authority provided by this section shall remain in effect until all acquisition is completed.
(d) ACQUISITION OF TRACTS PARTIALLY OUTSIDE BOUNDARIES- When any tract of land is only partly within boundaries referred to in subsection (a), the Secretary may acquire all or any portion of the land outside of such boundaries in order to minimize the payment of severance costs. Land so acquired outside of the boundaries may be exchanged by the Secretary for non-Federal lands within the boundaries, and any land so acquired and not utilized for exchange shall be reported to the General Services Administration for disposal under the Federal Property and Administrative Services Act of 1949 (63 Stat. 377).
(e) OFFERS TO SELL- In exercising the authority to acquire property under this Act, the Secretary shall give prompt and careful consideration to any offer made by any person owning property within the boundaries of the addition to sell such property, if such owner notifies the Secretary that the continued ownership of such property is causing, or would result in undue hardship.
(f) AUTHORIZATION OF APPROPRIATIONS- (1) Subject to the provisions of paragraph (2), there are hereby authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act.
(2) With respect to land acquisition within the addition, not more than 80 percent of the cost of such acquisition may be provided by the Federal Government. Not less than 20 percent of such cost shall be provided by the State of Florida.
(g) ASSISTANCE- Upon the request of the Governor of the State of Florida, the Secretary is authorized to provide technical assistance and personnel to assist in the acquisition of lands and waters within the Kissimmee River/Lake Okeechobee/Everglades Hydrologic Basin, including the Big Cypress Swamp, through the provision of Federal land acquisition personnel, practices, and procedures. The State of Florida shall reimburse the Secretary for such assistance in such amounts and at such time as agreed upon by the Secretary and the State. Notwithstanding any other provision of law, reimbursement received by the Secretary for such assistance shall be retained by the Secretary and shall be available without further appropriation for purposes of carrying out any authorized activity of the Secretary within the boundaries of the park.

SEC. 103. ADMINISTRATION.

(a) IN GENERAL- The Secretary shall administer the areas within the addition in accordance with this Act and other provisions of law applicable to the Everglades National Park, and with the provisions of law generally applicable to units of the national park system, including the Act entitled `An Act to establish a National Park Service, and for other purposes', approved August 25, 1916 (39 Stat. 535; 16 U.S.C. 1-4). In order to further preserve and protect Everglades National Park, the Secretary shall utilize such other statutory authority as may be available to him for the preservation of wildlife and natural resources as he deems necessary to carry out the purposes of this Act.
(b) PROTECTION OF ECOSYSTEM- The Secretary shall manage the park in order to maintain the natural abundance, diversity, and ecological integrity of native plants and animals, as well as the behavior of native animals, as a part of their ecosystem.

(c) PROTECTION OF FLORA AND FAUNA- The park shall be closed to the operation of airboats--

(1) except as provided in subsection (d); and

(2) except that within a limited capacity and on designated routes within the addition, owners of record of registered airboats in use within the addition as of January 1, 1989, shall be issued nontransferable, nonrenewable permits, for their individual lifetimes, to operate personnally-owned airboats for noncommercial use in accordance with rules prescribed by the Secretary to determine ownership and registration, establish uses, permit conditions, and penalties, and to protect the biological resources of the area.

(d) CONCESSION CONTRACTS- The Secretary is authorized to negotiate and enter into concession contracts with the owners of commercial airboat and tour facilities in existence on or before January 1, 1989, located within the addition for the provision of such services at their current locations under such rules and conditions as he may deem necessary for the accommodation of visitors and protection of biological resources of the area.

(e) VISITOR CENTER- The Secretary is authorized and directed to expedite the construction of the visitor center facility at Everglades City, Florida, as described in the Development Concept Plan, Gulf Coast, dated February 1989, and upon construction shall designate the visitor center facility as `The Marjory Stoneman Douglas Center' in commemoration of the vision and leadership shown by Mrs. Douglas in the protection of the Everglades and Everglades National Park.

SEC. 104. MODIFICATION OF CERTAIN WATER PROJECTS.

(a) IMPROVED WATER DELIVERIES- (1) Upon completion of a final report by the Chief of the Army Corps of Engineers, the Secretary of the Army, in consultation with the Secretary, is authorized and directed to construct modifications to the Central and Southern Florida Project to improve water deliveries into the park and shall, to the extent practicable, take steps to restore the natural hydrological conditions within the park.

(2) Such modifications shall be based upon the findings of the Secretary's experimental program authorized in section 1302 of the 1984 Supplemental Appropriations Act (97 Stat. 1292) and generally as set forth in a General Design Memorandum to be prepared by the Jacksonville District entitled `Modified Water Deliveries to Everglades National Park'. The Draft of such Memorandum and the Final Memorandum, as prepared by the Jacksonville District, shall be submitted as promptly as practicable to the Committee on Energy and Natural Resources and the Committee on Environment and Public Works of the United States Senate and the Committee on Interior and Insular Affairs and the Committee on Public Works and Transportation of the United States House of Representatives.

(3) Construction of project modifications authorized in this subsection and flood protection systems authorized in subsections (c) and (d) are justified by the environmental benefits to be derived by the Everglades ecosystem in general and by the park in particular and shall not require further economic justification.

(4) Nothing in this section shall be construed to limit the operation of project facilities to achieve their design objectives, as set forth in the Congressional authorization and any modifications thereof.

(b) DETERMINATION OF ADVERSE EFFECT- (1) Upon completion of the Final Memorandum referred to in subsection (a), the Secretary of the Army, in consultation with the South Florida Water Management District, shall make a determination as to whether the residential area within the East Everglades known as the `Eight and One-Half Square Mile Area' or adjacent agricultural areas, all as generally depicted on the map referred to in subsection 102(a), will be adversely affected by project modifications authorized in subsection (a).

(2) In determining whether adjacent agricultural areas will be adversely affected, the Secretary of the Army shall consider the impact of any flood protection system proposed to be implemented pursuant to subsection (c) on such agricultural areas.

(c) FLOOD PROTECTION; EIGHT AND ONE-HALF SQUARE MILE AREA- If the Secretary of the Army makes a determination pursuant to subsection (b) that the `Eight and One-Half Square Mile Area' will be adversely affected, the Secretary of the Army is authorized and directed to construct a flood protection system for that portion of presently developed land within such area.

(d) FLOOD PROTECTION; ADJACENT AGRICULTURAL AREA- (1) If the Secretary of the Army determines pursuant to subsection (b) that an adjacent agricultural area will be adversely affected, the Secretary of the Army is authorized and directed to construct a flood protection system for such area. Such determination shall be based on a finding by the Secretary of the Army that:

(A) the adverse effect will be attributable solely to a project modification authorized in subsection (a) or to a flood protection system implemented pursuant to subsection (c), or both; and

(B) such modification or flood protection system will result in a substantial reduction in the economic utility of such area based on its present agricultural use.

(2) No project modification authorized in subsection (a) which the Secretary of the Army determines will cause an adverse effect pursuant to subsection (b) shall be made operational until the Secretary of the Army has implemented measures to prevent such adverse effect on the adjacent agricultural area: *Provided,* That the Secretary of the Army or the South Florida Water Management District may operate the modification to the extent that the Secretary of the Army determines that such operation will not adversely affect the adjacent agricultural area: *Provided further,* That any preventive measure shall be implemented in a manner that presents the least prospect of harm to the natural resources of the park.
(3) Any flood protection system implemented by the Secretary of the Army pursuant to this subsection shall be required only to provide for flood protection for present agricultural uses within such adjacent agricultural area.
(4) The acquisition of land authorized in section 102 shall not be considered a project modification.
(e) PERIODIC REVIEW- (1) Not later than 18 months after the completion of the project modifications authorized in subsection (a), and periodically thereafter, the Secretary of the Army shall review the determination of adverse effect for adjacent agricultural areas.
(2) In conducting such review, the Secretary of the Army shall consult with all affected parties, including, but not limited to, the Secretary, the South Florida Water Management District and agricultural users within adjacent agricultural areas.
(3) If, on the basis of such review, the Secretary of the Army determines that an adjacent agricultural area has been, or will be adversely affected, the Secretary of the Army is authorized and directed, in accordance with the provisions of subsection (d), to construct a flood protection system for such area: *Provided,* That the provisions of subsection (d)(2) shall be applicable only to the extent that the Secretary, in consultation with the Secretary of the Army, determines that the park will not be adversely affected.
(4) The provisions of this subsection shall only be applicable if the Secretary of the Army has previously made a determination that such adjacent agricultural area will not be adversely affected.
(f) CURRENT CANAL OPERATING LEVELS- Nothing in this section shall be construed to require or prohibit the Secretary of the Army or the South Florida Water Management District from maintaining the water level within any project canal below the maximum authorized operating level as of the date of enactment of this Act.
(g) NO LIMITATION ON OTHER CLAIMS- If the Secretary of the Army makes a determination of no adverse effect pursuant to subsection (b), such determination shall not be considered as a limitation or prohibition against any available legal remedy which may otherwise be available.
(h) COORDINATION- The Secretary and the Secretary of the Army shall coordinate the construction program authorized under this section and the land acquisition program authorized in section 102 in such a manner as will permit both to proceed concurrently and as will avoid unreasonable interference with property interests prior to the acquisition of such interests by the Secretary under section 102.
(i) WEST DADE WELLFIELD- No Federal license, permit, approval, right-of-way or assistance shall be granted or issued with respect to the West Dade Wellfield (to be located in the Bird Drive Drainage Basin, as identified in the Comprehensive Development Master Plan for Dade County, Florida) until the Secretary, the Governor of the State of Florida, the South Florida Water Management District and Dade County, Florida enter into an agreement providing that the South Florida Water Management District's water use permit for the wellfield, if granted, must include the following limiting conditions: (1) the wellfield's peak pumpage rate shall not exceed 140,000,000 gallons per day; (2) the permit shall include reasonable, enforceable measures to limit demand on the wellfield in times of water shortage; and (3) if, during times of water shortage, the District fails to limit demand on the wellfield pursuant to (2), or if the District limits demand on the wellfield pursuant to (2), but the Secretary certifies that operation of the wellfield is still causing significant adverse impacts on the resources of the Park, the Governor shall require the South Florida Water Management District to take necessary actions to alleviate the adverse impact, including, but not limited to, temporary reductions in the pumpage from the wellfield.
(j) PROTECTION OF NATURAL VALUES- The Secretary of the Army is directed in analysis, design and engineering associated with the development of a general design memorandum for works and operations in the `C-111 basin' area of the East Everglades, to take all measures which are feasible and consistent with the purposes of the project to protect natural values associated with Everglades National Park. Upon completion of a general design memorandum for the area, the Secretary shall prepare and transmit a report to the Committee on Energy and Natural Resources and the Committee on Environment and Public Works of the United States Senate and the Committee on Interior and Insular Affairs and the Committee on Public Works and Transportation of the United States House of Representatives on the status of the natural resources of the C-111 basin and functionally related lands.

H.R.146

Omnibus Public Land Management Act of 2009 (Enrolled as Agreed to or Passed by Both House and Senate)

SEC. 7107. EVERGLADES NATIONAL PARK.

(a) Inclusion of Tarpon Basin Property-

(1) DEFINITIONS- In this subsection:

(A) HURRICANE HOLE- The term `Hurricane Hole' means the natural salt-water body of water within the Duesenbury Tracts of the eastern parcel of the Tarpon Basin boundary adjustment and accessed by Duesenbury Creek.

(B) MAP- The term `map' means the map entitled `Proposed Tarpon Basin Boundary Revision', numbered 160/80,012, and dated May 2008.

(C) SECRETARY- The term `Secretary' means the Secretary of the Interior.

(D) TARPON BASIN PROPERTY- The term `Tarpon Basin property' means land that--

(i) is comprised of approximately 600 acres of land and water surrounding Hurricane Hole, as generally depicted on the map; and

(ii) is located in South Key Largo.

(2) BOUNDARY REVISION-

(A) IN GENERAL- The boundary of the Everglades National Park is adjusted to include the Tarpon Basin property.

(B) ACQUISITION AUTHORITY- The Secretary may acquire from willing sellers by donation, purchase with donated or appropriated funds, or exchange, land, water, or interests in land and water, within the area depicted on the map, to be added to Everglades National Park.

(C) AVAILABILITY OF MAP- The map shall be on file and available for public inspection in the appropriate offices of the National Park Service.

(D) ADMINISTRATION- Land added to Everglades National Park by this section shall be administered as part of Everglades

National Park in accordance with applicable laws (including regulations).

(3) HURRICANE HOLE- The Secretary may allow use of Hurricane Hole by sailing vessels during emergencies, subject to such terms and conditions as the Secretary determines to be necessary.

(4) AUTHORIZATION OF APPROPRIATIONS- There are authorized to be appropriated such sums as are necessary to carry out this subsection.

(b) Land Exchanges-

(1) DEFINITIONS- In this subsection:

(A) COMPANY- The term `Company' means Florida Power & Light Company.

(B) FEDERAL LAND- The term `Federal Land' means the parcels of land that are--

(i) owned by the United States;

(ii) administered by the Secretary;

(iii) located within the National Park; and

(iv) generally depicted on the map as--

(I) Tract A, which is adjacent to the Tamiami Trail, U.S. Rt. 41; and

(II) Tract B, which is located on the eastern boundary of the National Park.

(C) MAP- The term `map' means the map prepared by the National Park Service, entitled `Proposed Land Exchanges, Everglades National Park', numbered 160/60411A, and dated September 2008.

(D) NATIONAL PARK- The term `National Park' means the Everglades National Park located in the State.

(E) NON-FEDERAL LAND- The term `non-Federal land' means the land in the State that--

(i) is owned by the State, the specific area and location of which shall be determined by the State; or

(ii)(I) is owned by the Company;

(II) comprises approximately 320 acres; and

(III) is located within the East Everglades Acquisition Area, as generally depicted on the map as `Tract D'.

(F) SECRETARY- The term `Secretary' means the Secretary of the Interior.

(G) STATE- The term `State' means the State of Florida and political subdivisions of the State, including the South Florida Water Management District.

(2) LAND EXCHANGE WITH STATE-

(A) IN GENERAL- Subject to the provisions of this paragraph, if the State offers to convey to the Secretary all right, title, and interest of the State in and to specific parcels of non-Federal land, and the offer is acceptable to the Secretary, the Secretary may, subject to valid existing rights, accept the offer and convey to the State all right, title, and interest of the United

States in and to the Federal land generally depicted on the map as `Tract A'.

(B) CONDITIONS- The land exchange under subparagraph (A) shall be subject to such terms and conditions as the Secretary may require.

(C) VALUATION-

(i) IN GENERAL- The values of the land involved in the land exchange under subparagraph (A) shall be equal.

(ii) EQUALIZATION- If the values of the land are not equal, the values may be equalized by donation, payment using donated or appropriated funds, or the conveyance of additional parcels of land.

(D) APPRAISALS- Before the exchange of land under subparagraph (A), appraisals for the Federal and non-Federal land shall be conducted in accordance with the Uniform Appraisal Standards for Federal Land Acquisitions and the Uniform Standards of Professional Appraisal Practice.

(E) TECHNICAL CORRECTIONS- Subject to the agreement of the State, the Secretary may make minor corrections to correct technical and clerical errors in the legal descriptions of the Federal and non-Federal land and minor adjustments to the boundaries of the Federal and non-Federal land.

(F) ADMINISTRATION OF LAND ACQUIRED BY SECRETARY- Land acquired by the Secretary under subparagraph (A) shall--

(i) become part of the National Park; and

(ii) be administered in accordance with the laws applicable to the National Park System.

(3) LAND EXCHANGE WITH COMPANY-

(A) IN GENERAL- Subject to the provisions of this paragraph, if the Company offers to convey to the Secretary all right, title, and interest of the Company in and to the non-Federal land generally depicted on the map as `Tract D', and the offer is acceptable to the Secretary, the Secretary may, subject to valid existing rights, accept the offer and convey to the Company all right, title, and interest of the United States in and to the Federal land generally depicted on the map as `Tract B', along with a perpetual easement on a corridor of land contiguous to Tract B for the purpose of vegetation management.

(B) CONDITIONS- The land exchange under subparagraph (A) shall be subject to such terms and conditions as the Secretary may require.

(C) VALUATION-

(i) IN GENERAL- The values of the land involved in the land exchange under subparagraph (A) shall be equal unless the non-Federal land is of higher value than the Federal land.

(ii) EQUALIZATION- If the values of the land are not equal, the values may be equalized by donation, payment

using donated or appropriated funds, or the conveyance of additional parcels of land.

(D) APPRAISAL- Before the exchange of land under subparagraph (A), appraisals for the Federal and non-Federal land shall be conducted in accordance with the Uniform Appraisal Standards for Federal Land Acquisitions and the Uniform Standards of Professional Appraisal Practice.

(E) TECHNICAL CORRECTIONS- Subject to the agreement of the Company, the Secretary may make minor corrections to correct technical and clerical errors in the legal descriptions of the Federal and non-Federal land and minor adjustments to the boundaries of the Federal and non-Federal land.

(F) ADMINISTRATION OF LAND ACQUIRED BY SECRETARY- Land acquired by the Secretary under subparagraph (A) shall--

(i) become part of the National Park; and

(ii) be administered in accordance with the laws applicable to the National Park System.

(4) MAP- The map shall be on file and available for public inspection in the appropriate offices of the National Park Service.

(5) BOUNDARY REVISION- On completion of the land exchanges authorized by this subsection, the Secretary shall adjust the boundary of the National Park accordingly, including removing the land conveyed out of Federal ownership.

Detroit to Washington, DC. It turns out that there were over 20 commercial flights that day from here to Detroit and back. One could have sat them in first class and provided them Dr. Pepper in a paper cup, or whatever it is they do in first class, between Detroit and Washington, DC, and they would have been fine. But they flew down wing tip to wing tip in Gulfstreams and, you know, making $2 million, $2.5 million a month, whatever it was. There was a lot of criticism about it—justifiable, in my judgment. I want the auto industry to succeed, but that was not a very smart thing that day.

But the question is, Why it is just the auto industry? Where are all of those folks who ran some of those big investment banks into the ditch? Where are the folks who caused that wreckage? How about the people who ran these big mortgage companies that were selling these unbelievable mortgages to people with bad credit and getting big bonuses as a result? When are they going to be brought here under subpoena and asked the same questions and subject to the same requirements?

I think we ought to create a taxpayer protection prosecution task force. I believe there is a lot of illegal activity that has not been uncovered. And I do not think it ought to be laid at the feet of some attorney general someplace in some State. There ought to be a Federal prosecution tasks force empaneled, and that task force must make it a top priority to investigate and prosecute financial fraud cases and seek to recover any ill-gotten gains. The task force shall make recommendations to the Congress, within 60 days, about extending the statute of limitation in complicated financial crimes, if necessary.

There ought to be a reform commission on the financial system that determines the causes of this financial nightmare. And the commission would report its findings, conclusions and make recommendations for preventing a similar debacle in the future. I do not think it is just a matter of jump-starting the economic engine; I think you have to rewire the system here. You have to rewire the financial system. This does not work.

Securitizing instruments for which there was never any decent underwriting because you did not have to underwrite if you were going to send the risk upstairs—that does not work. And you cannot have dark money out there beyond the gaze of regulators.

You do have to regulate. It seems to me you have to completely reform the financial system, and I do think the people who caused this wreck are going to be the ones who are going to help us reform the system.

So those are four areas that I think we have to do on behalf of the American taxpayer.

You know, my sense is that everyone in this country wants this new Government to succeed. President-elect Barack Obama campaigned across this country on the subject of change. We all understand the need for that change. The fact is, there is plenty of blame to go around. Lots of folks, Republicans, Democrats, one administration, another—there is a lot of blame. But it seems to me there are special obligations laid at the feet of those who in the last 8 years have decided to be willfully blind and decided that self-regulation was more important than having people do their jobs who were supposed to be regulating. And the result was the creation of a house of cards or a Ponzi scheme sort of thing that has caused dramatic damage to this country.

Now, it is a mess, but I think this country can get out of it. I think it would be hard for anybody in this Chamber to decide to get up and go to work if they did not have an abiding hope about the future of this country. And I do. But that hope is joined, it seems to me, by requirements to find out what happened, take action based on what happened, and make sure it never happens again. That is not rocket science; that is what we are obligated to do.

This is, as I said, a great country with a wonderful history of overcoming the odds. We have people who came to this country from different parts of the planet searching for opportunity. Most of us come from immigrants who came from one part of the planet or another, one part of this globe, and came to this country because they believed this is the place where opportunity existed.

There was a man named Stanley Newberg who died, and there was a tiny little piece written in the New York Times about him some years ago. It was a piece that intrigued me, so I looked into it to find out what was this about, Stanley Newberg. It said, in this one-paragraph piece, something that I discovered more about. A man came to this country with his parents to flee the persecution by the Nazis of the Jews, and they came here and landed in this country, with nothing, in New York City. His dad had a job peddling fish on the Lower East Side of New York, and Stanley Newberg trailed along, this little tyke with his dad every day peddling fish. Then he went to school, and his parents struggled because they had nothing, and he did well in school. They struggled to get him some loans and try to help him get to college. He went to college, graduated from college, and went to work for an aluminum company. He did very well with the company and rose up to management in the company and then purchased the company.

Later, he died. When they opened his will, Stanley Newberg, in his will, left $5.7 million to the United States of America. In his will, he said: For the privilege of living in that great country. Is that not remarkable? Here is a man who came here with nothing, was enormously successful, then at the end of his life left his inheritance to the United States of America. I am not suggesting everyone do that. I am suggesting it inspires me when people—in this case, coming here as a boy with nothing—understand the magic of what this country of ours offers in terms of opportunity and freedom. And I think, with all of the hand-wringing that exists in our country about these very serious troubles we face, I am absolutely convinced, if we work together, with a new President, a new Government, if we call the American people to be part of something bigger than themselves, to say this is a moment to try to put this country back on track and build better opportunity and greater opportunity for all Americans, I have great hope then for this country.

Mr. MARTINEZ. Mr. President, I rise today in strong support of S. 22, the public lands omnibus bill. This legislation contains several important provisions for the State of Florida that will protect its natural treasures and expand understanding of our rich history. These bills are bipartisan, and I am proud to have worked with my colleague Senator BILL NELSON in support of the Everglades provisions and the commission for the 450th anniversary of St. Augustine's founding. Congressman JOHN MICA has introduced a companion version of this bill in the House of Representatives and I wanted to recognize his efforts as well. In addition, I thank the hard work of Senator JEFF BINGAMAN, the chairman of the Energy and Natural Resources Committee, and ranking member, Senator MURKOWSKI, and their staff, for including these bills in S. 22 and bringing it to expected floor passage.

The public lands package contains an authorization for the St. Augustine 450th Commemoration Commission, which is critical in assisting the National Park Service, the State of Florida, as well as all local stakeholders in organizing the historic celebration of the city's founding. St. Augustine's old and complex history mirrors much of the American experience. It was the birthplace of Christianity in the New World and it was truly the first blending-pot of cultures that included peoples of Spanish, English, French, Native American, and African descent. Many do not know that St. Augustine is the location of the first parish mass in the United States and it was the location of the first free black settlement in North America. Nearly a century before the founding of Jamestown, Spanish explorer Juan Ponce de Leon landed off the coast of St. Augustine looking for the fabled Fountain of Youth but instead founded a colony known as La Florida. He discovered very favorable currents that would later be known as the Gulf Stream, which would serve as trade routes for European explorers to discover other parts of the New World.

Because of St. Augustine's location along strategic trade routes, Spain constructed the Castillo de San Marcos in 1672 to protect the capital of La Florida from French and British interests. The Castillo de San Marcos is

built on the ruins of the original fort that was burned to the ground by British sailor and explorer Sir Francis Drake. The fort still stands today and has had six different flags fly above its ramparts. It is the oldest surviving European fortification in the United States.

The St. Augustine Commemoration Commission is necessary to help organize the tremendous amount of historical and cultural events that will take place in the first coast area. The commission will encompass a broad array of members from Federal, State, local, and academic backgrounds to ensure that it has a diverse make-up of professionals to assist the city of St. Augustine in celebrating its founding. The intent of the St. Augustine commission bill is to assist the NPS and local stakeholders in building upon the experiences of the Jamestown celebration in 2007. In addition, the commission would provide the necessary framework to navigate the significant logistical challenges facing the city of St. Augustine, the State of Florida, and the National Park Service.

Restoration of the Everglades, especially Everglades National Park, will be enhanced by enactment of the public lands bills package, S. 22. One such provision included is section 7107, which would expand the boundaries of Everglades National Park by nearly 600 acres and help protect a critical part of Florida's ecological heritage. I am proud to have cosponsored this legislation with my colleague BILL NELSON, and it is supported by a broad group. of stakeholders including the Monroe County government in the Florida Keys, the Nature Conservancy, and the National Park Service. The passage of this bill would protect coastal wetlands and habitat for a myriad of endangered species including the American crocodile, the West Indian manatee, the wood stork, the roseate spoonbill, and other migrating birds.

The citizens of Florida have long treasured the Everglades, and the addition of this property within the park's boundaries will help preserve the unique beauty that makes the keys such a special place. The addition of the Tarpon Basin property will not place new management or administrative burdens on our park's staff, but instead would enhance and preserve a part of Old Florida for years to come.

Another provision included in S. 22, which Senator NELSON and I support would facilitate an important land exchange to allow the National Park Service to acquire the last significant private inholding in the Everglades and clear the way to finally implement the federally approved Modified Waters Delivery Project or ''Mod Waters.'' Mod Waters will help restore natural water flows into Everglades National Park, and although authorized nearly 20 years ago in 1989, it has experienced substantial delays.

The land trade provided for in the pending, measure enables the Park Service to acquire Florida Power and Light's, FPL, 7-mile long, utility corridor that now bisects the expanded Everglades National Park. This corridor runs north-south through the heart of the East Everglades and Shark River Slough, which provides the primary water flows into the park. Under the exchange, FPL would give this 320 acre inholding to the park and would receive roughly 260 acres on the eastern boundary of the park adjacent to the existing L 31 canal and levee. FPL would also receive a vegetative management easement to help control nonnative exotic plants. Public acquisition of the FPL inholding would eliminate the last significant private inholding delaying Mod Waters.

No funds will be needed for this inholding acquisition and appraisals indicate that the park receives more value than FPL. Since so much preliminary work has been put into identifying the precise lands and interests involved in the exchange, the Park Service should be able to promptly complete the appraisal approval process. Expeditious review is critical to facilitate Mod Waters and ensure that the exchange is executed so taxpayers are spared the multimillion-dollar costs of purchasing the FPL corridor.

Substantial work has already been completed and all evaluations indicate that relocating the utility corridor away from the Everglades National Park will provide a wide array of environmental benefits to the park. The exchange and relocation ensures that there will be no electric transmission lines constructed on the existing private right-of-way. In addition, moving the utility corridor to the periphery of the park to developed property will lessen impacts on resources, endangered and threatened species, and other park-related values. The bill also provides the NPS with the authority to relocate the Everglades Park boundary to ensure that the lands conveyed to FPL are outside of the park. The intent is that the relocated utility corridor not be within Everglades Park.

Since an environmental assessment needs to focus only on those factors arising from the land exchange itself, it is expected that the Park Service will move quickly to complete the assessment. Any effects that may arise from future proposed development of the relocated corridor would be subject to full environmental review at that time by appropriate Federal and State agencies. Because of these protections and oversight, there should be no undue regulatory delay in the completion of this important land exchange, which could further delay Mod Waters. Accordingly, the NPS should act in a timely manner to render a suitability finding for lands adjacent to the park used for transmission to meet the power needs of south Florida.

I again thank Chairman BINGAMAN and Senator MURKOWSKI for including these bills in S. 22. I also want to thank our outgoing ranking member, Pete Domenici, for his hard work in helping move these bills through the Energy and Natural Resources Committee last year. We have a chance at the beginning of a new Congress to show the American people that Washington is not all about politics and gridlock. I urge my colleagues to vote for S. 22 to help facilitate the completion of Mod Waters and enhance the protection of Florida's fragile ecosystem.

Mr. NELSON of Florida. Mr. President, restoration of America's Everglades is one of my top priorities in the Senate. Everglades National Park stands to be enhanced by enactment of the public lands bill package, S. 22.

Section 7107 contains a measure—similar to a bill introduced by Senator MEL MARTINEZ and me, to facilitate an important land exchange which will allow the National Park Service to acquire the last significant private inholding in the East Everglades and clear the way to finally implement the congressionally approved Modified Waters Delivery project or ''Mod Waters.'' Mod Waters will help restore natural water flows into Everglades Park. This project provides a critical foundation for many future restoration projects and although it was authorized in 1989, has been delayed for a variety of reasons including the need to acquire private lands that will be returned to a natural state by increased water flows.

The Park Service has worked painstakingly since 1989 to acquire over 100,000 acres in the East Everglades at a cost of more than $104 million to clear the way for Mod Waters. Over 8000 individual parcels of land have been purchased and added to Everglades National Park. The land trade provided for in the pending measure will enable the park to acquire Florida Power and Light's—FPL—7-mile long, 330-foot wide inholding that now bisects the expanded park. This corridor of private lands runs north-south through the heart of the East Everglades and Shark River Slough, which provides the primary water flows into the park—the area where more natural water flows will be restored by Mod Waters. Under the exchange, FPL would surrender this 320-acre inholding to the park and receive approximately 260 acres on the eastern periphery of the park immediately adjacent to the existing L 31 canal and levee as well as a vegetative management easement to help control nonnative exotic plants among others. Public acquisition of the FPL inholding would eliminate the last significant private inholding delaying Mod Waters. In return, FPL would receive lands that would be outside the park, providing it with the opportunity to develop such lands into a viable utility corridor, if approved. This is a win-win for the people of south Florida who depend upon both a healthy environment and the availability of power.

As I stated earlier, Mod Waters is the foundation for the broader Comprehensive Everglades Restoration Plan, CERP, approved by Congress in the

Water Resources Development Act of 2000. The congressionally mandated September 2008 National Academy of Sciences report on Everglades restoration called progress on Mod Waters ''dismal.'' The report emphasized that Mod Waters is critical to restoration, especially for Everglades Park, and urged the Federal Government to take action to move the project along. This exchange does precisely that.

No funds will be needed for this inholding acquisition. Since so much work has already been done to identify the precise lands and interests in land to be exchanged and these lands have been subject to professional appraisals, we expect the park to be able to promptly complete the necessary administrative requirements to complete the exchange. Time is of the essence in order to facilitate Mod Waters and ensure that the exchange is executed so taxpayers are spared the multi-million dollar costs of purchasing the FPL corridor.

Prior to executing the land trade, the Park Service will prepare the appropriate National Environmental Policy Act document to fully understand the environmental impacts, if any. It is my hope that this exchange will provide a wide array of environmental benefits to the park. The exchange ensures that there will be no electric transmission lines constructed on the existing private right-of-way. The bill also provides the Service with the authority to relocate the Everglades Park boundary to ensure that the lands conveyed to FPL are outside of the park. It is intended that the utility corridor, if developed, not be within Everglades Park. Because many of the agreements have been worked out in advance between FPL and the park, I expect that the Park Service will move expeditiously to complete the land exchange authorized by this legislation.

In a similar vein, the Park Service must also make a determination that the lands and interests along the L 31 canal and levee on the edge of the park are ''suitable'' for exchange and conveyance to FPL. This ''suitability'' is already widely acknowledged and recognized by both the agency and the Congress as these peripheral lands are not in the heart of the park and not critical for Mod Waters and water flow restoration. Accordingly, I expect the Park Service to act in a timely manner to render the suitability finding.

I received a letter from Florida Department of Environmental Protection Secretary, Mike Sole, expressing his support for the land transfer. The exchange is also supported by the Department of the Interior and the Army Corps of Engineers.

I expect the Park Service and FPL to move promptly to complete the exchange. Again, the need for action on Mod Waters means that time is of the essence.

I wish to thank Chairman BINGAMAN and Ranking Member MURKOWSKI for their efforts to incorporate this important measure in the S. 22 package. We must move expeditiously to compete Mod Waters and completion of this land exchange will help us achieve these objectives while ensuring that the taxpayers are spared the cost of purchasing a very expensive park inholding from FPL.

I yield the floor, and I suggest the absence of a quorum.

The ACTING PRESIDENT pro tempore. The clerk will call the roll.

The assistant legislative clerk proceeded to call the roll.

Mr. REID. Mr. President, I ask unanimous consent the order for the quorum call be rescinded.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

MORNING BUSINESS

Mr. REID. I ask unanimous consent the Senate proceed to a period of morning business with Senators permitted to speak therein for a period of up to 10 minutes each.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

80TH ANNIVERSARY OF LULAC

Mr. REID. Mr. President, I rise to call the attention of the Senate to the 80th anniversary of the League of United Latin American Citizens, LULAC. As a pioneer of the Latino civil rights movement, LULAC has long fought to better the economic condition, educational attainment, political influence, housing, health and civil rights of Americans of Latino descent.

Eighty years ago, three organizations in south Texas united to combat the rampant discrimination faced by Mexican Americans. After decades of disenfranchisement, the Latino community in south Texas created a movement for equality that has contributed greatly to enhancing the livelihood of Latinos throughout the United States. LULAC's successes and achievements are many—ranging from the desegregation of schools throughout the American Southwest to improving access to jobs and government programs.

Today, as America's oldest national Latino organization, LULAC boasts continued service to America's Latino population through more than 48 employment training centers, 16 regional centers, and employs its great knowledge of the needs of the Latino community by advising private, nonprofit, and public institutions. Moreover, its unique charter structure allows this organization to disseminate important information and provide worthwhile services via more than 600 councils throughout the United States and Puerto Rico. The need for LULAC's services has not subsided through the years and a new generation of Latinos calls upon the institutional strength that this organization can provide. The challenges we face as a nation can only be resolved by the inclusion of all American communities and I value the sage voice of LULAC on the strategies to empower Latino communities.

The organization's early efforts for political and social inclusion created a strong base which LULAC and other organizations now utilize to improve the quality of life for all American Latinos. I congratulate and commend the League of United Latin American Citizens for their long record of service to the Latino community and wish them continued success.

TRIBUTE TO BOURBON HEIGHTS NURSING HOME

Mr. MCCONNELL. Mr. President, I rise today to honor the Bourbon Heights Nursing Home, which was recently recognized as the best nursing home in the State in 2008 by the Kentucky Association of Health Care Facilities, KAHCF.

Recently, the Bourbon County Citizen in Paris, KY, published a story about the Bourbon Heights Nursing Home receiving this top honor.

Mr. President, I ask my colleagues to join me in honoring the work of the dedicated staff and volunteers at Bourbon Heights, whose continued commitment to the community and to those they care for is extraordinary. I further ask unanimous consent that the full article be printed in the RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

[From Bourbon County Citizen, Dec. 19, 2008]

BOURBON HEIGHTS RECEIVES STATE AWARD

(By Paul Gibson)

The Bourbon Heights Nursing Home was the recipient of the coveted award recognizing them as the best nursing home in the state by the Kentucky Association of Health Care Facilities (KAHCF). There are 247 nursing homes in the association and each one is awarded the large trophy that signifies the top honor.

''There is an extensive application procedure,'' said Glenda McKenzie, Activities Director. ''And judges come at least twice during the year to personally see the facility.''

''The judges' visit is very thorough,'' said Angie Forsythe, Administrator at Bourbon Heights. ''They interview each department head and observe the services we provide residents.''

According to Forsythe, the judges also interview staff members, residents, and volunteers to gain better understanding of how the facility operates.

''The judges really wanted to know what makes us unique,'' Forsythe said.

The judges discovered, McKenzie said, ''that we are a very diverse facility offering a wide range of services to our residents.''

Currently, Bourbon Heights provides independent living in apartments, personal care, nursing care, day care and out patient rehabilitation.

''I think the judges were impressed with the way we take pride in the care we provide our residents,'' Forsythe said. ''We are like a family here and the staff provides a loving care for each resident.''

She added that Bourbon Heights has very little turnover in staff and that many staff

LAND PROTECTION PLAN

EAST EVERGLADES ADDITION

EVERGLADES NATIONAL PARK

APRIL 1991

Recommended By: _____ 4/27/91
Superintendent Date

Approved By: _____ 6/26/91
Regional Director, Southeast Region Date

United States Department of the Interior

NATIONAL PARK SERVICE
SOUTHEAST REGIONAL OFFICE
75 Spring Street, S.W.
Atlanta, Georgia 30303

IN REPLY REFER TO:

FINDING OF NO SIGNIFICANT IMPACT
ON
ENVIRONMENTAL ASSESSMENT
FOR
LAND PROTECTION PLAN
EAST EVERGLADES ADDITION
EVERGLADES NATIONAL PARK
FLORIDA

BACKGROUND

The National Park Service (NPS) has prepared and made available for public review the Land Protection Plan/Environmental Assessment (LPP/EA) for the East Everglades Addition of Everglades National Park (dated April 1991). The purpose of this plan is to identify land protection alternatives to assure the restoration and enhancement of the Everglades ecosystem in the addition and existing park. The plan has been prepared in compliance with relevant legislation, other congressional guidelines, Executive Orders, and departmental and NPS policies. The plan will be reviewed every 2 years, and updated accordingly, in order to deal with issues not fully addressed and to reflect new information about the park addition.

The purpose of this document is to record the comments on the draft LPP, clarify or expand identified subjects covered, make corrections as needed, and to add a Finding of No Significant Impact (FONSI) pursuant to the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (43 CFR 1500). This FONSI should be attached to the EA.

PUBLIC INVOLVEMENT

The LPP/EA was made available for public review May 3 to June 7, 1991, and a public workshop was held on May 22, 1991, in Miami, Florida, at the Metro-Dade Government Center. The workshop was attended by 105 persons, three television stations, and one newspaper. Fourteen persons made verbal comments and twelve written comments were received.

GENERAL COMMENTS

Comment: With four exceptions, all comments agreed with, supported, or did not oppose the goals and objectives set forth in the LPP. The exceptions were property owners who do not want to relocate and who disagree with the need for the restoration effort for the park. Several mentioned concern for the time-frame, emphasizing the need to begin acquisition and protection of the area immediately.

Response: The 5-year term for completion of the expansion is a target; frequently, land acquisition programs must be extended due to availability of funding. The NPS intends to move ahead with acquisition and restoration efforts as quickly as possible and to establish NPS presence in the expansion area. The comments from the Florida Department of Natural Resources, Bureau of Land Acquisition, confirmed the State's funding for the 20 percent of acquisition costs incorporated into the 1991/1992 Work Plan and the intent to transfer title for State lands and Chekika State Recreation Area pending discussions of specific terms and conditions.

LAND VALUES

Comment: The issue of payment for land is a major concern, and the question of what constitutes a "fair price" versus the determination of "fair market value" is paramount in all comments from landowners. It was also recommended that a Land Acquisition Office be established in the Miami area.

Response: Land acquisition will be handled by the NPS Land Acquisition Field Office in Naples, Florida, in accordance with Federal regulations. A satellite office will be opened in the greater Miami area to facilitate landowners. The establishment of fair market value will be accomplished through appraisals which reflect current prices for comparable land sales. Factors which affect market value include location, size, accessibility, and current zoned use of the property; original purchase price, taxes paid, etc., do not influence the market value.

Comment: Some lands in the East Everglades were granted Severable Use Rights (SUR's) by Metro-Dade County at rates that varied by location. How will these SUR's affect land values?

Response: The NPS will acquire all lands in fee. The SUR's serve no purpose toward the park restoration efforts. During acquisition negotiations, the NPS Lands Office will advise all landowners that SUR's may have value and that they may be retained, transferred, or sold in compliance with county ordinances.

COMPATIBLE/INCOMPATIBLE LAND USES

Comment: One landowner questioned NPS authority to identify incompatible uses and the boundary definition along the southern end which excludes lands already in agriculture.

Response: The legislation for the park expansion clearly states the intent of Congress to add these lands to Everglades National Park to be managed as park. The issues of compatible and incompatible uses--i.e., agriculture, private residences, recreational vehicles, hunting, etc.--were discussed, considered, and eliminated in the passage of Public Law (PL) 101-229. This LPP identifies the priorities and strategies for implementation of the law. The boundaries, too, were drawn with the intent of excluding all active agricultural lands along the periphery. This has resulted in an irregular boundary configuration; however, all lands within the boundary are considered essential for the restoration purposes.

LAND USE--AGRICULTURE

Comment: Although determined an incompatible use by NPS, one individual felt that selected areas for continuation of agriculture should be identified using techniques which enhance wildlife habitat and utilize landscape ecology management concepts (agricultural islands). One landowner queried whether NPS had considered aquaculture as an appropriate use.

Response: Agriculture has already been determined to be an incompatible use within Everglades National Park. The same policy will be applied in management of the expansion area. Aquaculture also is a use which is not compatible with the goal of restoration of a natural marsh ecosystem.

Comment: The owner of a mango orchard located within the park addition expressed strong opposition to selling his property.

Response: A primary purpose of the Addition is to restore the hydrology and ecosystems of this portion of the Everglades. As such, the acquisition of all lands, including the mango orchard, is essential to achieve this purpose. In negotiation with the property owner, options will be explored to minimize the impacts of acquisition should the owner decide to acquire alternate lands outside the park to establish a new grove.

CONCESSIONS

Comment: One comment stated that negotiations for air boat concession contracts should be expedited to provide visitor access and educational opportunities.

Response: Recognition that commercial operations will be permitted within the expansion is contained in PL 101-229. The feasibility and need for concession operations along Highway #41 will be evaluated following guidelines consistent with the Concessions Policy Act. The LPP identifies the acquisition of these commercial facilities as the third priority. The issue of land acquisition and concessions operations are separate issues; all of the commercial operations would be acquired, whether or not they remain as concession operations within the park.

LAND USE--AIR BOATS

Comment: Future use by both commercial and private air boat operators is a concern. The procedure for permitting and regulating this activity was queried.

Response: The use of air boats within the expansion is the one exception to the current policies of Everglades National Park recognized in PL 101-229. Regulations and operating guidelines/restrictions will be developed to address permitting procedure, regulations, operating zone identification, etc., in planning and development of special regulations for the management of the expansion area.

LAND USE--GILBERT'S MARINA

Comment: One comment asked for clarification of the Gilbert's Marina issue.

Response: This item was included in PL 101-229 to resolve a long-standing trespass condition of approximately 1 acre which was discovered when the southeast boundary was surveyed. The Congress specifically authorized an exchange to clear title for this minor boundary adjustment.

OTHER AGENCY COORDINATION

Comment: State and local officials emphasized the need to coordinate implementation of the plan with corresponding government agencies on issues of road alignments, legal status of structures, impacts of West Dade Well Field, the status of SUR's, transfer of State lands, and ownership of land between "old" and "new" Highway 41 alignment.

Response: The NPS will actively involve appropriate State, county, and metropolitan Miami government agencies in the planning and implementation of this plan. The park is currently involved in the planning process for the West Dade Well Field on both the technical and policy level and an NPS representative is on the Homestead Airport Expansion Advisory Board.

Determination of zoning compliance for structures and land use will continue with the building and zoning department. The NPS and U.S. Army Corps of Engineers (COE) are completing a Memorandum of Understanding to define their cooperative efforts on the acquisition and restoration project construction and design. The Florida Department of Natural Resources has identified funding for the State's portion of acquisition costs. Evaluation of road access and rights-of-way will be coordinated with the county and the Florida Department of Transportation.

MICCOSUKEE TRIBE OF INDIANS OF FLORIDA

The Miccosukee Tribe of Indians of Florida had several concerns:

Comment: The boundary adjustment adds a portion of the area between the old and new Highway 41 to the park; however, the Tribe may seek to have some of this area placed into Federal trust as part of the Miccosukee Reservation in partial settlement of a claim against the State. The Tribe has identified a need to expand the Miccosukee community "in its traditional homeland within the park" and this issue is not mentioned in the LPP.

Response: The Tribe's Special Use Permit defines the residential use area on lands west of the Shark Valley Road to the park's western boundary. The lands between the old and new Highway 41 west of Shark Valley are not included in the park expansion legislation and the NPS would have no objection to the Tribe's efforts to obtain that land for residential expansion.

The lands east of the Shark Valley road between the two Highway 41 definitions are essential to the restoration objective of the park expansion. The legislative history of PL 101-229 does not provide for any expansion of the Miccosukee community into the added area. Such expansion would be incompatible with the park restoration goals.

Comment: The plan does not address the subject of Tribal members rights to carry on cultural activities within the expansion nor the rights of Miccosukee Indians currently residing within the expansion area.

Response: The Act does not diminish any existing rights, nor does it grant any additional rights. As stated in the plan, the Tribal members' rights shall be in accordance with "other provisions of law applicable to Everglades National Park," as defined as "...not in conflict with the purposes for which Everglades National Park is created." (16 U.S.C. 410b).

Comment: The plan needs to define "some considerations" for Osceola village. The Tribe does not want them relocated and they believe the LPP should expressly acknowledge that they will remain and will enter into a concession contract to continue air boat ride service.

Response: The LPP recognizes the presence of the existing Osceola Camp and the need to make accommodation for the continued use and occupancy of this property. The COE intends to address raising the Osceola Camp in its General Design Memorandum (GDM) within its legal authority to do so. The Osceola Camp will be included in the evaluation of commercial activities in determining the extent of concession services required as discussed under "Land Uses-Concessions".

Comment: The Tribe wants to be involved in development of the environmental education program at Chekika to include employment opportunities for Tribal members and participation in the interpretive programs developed by NPS.

Response: Specific operating plans for Chekika State Recreational Area will be defined in an addendum to the park's GMP and will not be addressed in the LPP. The Tribe's interest in being involved in this effort is noted and the park will be pleased to work with them as the planning process begins.

TEXT CHANGES/CORRECTIONS

Page 5, Item 2: Change to read: "At 30-Mile Bend on U. S. #41 (Tamiami Trail), a residence and commercial property exists known as the Everglades Boat Rides/Osceola Camp. The family that lives there are Miccosukee Indians that are not enrolled members of the Miccosukee Tribe nor do they live on the permitted area within the park. It is not known whether the family presently owns the land in fee simple. The COE has identified mitigation measures for raising the Osceola Camp in the General Design Memorandum (GDM)."
Page 15, Item 2, para. 1: Change reference to "Bureau of State Lands" to read: "Department of Natural Resources (DNR)."

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The EA of the LPP is defined on pages 23 through 25. It iterates the impacts of acquisition of lands in fee simple, establishment of easements, and no action. The summary indicates that to comply with the congressional intent to assure the enhancement and restoration of the wetland ecosystem through the restoration of natural hydrologic conditions and to manage the area to maintain natural abundance, diversity, and ecological integrity of an entire ecosystem, it will be necessary to acquire all lands within the Addition in fee simple. Actions resulting in the displacement of owners or tenants of structures will be subject to the Uniform Relocation Act, as amended.

Establishment of easements would allow for some development that would adversely affect the restoration process and is, therefore, inappropriate.

Taking no action would not restore the natural ecosystem.

Land acquisition will not adversely affect endangered or threatened species; however, Section 7 consultation on the effects of the restoration project on endangered or threatened species will take place in the preparation of the COE's General Design Memorandum (GDM).

No Statement of Findings will be prepared for this project as there will be no adverse impacts within the floodplain or wetlands. No prime or unique farmlands will be affected by the land acquisition recommendations in the plan. The classification "unique farm lands" is applied to any land in Dade County, Florida, presently in cultivation due to the south Florida climate which allows winter vegetable, tropical fruit, and citrus production. In the Addition, less than 3 percent of the Addition, including the mango grove, falls into this "unique" classification. Agricultural use is categorized as incompatible with the restoration objectives for the addition in PL 101-229 and will be eliminated.

There will be no adverse effects on historic or archeological resources as a result of this proposal. The potential impacts of the restoration project will also be addressed in the preparation of the GDM.

CONCLUSION

After reviewing the comments on the LPP/EA for the East Everglades Addition to Everglades National Park, the NPS has determined that implementation of the proposal does not constitute a major Federal action significantly affecting the human environment and that an Environmental Impact Statement will not be prepared. Therefore, the NPS will move forward with the acquisition of lands in the East Everglades.

Approved: C. W. Ogle Date: 7-25-91

Acting Robert M. Baker
Regional Director
Southeast Region

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PLAN SUMMARY

1.	Current Ownership (acreage)	
	Federal	0
	Other public	43,000 (approx.)
	Private	65,000 (approx.)
2.	Number of Non-Federal Tracts	10,000 (approx.)
3.	Interest/Method of Protection Proposed*	
	-- Fee (long-term protection)	107,600 (approx.)
4.	Statutory Acreage Ceiling	None
5.	Funding Status	
	Authorized Ceiling	None
	Appropriated**	$7,500,000
	Expended	$ 0
	Unappropriated	N/A

The National Park Service is in the process of compiling ownership information for the addition; thus the acreage calculations and number of owners are approximate.

6. Top Priority

This project is integral to the restoration of the hydroperiod and sheet flow of the Shark River Slough.

In order to enhance and restore the ecology and hydroperiod of the East Everglades and the Shark River Slough, it will be necessary to acquire fee ownership of the entire 107,600 acres. In the long term, no private uses of the land will be compatible with this goal.

The undisturbed, privately-owned tracts needed to enhance and restore the ecology through the restoration of the hydrologic system constitute the top priority for protection. Generally, the undisturbed tracts will be considered for priority acquisition.

State and other non-Federal public lands comprise the second priority grouping, while the commercial tracts along U.S. 41 constitute the third priority group. Third party mineral rights are included in the fourth priority grouping.

On the eastern boundary, the U. S. Army Corps of Engineers is authorized to acquire lands that will be directly affected by the construction of the levee and canal designed to mitigate impacts of the east Everglades hydroperiod restoration upon the eight and one-half square mile residential area.

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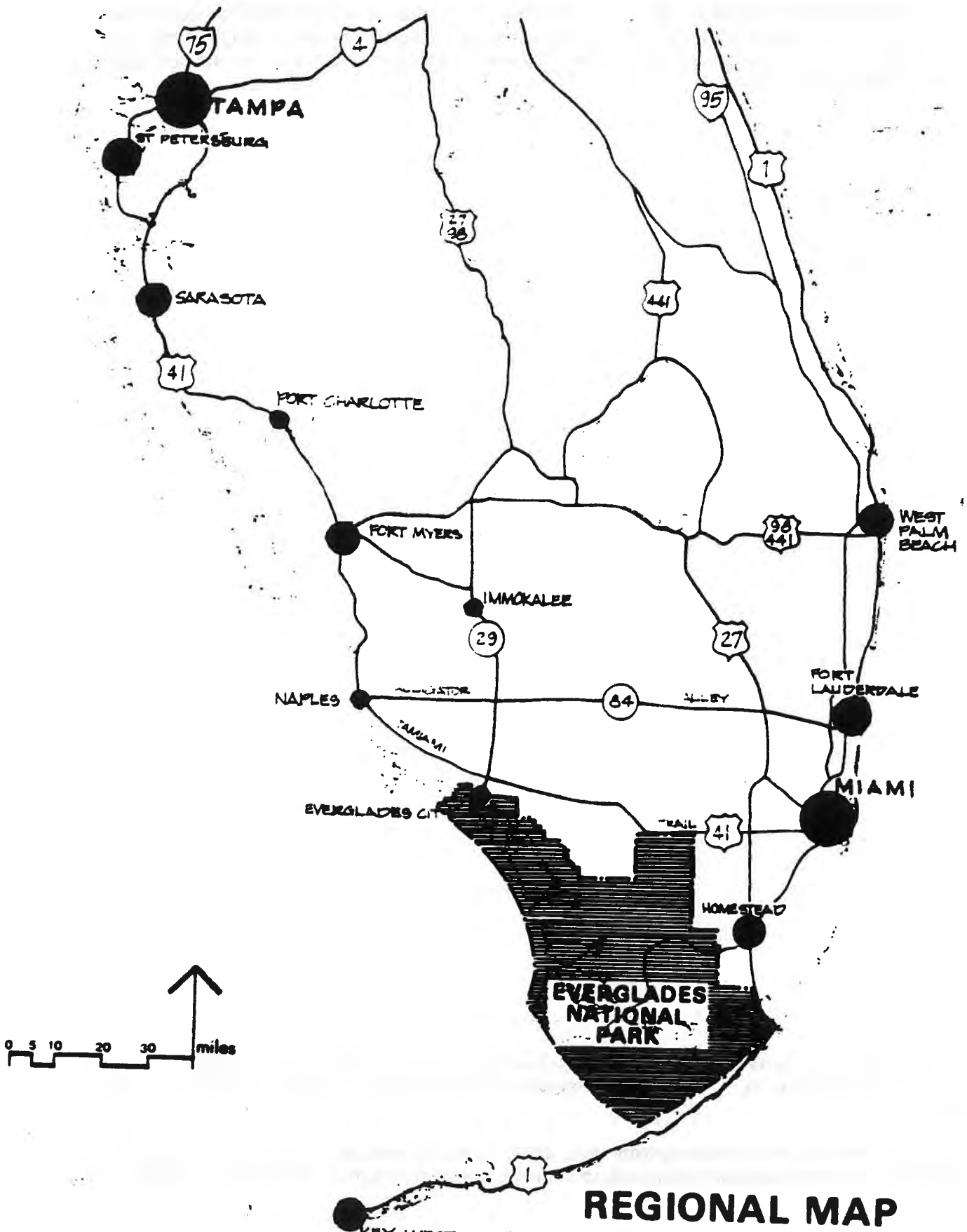
* The addition contains approximately 107,600 acres of both private and public land. The State of Florida and the South Florida Water Management District are the primary owners of the public land.

** For FY 1991 $15 million was appropriated, divided equally between the National Park Service and the U. S. Army Corps of Engineers, to initiate the acquisition and development program.

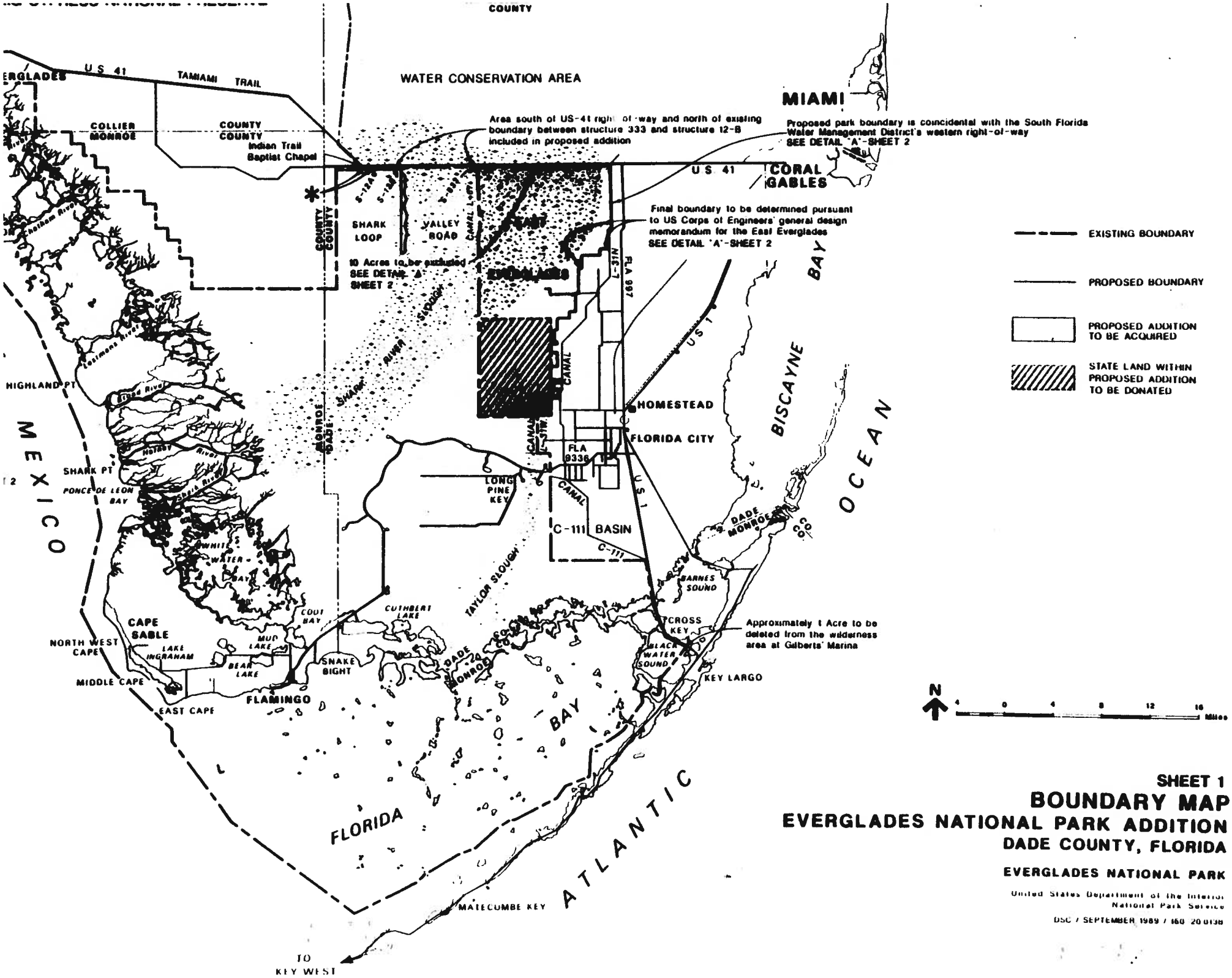


REGIONAL MAP

EVERGLADES NATIONAL PARK

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

160 | 25002
DSC | JANUARY 1986



SHEET 1

BOUNDARY MAP

EVERGLADES NATIONAL PARK ADDITION

DADE COUNTY, FLORIDA

EVERGLADES NATIONAL PARK

United States Department of the Interior
National Park Service

DSC / SEPTEMBER 1989 / 160 20 0138

LAND PROTECTION PLAN

EVERGLADES NATIONAL PARK/EAST EVERGLADES ADDITION

I. Introduction

A. Department and National Park Service Land Protection Policies

In May 1982, the Department of the Interior published in the Federal Register a policy statement for use of the Federal portion of the Land and Water Conservation Fund. Each agency responsible for land protection in Federally administered areas is required to:

- Identify what lands or interests in land need to be in Federal ownership to achieve management purposes consistent with public objectives in the unit.

- To the maximum extent practical, use cost-effective alternatives to direct Federal purchase of private lands and, when acquisition is necessary, acquire or retain only the minimum interests necessary to meet management objectives.

- Cooperate with landowners, other Federal agencies, State and local governments, and the private sector to manage land for public use or protect it for resource conservation.

- Formulate, or revise as necessary, plans for land acquisition and resource use or protection to assure that socio-cultural impacts are considered and that the most outstanding areas are adequately protected and managed.

In response to this policy, the National Park Service (NPS) has prepared a Land Protection Plan for the East Everglades Addition of Everglades National Park. The purpose of this plan is to identify land protection alternatives to assure the restoration and enhancement of the Everglades ecosystem in the addition and existing park, to restore natural hydrologic conditions, and to provide for appropriate administrative facilities and visitor use. The plan has been prepared in compliance with relevant legislation, other Congressional guidelines, executive orders, and Departmental and NPS policies. The plan will be reviewed every two years, and updated accordingly, in order to deal with issues not fully addressed and to reflect new information about the park addition.

B. Protection Issues

The major issues addressed in this plan include: setting priorities for protection and acquisition, defining compatible and incompatible uses within the addition, public and administrative access to important resources, and the protection of wetlands and wetland ecosystems. Resolution of the issues and land protection strategies will evolve in the context that Congress intended -- that actions enhance and restore ecological values of Everglades National Park through the restoration of natural hydrologic conditions. Further, Congress intended that the focus of management of the area be conducted, to the broadest extent possible, to maintain natural abundance, diversity, and ecological integrity of an entire ecosystem, not just a water flow way through a section of the Shark River Slough.

These broad issues may be addressed more specifically in the following ways:

1. The first major issue deals with disturbed and undisturbed privately owned lands. How are these lands to be differentiated in establishing priorities for acquisition? What uses may be acceptable in the short term?

2. What interim measures of protection are available until sufficient funds are appropriated to acquire all priority areas?

3. What are the timing and procedures for the donation of State, Water Management District, and county lands within the addition? This will have to be complemented by the appropriate NPS actions to ensure effective management upon acquisition. What measures may be implemented until such time as these lands are donated to the Federal government?

4. What priority for protection should be assigned on those commercial properties along U.S. 41? The Secretary of the Interior (Secretary) was authorized to negotiate and enter into concession contracts with owners of commercial airboat and tour facilities within the addition, in existence on or before January 1, 1989. The issue of assessing the needs for public accommodation of use of the area must be examined through appropriate NPS concession feasibility processes pursuant to the Concessions Policy Act and NPS policy.

5. What priority should be placed on the acquisition of third-party mineral rights? These rights must be assessed to determine the extent and nature of those ownerships and any possible threats that would detrimentally affect the restoration and enhancement of the ecosystem and natural hydrologic conditions.

6. The restoration of natural hydrologic conditions is essential for the successful restoration and enhancement of the wildlife habitat and the ecological values of the addition and the park in general. This process is dependent upon the completion of a General Design Memorandum (GDM) and the Detailed Design Memorandum (DDM) for specific elements of the redesign and modification of the water delivery system by the U. S. Army Corps of Engineers (USACOE). This process requires coordination with a variety of agencies and interests which must join with the intent of Congress to enhance and restore ecological values and provide for the natural abundance, diversity, and ecological integrity of native plants and animals.

7. The final boundary of the addition in the vicinity of the eight and one-half square mile residential area has not yet been firmly established and will be determined pursuant to the USACOE GDM and DDM for the Modified Water Deliveries for the northeast Shark River Slough. Should the Secretary of the Army make a determination of adverse effect upon this residential area caused by the restoration of natural hydrologic conditions, a flood protection levee will be constructed to mitigate the impacts of the GDM implementation. The footprint of this levee will establish the eastern boundary of the park at the eight and one-half square mile area and may require fee simple acquisition of some residences for development of the flood mitigation structures.

In addition to the above, the Land Protection Plan addresses other more specific land protection issues as follows:

1. At present, two AM radio antenna fields exist along the U.S. 41 (Tamiami Trail), consisting of multiple antenna arrays several hundred feet in height. Before

acquisition is initiated, an assessment will be completed to address issues such as intrusion on park resources, impact upon wetlands and the GDM implementation which will increase hydroperiod in the Shark Slough, frequency and location authorizations granted by the Federal Communications Commission (FCC), and aesthetic intrusion.

2. At 30-Mile Bend on the U.S. 41 (Tamiami Trail), a residence and commercial property exists known as the Everglades Boat Rides/Osceola Camp. The family that lives there are Miccosukee Indians that are not enrolled members of the Miccosukee Tribe nor do they live on the permitted area within the park. It is unknown whether the family presently owns the land in fee simple. The COE has identified mitigation measures for raising the Osceola Camp in the General Design Memorandum (GDM).

3. The northern Park boundary along U. S. Highway 41 (Tamiami Trail) has long been defined as the "old Tamiami Trail"; however, when the road was realigned to the north, creating the "new Tamiami Trail" (still designated U. S. 41) the strip of land between the "old" and "new" Tamiami Trail rights-of-way became an area of unclear ownership and jurisdiction. At times, neither the State nor the county has claimed ownership. The resulting management and jurisdiction void has created law enforcement and wetlands protection issues. P. L. 101-229 has clarified the issue and provided Congressional intent by expanding the park boundary to add to the park the lands "south of the right-of-way of existing U. S. Highway 41 and north of existing boundary between Structure 333 and Structure 12-B." Further, the law expanded the park boundary to add those lands "south of the U. S. 41 right-of-way and north of existing boundary extending west of Structure 12-A to the Indian Trail Baptist Chapel boundary and Big Cypress National Preserve boundary". These boundary adjustments along U. S. Highway 41, although minor, will require significant interaction with both the State and the county in order to resolve property ownership and jurisdiction issues.

4. Chekika State Recreational Area, managed by the Florida Department of Natural Resources, is a 640 acre unit of the State Park System located within the addition. Continued public ownership of this area is considered important to the hydrologic and ecological restoration objectives of the East Everglades legislation. Public use of this area is also considered an important public purpose which should be continued within Everglades National Park. Should the State transfer Chekika to the Federal government, the National Park Service proposes to operate and maintain facilities for public use and enjoyment in this area as part of Everglades National Park. An evaluation would also be completed with the goal of expanding environmental education opportunities, facilities, and programs at Chekika.

5. To assure that donated or acquired lands are provided the management protection required by Congress, the NPS will establish on-site management within the addition. This on-site management would likely be located at or near Chekika. A suitable site for the initiation of NPS protection operations most probably will concentrate along this east-central portion of the addition due to the extent of existing public access and adjacent residential and agricultural uses. This operational site will be confined to an already human-altered location in order to avoid disruption to wetland ecosystems.

6. Within the addition there are numerous roads. Significant interaction with Dade County will be required to resolve ownerships and right-of-way alignments with the ultimate vacation of these rights to the Federal government as adjacent lands are acquired. Land management planning will identify those roads required for public accommodation or use for resource protection and operation by the NPS. The

accommodation or use for resource protection and operation by the NPS. The evaluation will also consider which roads should be removed to further the purposes of enhancing hydrologic and ecological restoration of the East Everglades.

7. Gilbert's Marina: For purposes of acquiring property by exchange, the Secretary may exchange the approximately one acre of Federal land known as "Gilbert's Marina" for non-Federal land of equal value located within the boundaries of the addition. Portions of this marina were illegally constructed within Everglades National Park on the north side of Jewfish Creek, west of U. S. Highway 1, on a parcel of land that was filled and extended into the park. The improvements made on the filled land occurred prior to 1968. Further expansion of the improvements by Gilbert's into the park, which would expand their trespass against the United States and violate National Park and Wilderness statutes, will not be allowed. NPS policy clarifies that this use cannot be allowed to continue as a trespass on National Park property. The East Everglades legislation authorizes an exchange of lands -- those already impacted lands at Gilbert's -- for an equivalent value within the East Everglades addition. This exchange will be explored with the owners of Gilbert's. If an exchange is completed, then the one acre at Gilbert's will be proposed for deletion from the park, If, however, Gilbert's does not effect an exchange of interests, then these incompatible and unauthorized facilities and activities at Gilbert's will have to be removed from Federal lands within the park.

C. The Plan as a Guide

This plan does not constitute an offer to purchase land or interests in land. It will generally guide subsequent activities subject to the availability of funds and other constraints. This plan does not diminish the rights of non-Federal landowners.

II. Purpose of the Expansion and Resources to be Protected

A. Purpose

The purposes of the Congressional Act are two-fold and all land protection actions must be responsive to this Congressional direction:

1. "To increase the level of protection of the outstanding natural values of Everglades National Park and to enhance and restore the ecological values, natural hydrologic conditions, and public enjoyment of such area by adding the area commonly known as the Northeast Shark River Slough and the East Everglades to Everglades National Park; and,

2. "Assure that the park is managed in order to maintain the natural abundance, diversity, and ecological integrity of native plants and animals, as well as the behavior of native animals, as a part of their ecosystem."

B. Resources to be Protected

Everglades National Park was established in 1947. Its almost 1.4 million acres of cypress, pine, and mangrove forests, sawgrass prairies, fresh water sloughs, and salt marshes provide habitat and protection for fourteen endangered and six threatened plant and animal species. Its international significance is recognized by the United Nations through three

prestigious designations -- a World Heritage Site, an International Biosphere Reserve, and a Wetland of International Importance. It is the final remnant of the vast natural Everglades that once covered the southern tip of Florida.

Historically, water flowed gradually from the Lake Okeechobee basin in a southwesterly direction through the Everglades into Florida Bay and the Gulf of Mexico, with most of the water moving through the Shark River Slough. When the park was established, only half of the slough was included within the park boundary with the eastern portion remaining outside the park in the area known as East Everglades.

The East Everglades is generally described as the 153,600 acre region lying between the old Everglades National Park boundary and the urban/rural limits of Dade County. The region is bounded by Tamiami Trail (U. S. 41) on the north, the L-31 levee and C-111 canal on the east, and the original Everglades National Park boundary on the south and west. It represents most of what remains of the eastern portions of the original Everglades marshland ecosystem in Dade County.

The East Everglades contains the headwaters of the Northeast Shark River Slough and Taylor Slough which are the primary sources of water flow to the park. The sloughs provide important water storage and aquifer recharge functions for Dade and Monroe Counties. During the rainy season (April-October), water levels rise to the edges of the slough. During the drier winter months, water recedes toward the center of the slough, allowing the edges to gradually dry. This naturally occurring ebb and flow is crucial to the survival of much of the region's wildlife.

Efforts to manage south Florida's water by the USACOE and the South Florida Water Management District (SFWMD) have redirected the natural water flow so that the western half of the slough, which had traditionally carried 40 percent of the water flow, instead receives 90 percent of the entire flow. The flow through the eastern half (in East Everglades) is reduced to only 10 percent. This disruption has resulted in the habitat loss and population decline of many native species.

The portion of the Shark River Slough drainage basin in the East Everglades is composed of wetland communities typical of those parts of the southern Everglades which are inundated for 9-12 months each year. Vegetation consists of a mosaic of sawgrass marshland, lower-lying flats and sloughs, and tree islands and hardwood hammocks at higher elevations. The substrates in the heart of the slough primarily are peat soils covered by a dense layer of periphyton algae.

South of the Northeast Shark River Slough there are slightly higher elevated marl wetland prairies and rocky glade communities. Typical hydroperiods in these zones range from two to six months during average hydrological years. There are also ecologically diverse irregular mosaics of grass types interspersed by hundreds of small bayheads and tree islands which form the northern and central reaches of the Taylor Slough drainage basin.

The undeveloped portions of the East Everglades provide crucial habitat benefits to Everglades National Park, and many wildlife species rely on both areas for feeding, foraging, cover, and nesting. The East Everglades supports 359 recorded species of fish, reptiles, mammals, birds, and amphibians. Federally-listed endangered species within the addition include Florida panther, Cape Sable sparrow, bald eagle, wood stork, and snail kite. In addition, there are Federally or State-listed threatened species.

The East Everglades contains the primary home range for at least two Florida panthers. Additional animals use the area on an occasional basis. These individuals comprise the

park's only known remaining panther population. Habitat loss is a primary element endangering the panther which requires large, undisturbed areas for its range.

The East Everglades also contains critical habitat (designated in accordance with the Endangered Species Act) of the Cape Sable sparrow. The sparrow inhabits the freshwater sawgrass and muhly grass marshes. Maintenance of this habitat requires the proper hydrologic and fire regime.

Wood storks have suffered routine nesting failures since the early 1960's. During this period, the nesting population in the park declined from 2,500 to 150 pairs. The population decline is due in large part to loss of feeding habitat. The East Everglades historically provided feeding areas through the annual nesting period of wood storks, from the early dry season when the highest marshes were drying to late in the dry season when the lowest areas provided available food. The East Everglades region represents thirty-five percent of the feeding habitat available to Everglades National Park's wood stork populations; however, the area is no longer suitable for wood storks during the crucial nesting period because of the water level manipulation. Restoration of the hydroperiod in this area should facilitate wood stork recovery.

The lowered water levels in the East Everglades have had dramatic effects on wildlife populations. The decrease in length of flooding has reduced the aquatic productivity of the area and altered the pathways of the food chain. Measurements of yearly mean fish densities of the East Everglades indicate populations are only 20 percent of densities in non-altered marshes. Populations correlate with lower numbers of higher-level consumers such as alligators and wading birds.

At least twelve rare, endemic plant species are found in the East Everglades. These populations provide supplemental gene pools to the protected plant species in Everglades National Park, where vegetation has been adversely affected by ecological changes within the East Everglades. The lowered water levels there have caused more frequent and severe fires in the area. The fires burn into the park under conditions which rarely occurred historically, causing changes in plant species composition. Fires in the East Everglades have consumed organic soils and altered vegetation patterns. The altered hydrologic and fire regimes promote the spread of exotic woody species, especially melaleuca and Australian pine, which displace native plant communities.

C. Legislative, Administrative, or Congressional Directives and Constraints

P. L. 101-229 (December 13, 1989) articulates that Everglades National Park is both nationally and internationally significant and that the park has been adversely affected and continues to be adversely affected by external factors which have altered the ecosystem including the natural hydrologic conditions within the park. Additionally, the legislation identified that portion of the Northeast Shark River Slough which lies within the area Congress added to the park as vital to long-term protection of the park and restoration of natural hydrologic conditions within the park. This restoration action will halt the deterioration of park wildlife resources and their associated habitats which have been adversely impacted by the alteration of natural hydrologic conditions within the park.

Role of National Park Service

Lands and interests may be acquired by donation, purchase with donated or appropriated funds, or exchange.

Any lands or interests in land which are owned by the State of Florida or any political subdivision thereof, may be acquired only by donation. These ownerships involve the following State or county entities:

- **Central and Southern Florida Flood Control District**
- **Trustees of Internal Improvement Trust Fund, State of Florida**
- **South Florida Water Management District**
- **Dade County**

Congress directed that acquisition within the boundaries of the addition shall be completed not later than five years after December 13, 1989, but the authorization to acquire lands shall remain in effect until all acquisition is completed.

When any tract of land is only partly within the boundaries, the Secretary may acquire all or any portion of the lands outside such boundary in order to minimize the payment of severance costs. Lands so acquired outside of the boundary may be exchanged for non-Federal lands within the boundaries or reported to the General Services Administration for disposal.

Prompt and careful consideration shall be provided to any offer to sell property if the owner notifies the Secretary that the continued ownership of such property is causing or would result in undue hardship.

Not more than 80 percent of the cost of such acquisition may be provided by the Federal government. Not less than 20 percent of such cost shall be provided by the State of Florida.

The area shall be administered in accordance with P.L. 101-229 and such other provisions of law applicable to Everglades National Park and those generally applicable to units of the National Park System. Further, whatever statutory authority available shall be utilized for the "preservation of wildlife and natural resources as deemed necessary to carry out the purposes of the Act." The area shall be managed "in order to maintain natural abundance, diversity, and ecological integrity of native plants and animals, as well as the behavior of native animals, as a part of their ecosystem."

The park and all acquired lands shall be closed to the operation of airboats "...except that within a limited capacity and on designated routes within the addition, owners of record of registered airboats in use within the addition as of January 1, 1989, shall be issued non-transferable, non-renewable permits, for their individual lifetimes, to operate personally-owned airboats for non-commercial use in accordance with the rules prescribed by the Secretary to determine ownership and registration, establish uses, permit conditions, and penalties, and to protect the biological resources of the area." At a later date an assessment of needs to accommodate airboat use and a plan to articulate and manage airboat use will be developed.

Commercial or business operations in existence within the addition on or before January 1, 1989, may be considered for concession contracts subject to the Concessions Policy Act (P. L. 89-249) and the assessment of the need for public services. These operations are not guaranteed concession contracts. Whatever services are deemed necessary and appropriate for public accommodation will be managed under such rules and conditions as deemed necessary for the "...protection of the biological resources of the area."

Role of U. S. Army Corps of Engineers

P. L. 101-229 authorizes and directs the USACOE to construct modifications to the Central and Southern Florida Project to improve water deliveries into the park and shall, to the extent practicable, take steps to restore the natural hydrological conditions within the park. Further, the project modifications to restore these natural hydrological conditions are justified by the environmental benefits to be derived by the Everglades ecosystem in general and by the park in particular and shall not require any further economic justification. Accordingly, specific water structures or water delivery programs have a clear priority focus of restoring natural hydrologic conditions benefiting the park ecosystem and any required land acquisition actions in the park addition must be reflective of this intent.

Modifications to the Central and Southern Florida Project to improve water deliveries into the park shall be based upon the findings of the experimental program authorized in section 1302 of the 1984 Supplemental Appropriations Act (97 Stat. 1292) and generally as set forth in a GDM to be prepared by the USACOE, Jacksonville District, entitled "Modified Water Deliveries to Everglades National Park."

The exact location of segments of the eastern boundary of the addition is subject to a determination of adverse effect upon the residential area within the East Everglades known as the eight and one-half square mile area caused by the restoration of natural hydrologic conditions. If the Secretary of the Army makes a determination that residents in the "eight and one-half square mile area" will be adversely affected, the Secretary of the Army is authorized and directed to construct a flood mitigation system for that portion of presently developed land within the area. One segment of this flood mitigation system may be a levee constructed to the west of the "eight and one-half square mile area" and will demarcate the park boundary. The footprint of this levee may require fee simple acquisition of several residences; however, because the USACOE is responsible for all aspects of water delivery and flood protection structures pursuant to P. L. 101-229, the acquisition of lands to effect those requirements will be the responsibility of the Secretary of the Army.

Land acquisition and hydrologic modifications are to be coordinated by the Secretary of the Interior and Secretary of the Army to permit both to proceed concurrently and to avoid unreasonable interferences with property interests in lands that will be acquired.

Role of State of Florida and/or Political Subdivisions

The northeastern boundary of the park addition is bounded by the L-31 North levee and canal managed by the SFWMD. No land protection activities or restoration of natural hydrologic conditions within the addition shall infringe upon the required maintenance of appropriate water levels below the maximum authorized operating level as of December 13, 1989. The committee report on P. L. 101-229 noted that the current maximum authorized operating level is 6.0 feet in Canal L-31 North.

Dade County is currently involved in a major planning effort centered on the development of a new well field known as the West Dade Well Field to be located just northeast of the area to be added to the park and will be used to supply part of Miami's water supply. Certain limitations are placed upon the operation of this well field to prevent and alleviate significant adverse impacts on the resources of the park.

In addition to providing not less than 20 percent of acquisition costs, the State of Florida will donate approximately 43,000 acres of land.

D. Resource Management and Visitor Use Objectives

Although a General Management Plan (GMP) for the addition has not been prepared, P. L. 101-229 is quite clear in its direction for resource management, stating that the area will be managed "...to maintain the natural abundance, diversity, and ecological integrity of native plants and animals, as well as the behavior of native animals, as a part of their ecosystem." The Act further states that administration of the area shall be in accordance with "...other provisions of law applicable to Everglades National Park...".

It is the intent of park management to focus strictly on the authorizing language for restoration of the functioning hydrological system and protection of the vast range of flora and fauna dependent on this ecosystem. Appropriate public access and interpretive opportunities will be provided. Details will be set forth in subsequent management and planning documents.

To further define resource management and visitor use objectives for the addition, a Management/Development Plan will be completed and added as an amendment to the park's General Management Plan (1979). A similar amendment will be prepared for the park's Statement for Management adapting current management objectives to fit specific conditions of the expansion lands.

III. Land Ownership and Uses

A. Description of Private and Other Non-Federal Ownership and Uses

The vast majority of the approximately 107,600 acres of non-Federal land within the addition is open wetlands. This includes lands owned by nearly 10,000 private individuals and a number of State and county agencies. Predominantly along the eastern and northern boundaries, some changes in land use have occurred. These include at least two mango groves, less than ten residences, a camp occupied by Native Americans, two AM radio antenna fields, a radio tower, a glider landing strip, and several commercial airboat establishments, gasoline stations, and souvenir shops. On lands addressed by the USACOE in the GDM, there were approximately fifteen to twenty residences prior to the relocation of the USACOE project to minimize impacts upon existing residences.

State and local agencies managing land in the addition include the Trustees of the Internal Improvement Fund, the South Florida Water Management District, and Dade County.

Metropolitan Dade Aviation Authority owns a small tract in the southeast corner of the addition adjacent to the Homestead county airport.

Subsurface oil, gas, and mineral rights may exist in the addition; however, none are being exercised at the present time.

P. L. 101-229 refers to approximately 43,000 acres of State and local public land and approximately 65,000 acres of private land. As the mapping of the addition progresses, these acreage figures will be verified and adjusted accordingly.

B. Compatible and Incompatible Uses of Private Ownership

Since the East Everglades addition represents an area to be protected and managed for enhancement and restoration of ecological values (including the restoration and management of endangered species habitat), the restoration of natural hydrologic conditions (which will extend the hydroperiod on lands) and the provision for appropriate public enjoyment, private uses of the addition that would perpetuate these values and are consistent with laws applicable to the National Park System, would be compatible with addition purposes. Activities that would disturb the ecology, interfere with the restored hydrologic system, or prevent public enjoyment of the addition would be incompatible. Residential, commercial or industrial construction or agricultural activities would not be compatible with the park and this addition thereto. Major additions to existing developments or agricultural activities, as well as the construction of utility lines and roads, also would not be compatible.

Hunting and off-road vehicle use (e.g. airboats, all-terrain vehicles and 4-wheel drive motor vehicles), except as authorized in the enabling legislation, also would not be compatible with the purposes of the addition. Basically, any activity that would alter the ecological values and integrity of the wildlife habitat, or the restored hydrology, would not be compatible.

Compatible private uses in the addition are those that would not alter the natural resources. These would include recreational fishing, hiking, and passive recreational activities, such as bird watching and nature photography.

Restoration and enhancement of the ecosystem and hydrologic conditions will not occur immediately. Based on past projects, sufficient funds for acquiring the land base to accomplish this goal will take a minimum of five years. Management of the resource on currently undisturbed areas will involve significant funding, both for the gathering of scientific data to prescribe the methods and to accomplish the task. Thus, for areas that are disturbed, current uses may continue that have been described as incompatible with the purposes of the addition until the lands are acquired or long-term restoration plans can be developed. In addition, the location of the site relative to the short-term or long-term goals for restoration of ecological and hydrological systems will be a determining factor. The expansion or enhancement of uses defined as incompatible normally will not be tolerated by the National Park Service; however, routine repairs and maintenance, such as replacing a roof on an existing incompatible structure would be tolerated. Additions to existing structures, such as a patio, porch, or an additional room, also would be a tolerable, short-term measure. The additional area should not exceed 25 per cent or 500 square feet of the floor area, whichever is smaller.

Due to the critical and sensitive nature of the Everglades ecosystem, the NPS must monitor existing uses in the addition to ensure that no detrimental activities occur.

The following are examples of appropriate activities on disturbed areas:

1) **Normal maintenance and upkeep of property**

2) **Minor modifications to existing structures and out-buildings**

3) **Repairs and reconstruction to comply with safety or sanitation codes**

4) **Shoring up structures threatened by settling of soil**

5) Repair or replacement of electric and telephone lines

Existing structures may be razed and replaced as long as the new structure is designed to serve the same purpose as its predecessor, occupies essentially the same site, and is built in compliance with State and county codes. Replacements which require or would incur additional environmental changes would not be appropriate, e.g. dredge activities, placing fill on unfilled/undisturbed portions of a tract, expansion of sewage or water systems, etc. Internal or external renovation or remodeling of an existing structure is acceptable provided the structure will continue to be used for the same purpose as before. Thus, a single-family residence could have an additional room added, or a screened porch, so long as the use continues to be for a family residence and not a multi-family unit.

The following are examples of inappropriate activities on disturbed areas and would be considered detrimental to the short-term purposes of the addition:

1) Subdivision of tract and sale of undeveloped portion(s)

2) Dredge and fill operations, road construction, lime rock mining, or introduction of pollutants into surface or subsurface waters other that those types and volumes of effluent and runoff normally associated with single family residences and small businesses

3) Alterations to existing structures as of June 1, 1991, or new construction having one or more of these characteristics:

   -- New separate residences or new residences physically linked to the existing structures (duplex construction)

   -- Replacement of a structure with one that is substantially different in location or purpose from its predecessor, especially involving additional fill on undisturbed portions of the tract

   -- Conversion of non-commercial property to commercial uses

4) Deterioration of structures that would be hazardous to health and safety

5) Agricultural operations in non-agricultural areas

6) Non-permitted wildland burning

Commercial activities are generally not compatible, except for those facilities and operations that are concessions under contract or permit pursuant to the Concessions Policy Act. Concerning the existing operations in a narrow area along U.S 41 (Tamiami Trail), as provided in P. L. 101-229 and in its legislative history, the Secretary may make a finding that commercial activities operated as park concessions are necessary for the accommodation of visitors and the protection of biological resources of the addition. These would be located along U.S. 41 (Tamiami Trail). Accordingly, all existing commercial properties will be acquired by the Federal government and be subject to the rules and regulations of the Secretary.

Several radio towers are located along U.S. 41 (Tamiami Trail) -- the northern boundary of the addition. The effects of these structures and associated facilities are unclear and their identification as compatible/incompatible will depend upon an assessment of these sites to determine their intrusion upon park resources, impact upon wetlands and the GDM

implementation which will increase hydroperiod in the Shark Slough, and consistency with the enhancement and restoration goals articulated by P.L. 101-229.

In the areas identified for public visitor use and for the administration and management of the addition, no private uses would be compatible.

C. Overview of Protection Program

No lands or interests in lands have been acquired within the boundaries of the addition.

D. Status of Protection Program

1.	Statutory land acquisition ceiling:	None
2.	Appropriations to date:	$7,500,000
3.	Expenditures to date:	None
4.	Condemnation actions:	None
5.	Acreage limitation:	None
6.	Acreage acquired:	None

E. Social/Cultural Characteristics

There are two distinct groups with established social or cultural patterns in the addition. The Everglades Boat Rides/Osceola Camp, located in the extreme northwest corner of the addition, is a Native American camp. The residents are not enrolled members of the Miccosukee Tribe. For many years, airboat users and hunters have gained access into the slough at a privately owned airboat camp, located along Tamiami Trail. P.L. 101-229 specifically excludes this ten-acre tract from the addition to accommodate the airboat users, but establishes strict permitting and use restrictions on airboat activities within the park.

IV. Protection Alternatives

A. Federal, State and Local Laws

1. Federal

a. NPS Organic Act (39 Stat. 535)

b. Historic Sites Act of 1935 (49 Stat. 666)

c. National Trust Act of 1949 (63 Stat. 927)

d. Reservoir Salvage Act of 1960 (74 Stat. 220)

e. Department of Transportation Act of 1966 (80 Stat. 931)

f. National Historic Preservation Act of 1966 (80 Stat. 915) and amendments

g. National Environmental Policy Act of 1969 (31 Stat. 852)

h. Executive Order 11593 (36 F.R. 8921)

i. Archeological and Historical Preservation Act of 1979 (88 Stat. 174)

j. Executive Order 11988 (Flood Plain Management)

k. Executive Order 11990 (Wetlands Management)

l. Endangered Species Act of 1973 (87 Stat.884)

m. Executive Order 11987 (Exotic Organisms, May 24, 1977)

n. Clean Water Act (Section 404 and all other applicable sections)

o. Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1984, as amended

p. The Resource Conservation and Recovery Act (RCRA) of 1976, as amended

q. Clean Air Act

r. The Federal Aviation Administration is responsible for air traffic control in the area.

2. State of Florida

The State of Florida Game and Freshwater Fish Commission exercises authority over fishing, hunting, and trapping regulations on private land and non-Federal public lands. The Department of Environmental Regulations (DER) issues and reviews State wetland permits in conjunction with the Department of Natural Resources (DNR). The Game and Freshwater Fish Commission, along with the Division of Forestry, jointly manage the 35,000 acre State tract which constitutes the southern portion of the addition. The Department of Forestry has had fire management responsibility for the east Everglades. As the land Protection Plan is implemented and lands acquired by the United States, management responsibility for fire throughout east Everglades will be transferred to the National Park Service.

Other State laws and regulations dealing directly with the protection of resources within the addition include the Governor's Executive Order on the Everglades, the Surface Water Improvement Management Act (SWIM), and the State Clean Water Act. The DER, on behalf of the Environmental Protection Agency, monitors air, groundwater, and surface water quality. The Florida Growth Management Act of 1985 establishes requirements for community planning by individual counties within the State.

Everglades National Park exercises concurrent jurisdiction over lands and waters within the park boundary. This jurisdiction was ceded by Act of the State of Florida legislature and approval by the Governor. Similar jurisdiction is necessary to effectively manage applicable laws and regulations in the east Everglades addition. Consistent with the State statute, concurrence by the Governor is necessary to grant this jurisdiction to the National Park Service.

3. Local

Metropolitan Dade County protects and manages wetland areas through its Class IV Permit regulatory program. Wetlands are defined, under Dade County code, by

vegetation and/or hydrologic characteristics. By definition, all undeveloped portions of the East Everglades are considered wetlands, and further identified as Management Area 2, Permanent Wetlands (flooded for at least nine months of a normal hydrologic year), and Management Area 3A, Seasonal Wetlands--Tree Island/West Prairie (land flooded three to nine months during an average year). Zoning has been in place for a number of years, but variances are continuously sought and frequently granted.

The Metro Dade County Department of Environmental Regulation Management enforces regulations of the State DER and county environmental protection ordinances.

The Metropolitan Dade County Sewer and Water Authority is responsible for the planning of the West Dade well field to be located near the addition's northeastern boundary. P. L. 101-229 requires that before approval is granted for construction, a multi-agency agreement be completed that will prescribe a set of pumping limitations. This is to assure that the operation of the well field will cause no significant adverse impacts on the resources of the park and will require revisions by the SFWMD to alleviate any adverse impacts.

Florida Power and Light Corporation supplies electricity to both private and public customers within the boundaries of the addition and owns a right-of-way for a new power line through the park addition.

B. Reasonable Alternative Methods of Protecting Land/Analysis/Evaluation

Acquisition and management of land may not be the only effective or desirable method of protection for the resources of the addition in all cases. In the discussion of protection alternatives that follow, specific protection methods are assessed as to their ability to achieve management objectives.

1. Protection Alternatives other than Acquisition

Technical Assistance and Education: Technical assistance involves providing information about land protection requirements and encouraging voluntary actions to reduce adverse impacts of development. In addition, the NPS maintains a cooperative relationship with the U.S. Fish and Wildlife Service which provides substantial consultation on habitat and wildlife management issues. By providing landowners of altered or disturbed areas with technical information about natural resources, soils, and appropriate farming practices, it may be possible for them to continue using those areas until such time as the National Park Service is in a position to acquire those areas and take appropriate steps to restore them to their natural conditions. Although such uses have been identified as incompatible with the long-term objectives of the addition, in the short-term they could continue, pending making progress on the land acquisition program. The NPS could target its technical assistance efforts at tracts based on their location in the addition. This alternative would have general application throughout the addition, but would have only very limited application in some key areas. Such approaches depend entirely upon the landowner's willingness to sell and cannot provide any permanent assurance that resources will be protected. Advantages of educational approaches include low cost, building of community support, and the potential for voluntary cooperation by landowners, pending acquisition.

Coordination with Other Agencies: Actions by Federal and local agencies to permit, license, or provide financial assistance may have significant impacts on addition resources. Under provisions of the National Environmental Policy Act, major Federal actions are subject to public review processes to assure adequate consideration of possible impacts on the environment. As a concerned property owner and neighbor, park management can ensure that other agencies are fully aware of any impacts proposed actions may have on addition resources. Participation in public hearings and review processes is one means of expressing concerns. Coordination also may be improved by memoranda of understanding or advance requests to agencies that the park be notified when certain actions are being considered. Park management's participation in project or permit review processes will seek to encourage compatible designs, locations, and operating requirements wherever possible and prevent or mitigate the effects from incompatible uses.

The NPS will continue to coordinate comments with the U. S. Fish and Wildlife Service on Federal actions in reference to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, under provisions of the Fish and Wildlife Coordination Act, 48 Stat. 401, as amended; 16 U. S. C. 661 et seq.), and on projects concerning Federally-listed threatened and endangered species under the provisions of the Endangered Species Act of 1973, as amended. In spite of these laws and regulations, development is often mitigated and not prevented.

Agreements: Agreements between the National Park Service and owners of commercial operations could help ensure that, in the short run, changes in land use would not occur that would be detrimental to the legislated purposes of the addition.

2. Easements

Land ownership may be envisioned as a package of rights. Easements convey only some of those rights from one owner to another, while all of the other rights of ownership remain unchanged. Easements can be positive--conveying a right of access; or negative--limiting specific uses of the land. Due to the clear intent of Congress to restore and enhance the ecology and the hydrologic regime, which also entails the restoration of endangered species habitat, the use of easements is not appropriate for this project. Also, easements would not be useful on lands needed for public access or the development of visitor or administrative facilities. As indicated in the section dealing with compatible and incompatible uses of private land, the only private uses that could be retained in the addition would be those associated with passive recreation.

3. Fee Acquisition

When all of the rights in property are acquired, the fee interest is transferred from one party to another. Where permanent protection of addition resources and purposes are recommended, fee acquisition would be the preferred protection alternative. Disadvantages of Federal fee acquisition include high initial costs, perpetual maintenance and management requirements, and possible negative economic and other impacts on the local community.

In the long run, acquisition of fee would be the most reliable alternative for restoring and enhancing the ecology and the natural hydrological conditions and allowing for

the restoration of endangered species habitat. It would also be the most applicable with areas needed for the development of visitor use and administrative facilities.

A reserved use and occupancy of property acquired in fee is a means to permit the landowner to remain on the land (following its purchase at fair market value less the value of the reservation) for a specific period of time). This method of acquisition normally will not be acceptable in the East Everglades addition. Most often, the terms of the agreement extend from five to twenty years. Allowing continued incompatible use of the property for this time period would impede efforts to enhance and restore the ecosystem. It is, therefore, not a feasible alternative. Congress has directed that the acquisition for East Everglades be completed within 5 years. In those rare exceptions where a use and occupancy is deemed appropriate, it will be considered only for a period of time to not exceed that date which is five years from the date the Land Protection Plan is approved.

P. L. 91-646, as amended, provides for the uniform and equitable treatment of persons displaced from their homes, businesses, or farms by Federal programs and provides for certain payments and benefits for those displaced.

Methods of Acquisition (applicable to fee and less-than-fee) include:

Donation: Landowners may be motivated to donate their property or interests in the land to achieve conservation objectives. Tax benefits of donation also may be an important incentive. Donations to the United States of fee ownership may be deductible from taxable income. Easement donations also may provide deductions from taxable income, but are subject to certain Internal Revenue Service (IRS) requirements to qualify as a charitable contribution. Individuals interested in making donations should consult their qualified tax advisors.

The NPS may be able to provide some general examples of tax advantages, but cannot provide tax advice or commitments of what deductions will be allowed by the IRS. Nonprofit foundations, out of concern for protecting addition and resource-related values, can also purchase the land for donation to the NPS.

Purchase: Acquisition by purchase requires funds to be appropriated by Congress or donated from private sources. Funding for purchases depends primarily on future appropriations. For Fiscal Year 1991, Congress appropriated $7,500,000 for acquisition in East Everglades.

Exchange: Land or interests in land may be acquired by exchange. Land to be exchanged must be of approximately equal value. Differences in value may be equalized by making cash payments, subject to the availability of funds. Any Federal land involved in a potential exchange would require an assessment for significant resources.

Condemnation: Through its power of eminent domain, the Federal government has the authority to acquire property through the Federal court system when that property is required to fulfill the purpose of national park areas. Where land or interests in land are to be purchased, every effort will be made to reach a price agreement with the owner; however, condemnation authority may be used to clear title, establish just compensation, or prevent imminent harm to resources when other methods are inadequate. This judicial process assures the landowner of just compensation when private land is acquired for NPS purposes. Condemnation actions may take one of the following two forms.

a. Complaint Process: Through this process, title does not transfer to the Federal government until the court action is complete and judgement is rendered.

b. Declaration of Taking: Through this process, the government obtains immediate title, control, and possession of the land. A declaration of taking vests title to property in the United States immediately upon filing in the court and the deposit of an estimate of just compensation. A portion of this deposit may be withdrawn by the owner as approved by the court.

4. No Action

This alternative would be acceptable in the short run when it is unlikely that the tract would undergo land use change and public access is not immediately needed. No action would not be acceptable when changes to the existing use would adversely affect the addition's resources and the purposes of the addition. It is not a long-term solution, as all lands within the addition are proposed for acquisition in order to achieve hydroperiod and ecological restoration goals.

V. Recommendations and Land Protection Priorities

To comply with the Congressional intent to assure the enhancement and restoration of the ecosystem through the restoration of natural hydrologic conditions, and to manage the area to maintain natural abundance, diversity, and ecological integrity of an entire ecosystem (not just a water flow through the Shark Valley Slough), it will be necessary to acquire all lands within the park addition in fee. Lands needed for public use and administrative purposes also will be acquired in fee. Until lands are acquired by the Federal government, the NPS will encourage private and non-Federal public (State and local agencies) landowners to engage in activities that will not be detrimental to the integrity of the resources.

The NPS will cooperate with Federal, State, and local agencies to ensure that actions taken outside the boundary will not have a detrimental effect on the addition's resources.

Protection by Area (in order of priority):

Priority I. Priority Resource Protection and Restoration Lands (PRPR)

Privately-owned lands that are needed for the restoration and enhancement of the ecosystem through the enhancement of the natural hydrologic conditions comprise approximately 65,000 acres. They are generally located in the northern two-thirds of the addition and along its eastern boundary. These lands fall into two broad categories: tracts whose resources are effectively undisturbed, and tracts containing residences and agricultural or commercial operations (disturbed tracts).

In most instances, the undisturbed lands will be placed in a higher priority than the disturbed properties. Factors affecting the priority of the undisturbed tracts include: endangered species habitat, wading bird nesting areas, essential hydrological characteristics, exotic species threats, ecosystem habitat needs, animal population dynamics, key habitat restorative requirements, and those tracts necessary for the implementation of the GDM.

Generally, disturbed areas will be acquired after undisturbed tracts. The uses of these tracts have been analyzed as being incompatible with the long-range purposes of the addition. Factors affecting the acquisition of these tracts include location within the addition (this ties into the experimental water delivery program), actions taken by the landowner that would further alter the resource and scientific data that will enhance management's ability to reclaim the area and restore it to its natural condition. Disturbed tracts that are important to the future operation and management of the addition, and/or implementation of the GDM will also be considered for early acquisition.

In anticipation of the land acquisition process and the need to establish an administrative/management presence in the addition, a disturbed site or sites will be selected for this purpose. Initially, a site may be chosen to serve temporary needs. A General Management Plan addendum will identify the criteria and location of permanent administration and protection facilities for the addition. In light of the Congressional intent to restore and enhance the ecological values of the area, it would be wise to select and acquire a disturbed area, either privately or publicly owned, for the headquarters and any other support structures.

Priority II. State and County Lands

P. L. 101-229 states that the State of Florida may not provide less than 20 percent of the acquisition costs of the project and will donate approximately 43,000 acres of land. Nearly 35,000 acres of this land lies within the East Everglades Wildlife and Environmental Area (EEWEA). This area is divided into two separate management units. The southern unit is presently closed to hunting, fishing, and trapping. The northern unit has been open to hunting during a regular hunting season. The remaining 8,000 acres (approximately) are under the ownership of the Trustees of the Internal Improvement Fund (TIIF). The donation of these lands is critical to the resource protection and restoration needs of the addition and may be donated concurrent with all land protection plan priorities. Hunting has occurred on portions of these lands and is not deemed to be compatible with the intent of P. L. 101-229 to restore wildlife habitats and wildlife populations. Further, State wildfire suppression methods on these lands are not compatible with these resource protection and restoration goals. Accordingly, the Federal government proposes to initiate dialogue with the State at the earliest opportunity to facilitate the donation of these lands in order to assure the expeditious protection and recovery of the natural resource.

Priority III. Lands in Commercial Use

This land protection priority is specifically responsive to P. L. 101-229, Section 103(d), Concession Contracts. The Secretary is authorized to negotiate and enter into concessions contracts with the owners of commercial airboat and tour facilities in existence on or before January 1, 1989. All of these operations lie along the U.S. 41 (Tamiami Trail). All of these private lands are proposed for acquisition. An assessment of public accommodation needs and park resource values will be completed in order to determine whether it is necessary and appropriate for any of these operations to receive a concession contracts. No decision has been made yet concerning to what extent concession operations for these airboat operations are considered necessary and appropriate. Also, the lands will have to be evaluated to assess what the impacts of implementing the GDM, and expanding the hydroperiod, will have upon these commercial operations. Until such time as sufficient lands are acquired upon which potential public use might be legally accommodated, no assessment of public use needs will be conducted; however, should any major expansion of present commercial uses be undertaken, an

assessment will be conducted to determine if the expansion will detrimentally affect the intent of P.L. 101-229. Should resource protection and restoration goals be compromised by commercial facility expansion, Federal acquisition may be accelerated.

Priority IV. Subsurface Mineral Rights

Third party subsurface rights are scattered throughout the addition. These constitute the last group of properties to be addressed in the land protection process. Owners of these third party rights are required to submit a Plan of Operations (as per 36 CFR 9B) in order to exploit mineral resources. Any effort to exercise these rights could be detrimental to the purposes of the addition and could cause the NPS to implement the acquisition process in a timely manner.

In addition to the four major categories of properties, several outstanding land protection issues remain that will be approached on a case-by-case basis.

1. The NPS will initiate appropriate actions with the owners of Gilbert's Marina to resolve this issue, consistent with Federal law. Gilbert constructed the marina on Federal land (later declared as Wilderness). The East Everglades legislation authorizes an exchange of lands -- those already impacted lands at Gilbert's for an equivalent value within the East Everglades addition. A successful resolution will result in the acquisition of property by Gilbert's within the boundary of the addition which will be exchanged for the land on which the marina is located. The deletion of Gilbert's Marina from the boundary of Everglades National Park would then be proposed. Further expansion of the improvements by Gilbert's into the park, which would expand their trespass against the United States and violate National Park and Wilderness statutes, will not be allowed. NPS policy clarifies that this use cannot be allowed to continue as a trespass on National Park property; however, if Gilbert's does not effect an exchange of interests, then these incompatible and unauthorized facilities and activities at Gilbert's will have to be removed from Federal lands within the park. The National Park Service will take all legal actions as necessary to have these lands removed from the park.

2. The NPS will initiate a dialogue with the owners of the AM radio station antenna fields located along U.S. 41 (Tamiami Trail) and the appropriate government agencies to assess the effects of those towers on the addition.

3. An assessment of the Everglades Boat Rides/Osceola Camp (commercial airboat facility) will be initiated to determine the effect of this operation on the restoration project. The assessment also will examine the issue of Native American rights and determine its implications. Because this may be the site of a traditional Miccosukee camp, an archeological and ethno-historical assessment may be required.

4. The NPS encourages the USACOE to proceed expeditiously in its efforts to prepare and complete the GDM and DDM. The results of these actions will assist the NPS in its land protection and land acquisition strategies. They will also guide the USACOE land acquisition efforts along the eastern boundary of the addition.

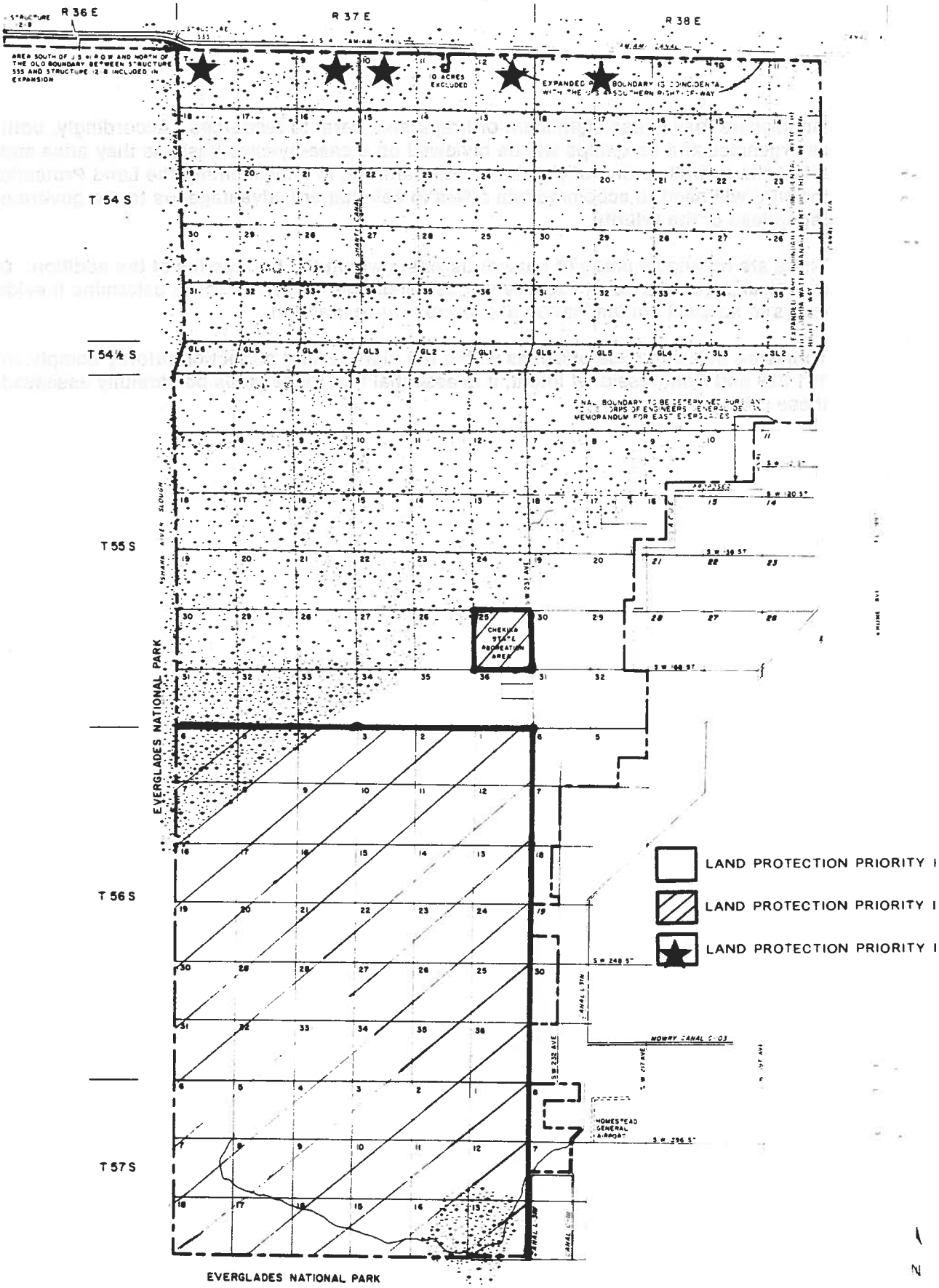
5. In its dialogue with the appropriate State and local agencies the NPS will resolve the property ownership, resource protection, and jurisdiction issues that resulted from the redefinition of the existing northern boundary as described in P. L. 101-229.

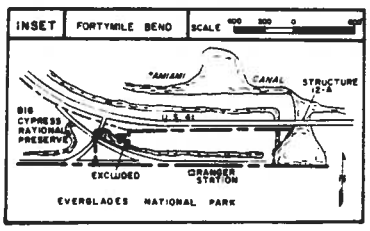
It is not possible to predict in advance when landowners may be subject to hardships that require them to dispose of land or improvements in land, or to know when actions by

landowners may cause significant or irreparable harm to resources. Accordingly, both emergencies and hardships will be reviewed on a case-by-case basis as they arise and will not affect the overall setting of priorities. Furthermore, in implementing the Land Protection Plan, the NPS will need to accommodate offers to sell that are advantageous to the government regardless of the priority.

There are no known areas of hazardous waste within the boundaries of the addition. During the appraisal process a Level I survey will be conducted on each tract to determine if evidence exists to suspect contamination and warrant further action.

To assure that purchase priorities within the highest land protection priority comply with P. L. 101-229 and Congressional intent, it is essential that these lands be carefully assessed with these criteria in mind.





BOUNDARY MAP

EVERGLADES NATIONAL PARK EXPANSION

DADE COUNTY, FLORIDA

EVERGLADES NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

LEGEND

ACQUISITION AREA

8½ SQUARE MILE AREA

SCALE 4000 0 4000 8000 FEET

ENVIRONMENTAL ASSESSMENT

PURPOSES AND NEED FOR THE PLAN

In May 1994, the Department of the Interior published in the Federal Register a policy statement for use of the Federal portion of the Land and Water Conservation Fund which requires each agency responsible for land protection in Federally-administered areas to:

- identify what lands or interests in more need to be in Federal ownership to achieve management purposes consistent with public comments in the mail;

- to the maximum extent practical, use cost-effective alternatives to direct Federal purchase of private lands and, when acquisition is necessary, acquire or retain only it is minimum interest necessary to meet management objectives;

- Coordinate with landowners, other Federal agencies, State and local governments, and the private sector to manage land for public use or protection for resource conservation;

- Consolidate, or rather as necessary, plans for land acquisition and resource use or protection in ways that socio-cultural land uses are considered and that the most environmentally areas are adequately managed.

In response to this policy, the National Park Service (NPS) has prepared a Land Protection Plan for the East Everglades Addition of Everglades National Park. The purpose of this plan is to identify land protection alternatives to preserve the preservation and enhancement of the Everglades ecosystem in the addition and providing, the protection of natural hydrologic conditions, and to provide for appropriate administrative facilities and visitor use. The plan has been prepared in compliance with relevant legislation, other Congressional guidelines, executive orders, and departmental and NPS policies. The plan will be reviewed every two years and updated as appropriate to deal with issues not fully addressed and to reflect new information about the addition.

AFFECTED ENVIRONMENT

The East Everglades is generally defined as the 192,000 acre region lying between Everglades National Park and the urbanized parts of Dade County. The region is bounded by Tamiami Trail (U. S. 41) on the north, the L-31 levee and C-111 canal on the east, and Everglades National Park on the south and west. It lies just north of West Lake and the eastern portions of the original Everglades watershed in Dade County.

The East Everglades contains the headwaters of Northeast Shark River Slough and Taylor Slough which are the primary sources of water flow to the park. The sloughs provide important wildlife habitat and provide recreational opportunities for Dade and Monroe Counties. During the rainy season (May-October), water levels rise to the edges of the sloughs. During the drier winter months, water recedes toward the center of the sloughs, allowing the edges to gradually dry from seasonally saturated conditions. This is crucial to the survival of much of the region's wildlife.

ENVIRONMENTAL ASSESSMENT

PURPOSE AND NEED FOR THE PLAN

In May 1982, the Department of the Interior published in the Federal Register, a policy statement for use of the Federal portion of the Land and Water Conservation Fund which requires each agency responsible for land protection in Federally-administered areas to:

- Identify what lands or interests in land need to be in Federal ownership to achieve management purposes consistent with public objectives in the unit.
- To the maximum extent practical, use cost-effective alternatives to direct Federal purchase of private lands and, when acquisition is necessary, acquire or retain only the minimum interests necessary to meet management objectives.
- Cooperate with landowners, other Federal agencies, State and local governments, and the private sector to manage land for public use or protect it for resource conservation.
- Formulate, or revise as necessary, plans for land acquisition and resource use or protection to assure that socio-cultural impacts are considered and that the most outstanding areas are adequately managed.

In response to this policy, the National Park Service (NPS) has prepared a Land Protection Plan for the East Everglades Addition of Everglades National Park. The purpose of this plan is to identify land protection alternatives to assure the restoration and enhancement of the Everglades ecosystem in the addition and existing park, the restoration of natural hydrologic conditions, and to provide for appropriate administrative facilities and visitor use. The plan has been prepared in compliance with relevant legislation, other Congressional guidelines, executive orders, and Departmental and NPS policies. The plan will be reviewed every two years and updated as appropriate to deal with issues not fully addressed and to reflect new information about the addition.

AFFECTED ENVIRONMENT

The East Everglades is generally described as the 153,600 acre region lying between Everglades National Park and the urban/rural limits of Dade County. The region is bounded by Tamiami Trail (U. S. 41) on the north, the L-31 levee and C-111 canal on the east, and Everglades National Park on the south and west. It represents most of what remains of the eastern portions of the original Everglades marshland ecosystem in Dade County.

The East Everglades contains the headwaters of Northeast Shark River Slough and Taylor Slough which are the primary sources of water flow to the park. The sloughs provide important water storage and aquifer recharge functions for Dade and Monroe Counties. During the rainy season (April-October), water levels rise to the edges of the slough. During the drier winter months, water recedes toward the center of the slough, allowing the edges to gradually dry. This naturally occurring ebb and flow is crucial to the survival of much of the region's wildlife.

The portion of the Shark River Slough drainage basin in the East Everglades is composed of wetland communities typical of those parts of the southern Everglades which are inundated for 9-12 months each year. Vegetation consists of a mosaic of sawgrass marshland, lower-lying flats and sloughs, and tree islands and hardwood hammocks at higher elevations. The substrates in the heart of the slough are primarily peat soils covered by a dense layer of periphyton algae.

South of the Northeast Shark River Slough there are slightly higher elevated marl wetland prairies and rocky glade communities. Typical hydroperiods in these zones range from two to six months during average hydrological years. There are also ecologically diverse irregular mosaics of grass types interspersed by hundreds of small bayheads and tree islands which form the northern and central reaches of the Taylor Slough drainage basin.

The undeveloped portions of the East Everglades provide crucial habitat benefits to Everglades National Park, and many wildlife species rely on both areas for feeding, foraging, cover, and nesting. The East Everglades supports 359 recorded species of fish, reptiles, mammals, birds, and amphibians. Federally-listed endangered species within the East Everglades include Florida panther, Cape Sable sparrow, bald eagle, wood stork, and snail kite. Four Federally or State-listed threatened species are also present within the area.
The East Everglades contains the primary home range for at least two Florida panthers. Additional animals use the area on an occasional basis. These individuals comprise the park's only known panther population. Habitat loss is a primary element endangering the panther because it requires large, undisturbed areas for its range.

The East Everglades also contains critical habitat (designated in accordance with the Endangered Species Act) of the Cape Sable sparrow. The sparrow inhabits the freshwater sawgrass and muhly grass marshes. Maintenance of this habitat requires the proper hydrologic and fire regime.

PROPOSAL AND ALTERNATIVES

To comply with the Congressional intent to assure the enhancement and restoration of the wetland ecosystem through the restoration of natural hydrologic conditions, and to manage the area to maintain natural abundance, diversity, and ecological integrity of an entire ecosystem (not just a water flow through the Shark Valley Slough), it will be necessary to acquire all lands within the addition in fee. Lands needed for public use and administrative purposes also will be acquired in fee. Until lands are acquired by the Federal government, the NPS will encourage private and non-Federal public (State and local agencies) landowners to engage in activities that will not be detrimental to the integrity of the resources; however, these efforts would only be effective as short-term measures until efforts to restore the ecosystem begin and land acquisition proceeds.

The NPS will cooperate with Federal, State, and local agencies to ensure that actions taken outside the boundary will not have a detrimental effect on the addition's resources.

Easements would allow for some development that would have adverse impacts on water flows, the restoration of the wetland ecosystem, and endangered species.

By taking no action, efforts would not go forward to restore the natural ecosystem.

ENVIRONMENTAL CONSEQUENCES

1. Impacts on Land Use

In most cases, land uses on the disturbed tracts affected by this plan would change in the long term. Agricultural practices would cease, as would the occupancy of residential areas. These properties would revert to the natural ecology and natural hydrologic conditions of the Everglades. They would not be suitable for habitation, farming, or other commercial practices. In the short term these disturbed areas will continue to be occupied until measures are instituted to restore the ecology and/or the lands are acquired. In areas where visitor use and administrative activities are contemplated, neither residential use nor commercial activities would be appropriate. In the short run, commercial operations along U.S. 41 (Tamiami Trail) would continue to operate until such time as the NPS assesses the concession needs of the addition and initiates acquisition.

2. Impact on Unit's Resources

The alternatives considered are likely to have the following positive impacts on the unit's resources and the ability to restore the nature ecosystem. For a description of each alternative see Section IV.

	Fee	Easement	No Action	Coop w/ Others	T.A. Educ. Zoning
Private Undisturbed	High	None	None	Low	Low
Private Disturbed	High	Low	None	Low	Low
State and Local	High	None	Low	Low	Low
Commercial	High	Low	None	Low	Low

An addendum to the General Management Plan, development concept plans, and other site specific planning documents will address environmental concerns in detail.

APPENDIX C: LANDOWNER AGREEMENTS

AGREEMENT BETWEEN THE UNITED STATES ACTING THROUGH THE UNITED STATES ARMY CORPS OF ENGINEERS AND FLORIDA POWER & LIGHT COMPANY REGARDING FPL'S UTILITY CORRIDOR WITHIN THE EVERGLADES NATIONAL PARK EXPANSION AREA

This Agreement entered into this 20th day of August, 2008 ("***Agreement***") by the UNITED STATES, ACTING THROUGH THE UNITED STATES ARMY CORPS OF ENGINEERS ("***ACOE***") and Florida Power & Light Company (hereinafter "***FPL***"), a Florida corporation, for the purpose of facilitating the Modified Waters Delivery Project, the Comprehensive Everglades Restoration Program ("***CERP***") and other water delivery projects, including the related grant of easements to the United States Army Corps of Engineers for the Tamiami Trail bridge and channel, and grant of easements to FPL for the purpose of relocating a portion of FPL's existing utility corridor presently within the Everglades National Park ("***ENP***") Expansion Area as more particularly set forth herein. ACOE and FPL are sometimes individually referred to herein as a "***Party***", and collectively as the "***Parties***".

I. Recitals

1.1 The Everglades National Park Protection and Expansion Act of 1989, 16 U.S.C. § 410r-5 *et seq.* expanded the boundaries of the ENP to include approximately 107,600 acres south of the Tamiami Trail, and through that Act and additional legislation authorized the United States (i.e., National Park Service, the "***NPS***") to acquire lands within the designated area ("***ENP Expansion Area***"). The purposes of the expansion of ENP include the preservation of the outstanding natural features of the park, enhancement and restoration of the ecological values, natural hydrologic conditions, and public enjoyment of such area by adding the area commonly known as the Northeast Shark River Slough and the East Everglades, and assurance that the park can maintain the natural abundance, diversity, and ecological integrity of the ecosystem. NPS and as well as the ACOE are further authorized by 16 U.S.C. § 410r-8 to acquire lands in addition to the designated 107,600 acres for the purposes of the construction of Modified Water Deliveries to ENP.

1.2 FPL is a utility in the State of Florida and responsible for supplying safe, reliable electrical power to the citizens of Florida.

1.3 FPL owns, and has owned since the 1960's and early 1970's, a 330' to 370' wide corridor of property through what has become the ENP Expansion Area, and in additional areas authorized for acquisition by the NPS and the ACOE (collectively, the "***FPL Property***"). The FPL Property is a corridor of approximately 7.4 miles in length approximating 320 acres.

1.4 FPL asserts that the FPL Property is a vital portion of a contiguous forty (40) mile corridor essential for the placement of critical infrastructure

necessary for the transmission of high voltage electrical power for the benefit of the citizens of South Florida.

1.5 NPS asserts that utilization of the present FPL Property for an electrical transmission corridor which would bisect a portion of the ENP Expansion Area and may be contrary to the intended purposes of the ENP Expansion Area.

1.6 NPS, ACOE and South Florida Water Management District ("***SFWMD***") have identified property at the eastern and southern edges of the ENP Expansion Area, and on and adjacent to the SFWMD L-29/30 and L-31N canal rights-of-way (all as more particularly described in **Appendix 2-1** and **Appendix 2-1A** to this Agreement), for the relocation of FPL's lands, where use as a prospective utility corridor will have substantially less impact on the ENP, including the ENP Expansion Area, the Modified Waters Delivery Project and CERP (the "***Replacement Corridor***").

1.7 ACOE has, in order to facilitate the implementation of the Modified Water Delivers plan, CERP and to assist the ENP, agreed to provide certain easements to FPL as more particularly shown in **Appendix 2-1** to this Agreement, free and clear of all liens, restrictions and encumbrances other than those accepted by FPL in writing, in exchange for FPL's grant of certain road/bridge, channel, flowage and construction easements to ACOE over a portion of FPL's fee-owned land along Tamiami Trail.

1.8 ACOE has also, in order to facilitate the implementation of the Modified Water Deliveries plan, CERP and to assist the ENP, agreed to issue a Consent to Easement over the lands more particularly described on the attached Appendix 7 and lying within the proposed Replacement Corridor, allowing for the right to construct improvements, including but not limited to construction, placement, operation, and maintenance of utility facilities, including transmission lines and appurtenant facilities, pipelines and communication facilities.

1.9 Following FPL's receipt of: i) the FPL/NPS Contingent Agreement (more specifically that certain Contingent Agreement for an Exchange of Lands between the United States of America acting through the National Park Service and Florida Power & Light Company for the Exchange and Relocation of Florida Power & Light Company's Lands and Interests in Lands Located in or adjacent to the Everglades National Park Expansion Area dated July 24, 2008 (the "***FPL/NPS Contingent Agreement***")), relating to the replacement of the FPL Property with the Replacement Corridor, executed by the United States acting through the National Park Service; ii) complimentary Bilateral Agreement executed by SFWMD; iii) complimentary Bilateral Agreement executed by TIITF/DEP and evidence of formal approval of such agreement by TIITF's Board; and iv) this Agreement executed by the ACOE (collectively, the "***Prerequisites***"), FPL will deliver to the ACOE an executed perpetual road/bridge, channel

easement, a five year (5) flowage easement and an executed temporary construction easement over the FPL Property in the vicinity of the Tamiami Trail. The easements from FPL to ACOE will be in the form of the attached **Appendix 1A** and **Appendix 2A**.

1.10 The Parties agree to execute and exchange the instruments effectuating the land exchanges contemplated in this Agreement and more particularly identified in Paragraph 1.11 of this Agreement, in substantially the form attached hereto as **Appendices 1A through and including 7A** of this Agreement (the "***Instruments***"), according to the schedule set forth in Paragraph 1.11 of this Agreement. Unless this Agreement terminates pursuant to its terms, FPL and ACOE agree not to alienate, encumber, significantly alter the physical condition of, or otherwise effect a material change in, the management of any of their respective lands or interest in lands proposed to be exchanged or conveyed by this Agreement until FPL and ACOE complete the exchange of land interests under this Agreement.

1.11 ACOE and FPL shall (unless such time is extended, in writing, by mutual agreement of the Parties), and subject to the terms and conditions of this Agreement, execute and exchange the Instruments effectuating the exchange of the following property interests as more particularly described in Appendices 1 through 7A inclusive of this Agreement, which Appendices are incorporated herein by reference and made a part hereof, according to the following schedule:

a. That, within five (5) business days of FPL's receipt of the Prerequisites, **FPL** shall grant ACOE a perpetual, fifty feet (50') wide easement for the construction, operation and maintenance of a road/ bridge, channel and a five (5) year flowage easement, over the lands more particularly described in **Appendix 1** to this Agreement (the "***Road/ Bridge, Channel and Flowage Easements***"). The Road/ Bridge, Channel and Flowage Easements shall be in substantially the form of the attached **Appendix 1A.**

b. That, within five (5) business days of FPL's receipt of the Prerequisites, FPL shall grant to the ACOE a temporary, fifty feet (50') wide Construction Easement over the lands more particularly described in **Appendix 2** to this Agreement (the "***Temporary Construction Easement***"). The Construction Easement shall be in substantially the form of the attached **Appendix 2A**.

c. That, following enactment of federal legislation ratifying the FPL/NPS Contingent Agreement and simultaneously with the NPS-FPL land exchange closing, the ACOE shall grant to FPL a perpetual utility easement, being a minimum three hundred thirty feet (330') in width, but no greater than five

hundred eighty-four feet (584') in width (in the area of corners and turns), for the construction, placement, operation, and maintenance of utility facilities, including transmission lines and appurtenant facilities, pipelines and communication facilities, including in the vicinity of SW 120th Street or SW 112th Street, Miami, Florida, depending upon the FPL route selected, all as shown in **Appendix 2-1**, together with the right of ingress and egress for personnel and equipment of FPL, its employees, contractors, agents, successors and assigns over these lands, for the purpose of exercising and enjoying the rights granted by this easement and any or all of the rights granted thereunder, free and clear of all liens, encumbrances and restrictions, other than those agreed to in writing by FPL, including but not limited to restrictions on use (the "***Utility Easement***"). The Utility Easement shall be over the lands more particularly identified in **Appendix 3** to this Agreement and as shown on **Appendix 2-1**, and shall be in substantially the form of the attached **Appendix 3A**. FPL agrees that upon: i) conveyance of the lands underlying these easements from the United States through the ACOE to SFWMD and the recording of ACOE's deed to SFWMD for such lands; and ii) the recording of SFWMD's grant of a perpetual easement(s) to FPL for the purposes described in this paragraph (collectively the "***Release Prerequisites***"), FPL shall, within thirty (30) days of satisfaction of the Release Prerequisites, execute and record a release of the ACOE Utility Easement granted herein. The release of easement shall be in substantially the form of the attached **Appendix 5.**

d. That, following enactment of federal legislation ratifying the FPL/NPS Contingent Agreement and simultaneously with the NPS-FPL land exchange closing, the ACOE shall grant FPL a perpetual, Non-Native Vegetation and Fire Management Easement, ninety feet (90') in width, over the lands more particularly described on the attached **Appendix 4** as shown on **Appendix 2-1** (the "***Non-Native Vegetation and Fire Management Easement***:"). The Non-Native Vegetation Management and Fire Maintenance Easement shall be in substantially the form of the attached **Appendix 4A**. FPL agrees that upon: i) conveyance of the lands underlying the Non-Native Vegetation and Fire Management Easement Area from the United States through the ACOE to SFWMD and the recording of ACOE's deed to SFWMD for such lands; and ii) the recording of SFWMD's grant of a perpetual easement(s) to FPL for the purposes described in this paragraph (collectively the "***VM Release Prerequisites***"), FPL shall, within thirty (30) days of

satisfaction of the VM Release Prerequisites, execute and record a release of the ACOE Non-Native Vegetation and Fire Management Easement granted herein. The release of easement shall be in substantially the form of the attached **Appendix 5** .

e. That, following enactment of federal legislation ratifying the FPL/NPS Contingent Agreement and simultaneously with the NPS-FPL land exchange closing, ACOE shall grant FPL a perpetual easement for access to and from FPL's facilities, that are located within the FPL Replacement Corridor, on foot and by motor vehicle including but not limited to trucks, trailers, cranes and other heavy equipment and with materials, as shown in **Appendix 2-1** (the "***Access Easement***"). The Access Easement shall be over the lands described in **Appendix 6.** Access Easement shall be in substantially the form of the attached **Appendix 6A.**

f. That, following enactment of federal legislation ratifying the FPL/NPS Contingent Agreement and simultaneously with the NPS-FPL land exchange closing, the ACOE shall provide FPL with a Consent to Easement approving the construction of the FPL Replacement Corridor over certain lands encumbered by ACOE flowage easements which restrict the initiation of construction without prior approval from the ACOE. The Replacement Corridor lands affected by ACOE flowage easements are more particularly described on the attached **Appendix 7** which is made a part hereof. The Consent to Easement shall be in substantially the form of the attached **Appendix 7A** which is made a part hereof. ACOE agrees to use best efforts to cooperate and share information in the possession of ACOE with FPL as necessary to facilitate the creation of **Appendix 7** in a timely and cost effective manner.

1.12 The Parties recognize and intend that in addition to this Agreement, separate but complementary agreements may be negotiated and executed involving the Board of Trustees of the Internal Improvement Trust Fund for the State of Florida ("***TIITF***"), a state agency, the SFWMD, a public corporation of the State of Florida and the NPS; with the agreement between FPL and NPS being the "***FPL/NPS Contingent Agreement***".

1.13 The use of the terms "corridor", "utility corridor" and "replacement corridor" in this Agreement is not an admission or acknowledgment by the U.S. Army Corps of Engineers, that the use of the FPL Property as a utility corridor is permissible or suitable as FPL has not begun the permitting process.

2.1 Upon execution of this Agreement, the Parties agree to pursue the exchange of lands and interests in lands as described in this Agreement.

2.2 FPL and ACOE agree to support the terms of this Agreement. The Parties mutually agree that they will not seek to alter or have altered the terms of this Agreement, or pursue legislation that would have the effect of altering this Agreement, without first trying in good faith and with due diligence to obtain the concurrence of the other Party to this Agreement in any such alteration, and will keep the other Party to this Agreement fully and timely informed of any efforts in which they are involved or of which they are aware, individually or collectively, to make or obtain such alteration.

2.3 Notwithstanding any other provision of this Agreement, in the event that Congress does not enact legislation authorizing, ratifying or confirming the **FPL/NPS Contingent Agreement**, this Agreement (unless extended by the mutual consent of the Parties) shall be deemed null and void, and neither Party shall have any further obligations to the other under this Agreement. Further, notwithstanding any other provision of this Agreement, if the Congress enacts authorizing, ratifying or confirming legislation which amends or alters any of the terms of the FPL/NPS Contingent Agreement in the absence of specific written concurrence of FPL to such amendment or alteration, FPL shall have the right, within ninety (90) days of the enactment of such legislation, to terminate this Agreement without any further obligation hereunder by written notice delivered to ACOE, and neither Party shall have any further obligations to the other under this Agreement. This Paragraph does not affect recorded easements.

2.4 The obligations and rights of the Parties under this Agreement shall be effective and binding upon the Parties upon execution of this Agreement.

2.5 ACOE hereby finds that the exchange of lands and interests in lands as contemplated herein will enhance the conservation of the outstanding natural values of the area and further the purposes of ENP and ACOE, and that removing the prospective utility corridor from ENP will further enhance the purposes of ENP and ENP's restoration and enable implementation of the Modified Waters Deliveries Plan in a timely manner. Furthermore, relocation of the utility corridor and subsequent construction of transmission facilities outside of ENP will not impair or have unacceptable effects on ACOE resources and values.

2.6 Based on review of the values of the lands and interests in lands being exchanged pursuant to this Agreement and in conjunction with the agreements identified in this Agreement relating to the complimentary federal land exchanges, ACOE finds that the consideration being exchanged by the Parties is comparable in value.

2.7 Nothing in this Agreement shall be construed as creating any rights of enforcement by any person or entity that is not a Party to this Agreement. In the event of a breach of this Agreement in which any Party fails to convey lands in accordance with the terms and conditions set forth in this Agreement, the Parties agree that the appropriate remedy in any judicial proceeding shall be as legally available.

2.8 All Appendices to this Agreement are incorporated herein by reference and made a part hereof.

2.9 Any failure by any Party to this Agreement to object to or to seek a remedy of any violation by another Party of any provision of this Agreement shall not be deemed a waiver of or estop any future right to object to or to seek a remedy of a subsequent violation, whether the later violation is of the same or another provision of this Agreement.

2.10 For the purposes of expediting execution of this Agreement, it may be signed in separate counterparts, which, when all have so signed, shall be deemed a single agreement.

2.11 The Parties agree that this Agreement may be amended by mutual consent of all the parties hereto.

2.12 If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other governmental authority: 1) such portion or provision shall be deemed separate and independent, 2) the Parties shall negotiate in good faith to restore, insofar as practicable, the benefits to each party that were affected by such ruling, and 3) the remainder of this Agreement shall remain in full force and effect.

2.13 The Parties agree that clerical and typographical errors contained herein may be corrected upon notice to the other Party. Unless an error is deemed substantive or a proposed correction is otherwise objected to by any Party within sixty (60) days by written notice, correction may be made without formal ratification by Parties.

2.14 Each Party represents and warrants that the execution of this Agreement has been duly authorized by it and that this Agreement, upon execution by the other Party is binding upon and enforceable against such Party in accordance with the terms of this Agreement. It is further represented and warranted that the persons executing the Agreement and the Appendices thereto have the necessary authority to enter into and the requisite delegated authority to execute this Agreement and the Appendices. No consent to such execution is required from any person, judicial or administrative body, governmental authority or any other persons other than any such consent which already has been unconditionally given. Each Party hereto represents and warrants that there is no pending

litigation or to the best of their knowledge threatened litigation that would affect its obligations to perform hereunder.

[Signature pages follow]

AGREEMENT BETWEEN THE UNITED STATES ACTING THROUGH THE UNITED STATES ARMY CORPS OF ENGINEERS AND FLORIDA POWER & LIGHT COMPANY AND EXCHANGE FOR RELOCATION OF FLORIDA POWER & LIGHT COMPANY'S RIGHT OF WAY LOCATED IN OR ADJACENT TO THE EVERGLADES NATIONAL PARK EXPANSION AREA

[Signature page]

Date: 8-20-08

FLORIDA POWER & LIGHT COMPANY,
a Florida Corporation

By: _____
Eric E. Silagy,
Vice President and Chief Development Officer

AGREEMENT BETWEEN THE UNITED STATES ACTING THROUGH THE UNITED STATES ARMY CORPS OF ENGINEERS AND FLORIDA POWER & LIGHT COMPANY AND EXCHANGE FOR RELOCATION OF FLORIDA POWER & LIGHT COMPANY'S RIGHT OF WAY LOCATED IN OR ADJACENT TO THE EVERGLADES NATIONAL PARK EXPANSION AREA

[Signature page]

Date: 8/20/08

UNITED STATES OF AMERICA

By: Sharon W. Conklin

Sharon W. Conklin
Chief, Real Estate Division
U.S. Army Engineer District

Appendix 1

Legal Description of Road/Bridge, Channel and Flowage Easements

The **North 50 feet of the West 370 Feet of Section 10, Township 54 South, Range 38 East, Tallahassee Meridian, Miami-Dade County, Florida,**

Appendix 1A
Road/Bridge, Channel and Flowage Easements

Prepared by and Return to Following Recording:
Patricia Lakhia, Esq (Law/JB)
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 334080420

Tract No.: 113-3 (Portion of)

Modified Water Deliveries to Everglades National Park Project Miami-Dade County, Florida

Folio No. 30-4810-000-0020 (Portion of)

ROAD/BRIDGE, CHANNEL AND FLOWAGE EASEMENTS

FLORIDA POWER & LIGHT COMPANY, A FLORIDA CORPORATION (***"Grantor"***) with an address of 700 Universe Boulevard, Juno Beach, FL 33408, in consideration of the payment of $10.00 and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, does hereby grant and give to **THE UNITED STATES OF AMERICA, by and through the United States Army Corps of Engineers** (***"Grantee"***), and its successors and assigns, an easement forever for the construction, operation and maintenance of a road/ bridge and channel, and appurtenances thereto, on, over and across the following described land: **The North 50 feet of the West 370 Feet of Section 10, Township 54 South, Range 38 East, Tallahassee Meridian, Miami-Dade County, Florida, containing 0.425 acres, more or less [referred to in government records as a portion of United States Army Corps of Engineers Tract No. 113-3]** (the "***Easement Area***"), which grant includes the following rights and is subject to the limitations set forth below, and expressly reserving to the Grantor, its successors and assigns, all such rights and privileges as may be used and enjoyed without interfering with the use or purposes for which of the easement is granted.

The Grantor hereby gives and grants the following easements to the Grantee:

A.) Perpetual Road/Bridge Easement – a perpetual and assignable easement and right-of-way in, on, over and across the Easement Area , for the location, construction, operation, maintenance, alteration, replacement of a road and appurtenances thereto; together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions and other vegetation, structures, or obstacles within the limits of the right-of-way; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines, and reserving, to the Grantor, its successors and assigns, all such rights and privileges as may be used and enjoyed without interfering with the use or purposes for which the easement is granted.

B.) Flowage Easement –

Grantor does hereby grant and give to Grantee the right, power, privilege and easement to overflow, flood and submerge the Easement Area for a period of five (5) years from the date of this easement (the "***Flowage Easement***") in connection with the operation and maintenance of the federal project as authorized; provided that no structures for human habitation shall be constructed or maintained on the land below 9.50 feet NGVD 29; reserving, however, to the Grantor, its heirs, successors and assigns, all such rights and privileges as may be used and enjoyed without interfering with the use of the project for the purposes authorized by Congress or abridging the rights and easement hereby acquired. Upon passage of legislation authorizing a land exchange between the Grantor and the United States affecting lands in or adjacent to the Everglades National Park Expansion Area and delivery of a deed by the United States to Grantor in connection with such land exchange as contemplated by the FPL/NPS Contingent Agreement (as hereafter defined), then Grantor shall immediately (within thirty (30) days) convey to Grantee a perpetual flowage easement over the Easement Area.

The Parties acknowledge and agree that, if, within five (5) years from the date of Grantor's execution of this easement: i) Grantor has not received delivery of, accepted and recorded a deed from the United States of America acting through the National Park Service ("***NPS***") for certain fee simple lands more particularly described in Paragraph 1.8 (c) of that certain FPL/NPS Contingent Agreement (as defined below) for an Exchange of Lands between the United States of America and Florida Power & Light Company for Exchange and Relocation of Florida Power & Light Company's Lands and Interests in Lands Located in or adjacent to the Everglades National Park Expansion Area dated July 24, 2008 (the "***FPL/NPS Contingent Agreement***"), and ii) relocation of the Everglades National Park Expansion Area boundary has not been relocated to the western edge of the lands conveyed to FPL by the United States as provided in Paragraph 2.8 of the FPL/NPS Contingent Agreement , then the Flowage Easement hereby granted shall terminate immediately and Grantee shall have no further rights under the Flowage Easement to flow or flood the Easement Area.

Grantor and Grantee agree that the rights herein granted exclude the right to flood or flow Grantor's adjacent property, and/or Grantor's improvements including but not limited to foundations, poles, wires, structures and other improvements (collectively, the "***FPL facilities***") constructed on Grantor's adjacent property or lands in which Grantor has an interest, now or hereafter constructed in the vicinity of the Easement Area, which FPL facilities will be designed and constructed to accommodate a maximum water elevation of 10.5 feet NGVD 1929 elevation. Grantor and Grantee agree that nothing herein shall be construed in any way as a consent by Grantor to such flooding or flowing of Grantor's adjacent lands and/or FPL facilities.

C.) Perpetual Channel Easement - A perpetual and assignable right and easement to construct, operate and maintain channel works on, over and across the Easement Area (Road Portion) including the right to clear, cut, fell, remove and dispose of any and all timber, trees, underbrush, buildings, improvements and/or other obstructions therefrom; to excavate, dredge, cut away, and remove any and all of said land and to place thereon dredge or spoil material; and for such other purposes as may be required in connection with said work and reserving, however, to the Grantor, its successors and assigns, all such rights and privileges as may be used and enjoyed without interfering with or abridging the rights and easements hereby granted.

In conducting its activities upon the Easement Area, Grantee shall abide by all applicable federal, state and local rules, regulations, ordinances and laws. Any dredged or spoil material placed on the Easement Area shall be material that is not a regulated substance

under all applicable federal, state or local environmental laws or if the material placed contains regulated substances, such substances will not be above actionable levels.

The grant of these easement interests in the Easement Area are in connection with the construction, operation and maintenance of the project authorized by the Act of Congress approved December 13, 1989 as the Everglades National Park Protection And Expansion Act of 1989, Public Law 101-229 and by Act of Congress approved February 20, 2003 as the Consolidated Appropriations Resolution FY 2003, Public Law 108-7, with their subsequent amendments.

The Acquiring Agency is the United States Army Corps of Engineers.

Grantee assumes all risks for its own actions on the Easement Area. Grantee agrees to use best efforts to include a provision in its contracts with its contractors and subcontractors working within the Easement Area providing that such contractors and subcontractors shall assume the risk of their respective operations upon the Easement Area. Grantee shall also use best efforts to ensure that its contracts with such contractors and subcontractors working within the Easement Area shall provide for general liability insurance coverage in the amounts set forth below, naming Grantor, its parent, affiliates, subsidiaries and their respective officers, directors, agents, employees, successors and assigns (collectively the "***FPL Entities***") as an additional insured. Grantee shall direct all such Grantee contractors and sub-contractors who will perform work upon or otherwise access the Easement Area to secure and maintain in force, from financially sound and reputable companies authorized to conduct business in the State of Florida policies of insurance with the following minimum limits: Worker's Compensation and Employer's Liability as required by law; General Liability Insurance in the amount of Two Million Dollars ($2,000,000.00) per occurrence; Business Automobile Liability insurance covering owned, non-owned, leased and hired automobiles and vehicles in the amount of One Million Dollars ($1,000,000.00) combined single policy limit for bodily injury and property damage for each accident. All such policies of insurance (except for Worker's Compensation and Employer's Liability and Business Automobile Liability Insurance) shall name the FPL Entities as additional insureds under the policy. All Grantee contractors and subcontractors using, working upon or otherwise accessing the Easement Area shall provide Grantor with ACORD certificates evidencing such insurance and identifying the FPL Entities as additional insured before accessing the Easement Area for any reason. All such policies of insurance shall be endorsed to be primary to any insurance that may be maintained by or on behalf of Grantor.

Remainder of page intentionally blank. Signature pages follow.

ROAD/ BRIDGE, CHANNEL AND FLOWAGE EASEMENTS
[Signature page]

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument on the 22nd day of August, 2008.

Signed, sealed and delivered
in the presence of:

Signature
Print Name: Brandy Sisella

Signature
Print Name: Robert Simm

FLORIDA POWER & LIGHT COMPANY,
a Florida Corporation

By: _____
Dina Guenther
Its: Director of Corporate Real Estate

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF PALM BEACH)

On this the 22nd day of August, 2008 before me, the undersigned notary public, personally appeared Dina Guenther, Director of Corporate Real Estate of Florida Power & Light Company, a Florida corporation personally known to me to be the person who subscribed to the foregoing instrument and acknowledged that she executed the same on behalf of said corporation and that she was duly authorized so to do.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Notary Public, State of Florida
Name (Print): DEBORAH C. PATTERSON
Commission No.: DD681221
My Commission Expires: June 3, 2011

DEBORAH C. PATTERSON
MY COMMISSION # DD681221
EXPIRES: June 03, 2011
1-800-3-NOTARY Fl. Notary Discount Assoc. Co.

ROAD/BRIDGE, CHANNEL AND FLOWAGE EASEMENTS
[Signature page]

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument on the 5th day of September, 2008.

Signed, sealed and delivered
in the presence of:

Bertha A. Miller
Signature
Print Name: Bertha A. Miller

Rebecca A. Bearce
Signature
Print Name: Rebecca A. Bearce

UNITED STATES OF AMERICA

By: Sharon W. Conklin
Sharon W. Conklin
Chief, Real Estate Division
U.S. Army Engineer District

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF DUVAL)

On this the 5th day of September, 2008 before me, the undersigned notary public, personally appeared Sharon W. Conklin, Chief, Real Estate Division of the United States Army Corps of Engineers, personally known to me to be the person who subscribed to the foregoing instrument or who have produced as identification, and acknowledged that she executed the same on behalf of THE UNITED STATES OF AMERICA and acknowledged that she was duly authorized so to do.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Lynn Hichborn Zediak
Notary Public, State of Florida
Name (Print): LYNN HICHBORN ZEDIAK
Commission No.: DD794586
My Commission Expires: 6/23/2012

LYNN HICHBORN ZEDIAK
MY COMMISSION # DD794586
EXPIRES June 23, 2012
(407) 398-0153 FloridaNotaryService.com

Appendix 2

Legal Description of Temporary Construction Easement from FPL to United States

The South 50 feet of the North 100 feet of the West 370 feet of Section 10, Township 54 South, Range 38 East, Tallahassee Meridian, Miami-Dade County, Florida containing 0.425 acres, more or less.

Appendix 2A
Temporary Construction Easement from FPL to the United States

PREPARED BY AND RETURN TO:

Patricia Lakhia, Esquire
Florida Power & Light Company
700 Universe Blvd. (LAW/JB)
Juno Beach, FL 33408-0420

(This space reserved for recording information)

Tract No.: 113-3 (Portion of)

Modified Water Deliveries to Everglades National Park Project Miami-Dade County, Florida

Folio No. 30-4810-000-0020 (Portion of)

TEMPORARY CONSTRUCTION EASEMENT

FLORIDA POWER & LIGHT COMPANY, A FLORIDA CORPORATION ("***Grantor***") with an address of 700 Universe Boulevard, Juno Beach, FL 33408, hereby grants to **THE UNITED STATES OF AMERICA, and it assigns, by and through the Department of Army, U.S. Army Corps of Engineers**, Jacksonville District, P.O. Box 4970, Jacksonville, FL 32232-0019 (the "***Grantee***"), a temporary, non-exclusive easement over the **South 50 feet of the North 100 feet of the West 370 feet of Section 10, Township 54 South, Range 38 East, Tallahassee Meridian, Miami-Dade County, Florida containing** 0.425 acres, more or less (the "***Temporary Easement Area***"), for a temporary easement and right-of-way in, on, over and across the land described above, for a period not to exceed **FIVE (5) YEARS**, beginning upon the date of Grantor's execution of this easement, and including the right to borrow and/or temporarily deposit fill, spoil and waste material thereon move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work reasonably necessary and incident to the construction of the Modified Water Deliveries to Everglades National Park Project, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the Temporary Easement Area; reserving, however, to the Grantor, its successors and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby granted; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines. Such easement is to be used in connection with the construction of a bridge and certain channel works on adjacent lands.

In exercising the rights herein granted upon the Temporary Easement Area, Grantee shall abide by all applicable federal, state and local rules, regulations, ordinances and laws. Any dredged or spoil material placed on the above described lands shall be material that is not a regulated substance under federal environmental laws or if the material placed contains regulated substances, such substances will not be above actionable levels. The grant of these easement interests in the Easement Area are in connection with the

construction, operation and maintenance of the project authorized by the Act of Congress approved December 13, 1989 as the Everglades National Park Protection And Expansion Act of 1989, Public Law 101-229 and by Act of Congress approved February 20, 2003 as the Consolidated Appropriations Resolution FY 2003, Public Law 108-7, with their subsequent amendments.

Grantee's rights to use the Temporary Easement Area, and this Temporary Construction Easement grant, shall commence on August __, 2008 and shall terminate at midnight on August __, 2013 unless extended, in writing, by Grantor and Grantee. Prior to the termination of this Temporary Construction Easement grant, Grantee shall restore the Temporary Easement Area to the condition existing on August __, 2008.

Grantee shall direct all Grantee's contractors and sub-contractors who will perform work upon or otherwise access the Temporary Easement Area to secure and maintain in force, from financially sound and reputable companies authorized to conduct business in the State of Florida policies of insurance with the following minimum limits: Worker's Compensation and Employer's Liability as required by law; General Liability Insurance in the amount of Two Million Dollars ($2,000,000.00) per occurrence; Business Automobile Liability insurance covering owned, non-owned, leased and hired automobiles and vehicles in the amount of One Million Dollars ($1,000,000.00) combined single policy limit for bodily injury and property damage for each accident. All such policies of insurance (except for Worker's Compensation and Employer's Liability and Business Automobile Liability Insurance) shall name Grantor, its parent, affiliates, subsidiaries and their respective officers, directors, agents, employees, successors and assigns (collectively the "***FPL Entities***") as additional insureds under the policy. All Grantee contractors and subcontractors using, working upon or otherwise accessing the Temporary Easement Area shall provide Grantor with ACORD certificates evidencing such insurance and identifying the FPL Entities as additional insured before accessing the Temporary Easement Area for any reason. All such policies of insurance shall be endorsed to be primary to any insurance that may be maintained by or on behalf of Grantor.

IN WITNESS WHEREOF, the parties hereto have executed this Easement as of the date first set forth above.

Signed, sealed and delivered
in the presence of:

_____
Print Name:_____

_____
Print Name:_____

FLORIDA POWER & LIGHT COMPANY,
a Florida corporation

By:_____
Printed Name: Dina Guenther
Title: Director of Corporate Real Estate

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss.
COUNTY OF PALM BEACH)

Sworn to and subscribed before me this _____ day of _____, 2008 by Dina Guenther, Director of Corporate Real Estate of FLORIDA POWER & LIGHT COMPANY a Florida corporation, who is personally known to me and who did take an oath and acknowledged that she executed the same on behalf of said corporation and that she was duly authorized to do so.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
Notary Public, State of Florida
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

TEMPORARY CONSTRUCTION EASEMENT
[Signature Page]

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument on the _____ day of _____, 2008.

Signed, sealed and delivered

in the presence of:

_____
Signature
Print Name: _____

_____
Signature
Print Name: _____

THE UNITED STATES OF AMERICA

By: _____
Sharon W. Conklin
Chief, Real Estate Division

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF DUVAL)

On this the _____ day of _____, 2008 before me, the undersigned notary public, personally appeared Sharon W. Conklin, Chief, Real Estate Division of the United States Army Corps of Engineers, personally known to me to be the person who subscribed to the foregoing instrument or who have produced as identification, and acknowledged that she executed the same on behalf of THE UNITED STATES OF AMERICA and acknowledged that she was duly authorized so to do.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
Notary Public, State of Florida
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

Appendix 2-1

Plan of Easements

Proposed Relocation of FPL Utility Corridor on Lands proposed to be conveyed in Fee Simple from the US (ENP/National Park Service) and Easements from the SFWMD, ACOE and TIITF

See attached:

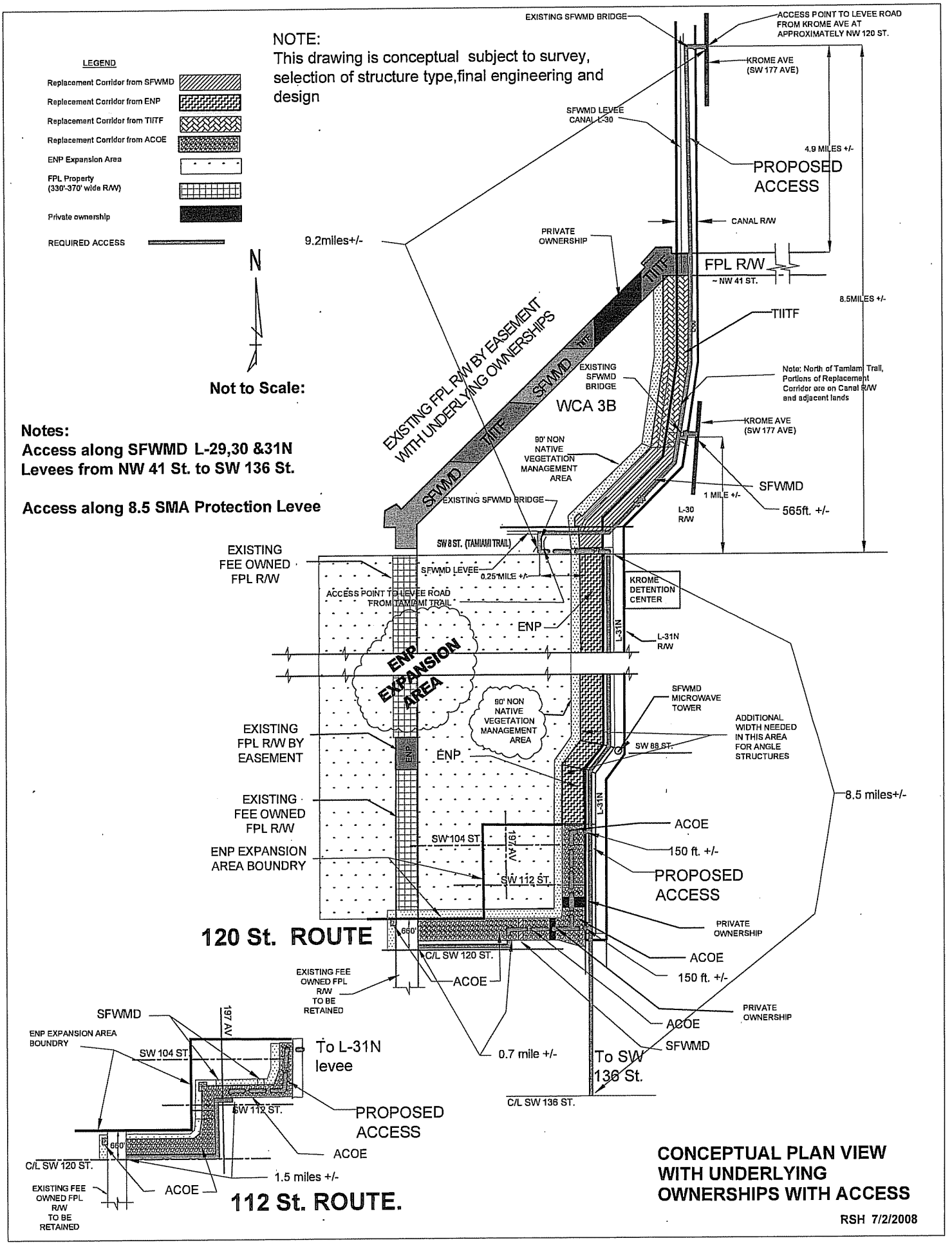
1) Conceptual Plan View with Underlying Ownerships with Access, dated July 2, 2008, 1 sheet, (Not to Scale) (Appendix 2-A);

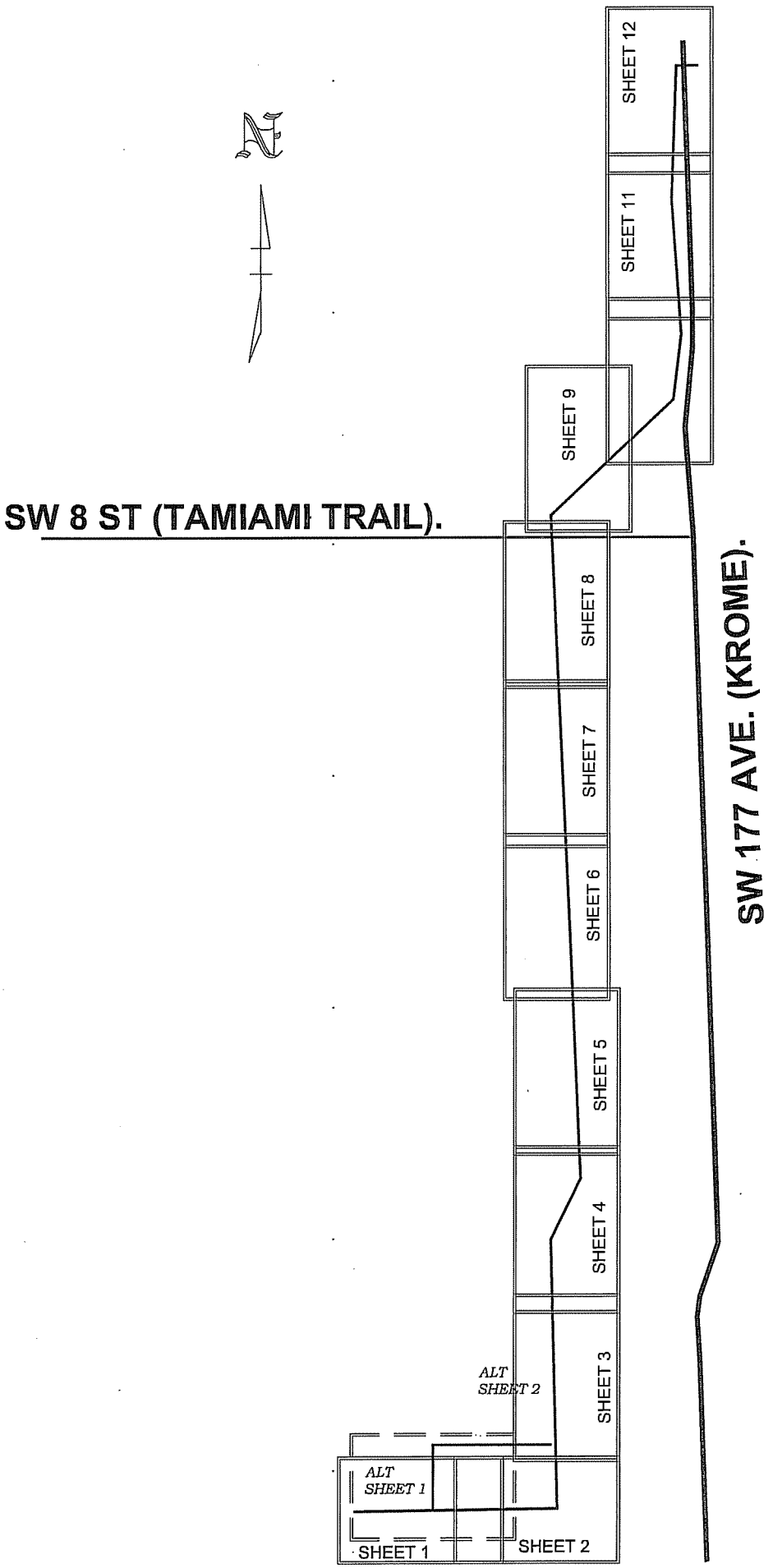
2) Key Map for Route Alignments, 1 sheet dated July 2, 2008 (Appendix 2-B);

3) Turkey Point Levee 500 kV lines, 120th St. Alignment, Conceptual Right of Way, Sheets 1 through 12, dated July 2, 2008 (Appendix 2-C); and

4) Turkey Point Levee 500 kV Lines, 112th Street Alignment, Conceptual Right of Way, Sheets 1 and 2, dated July 2, 2008 (Appendix 2-D);

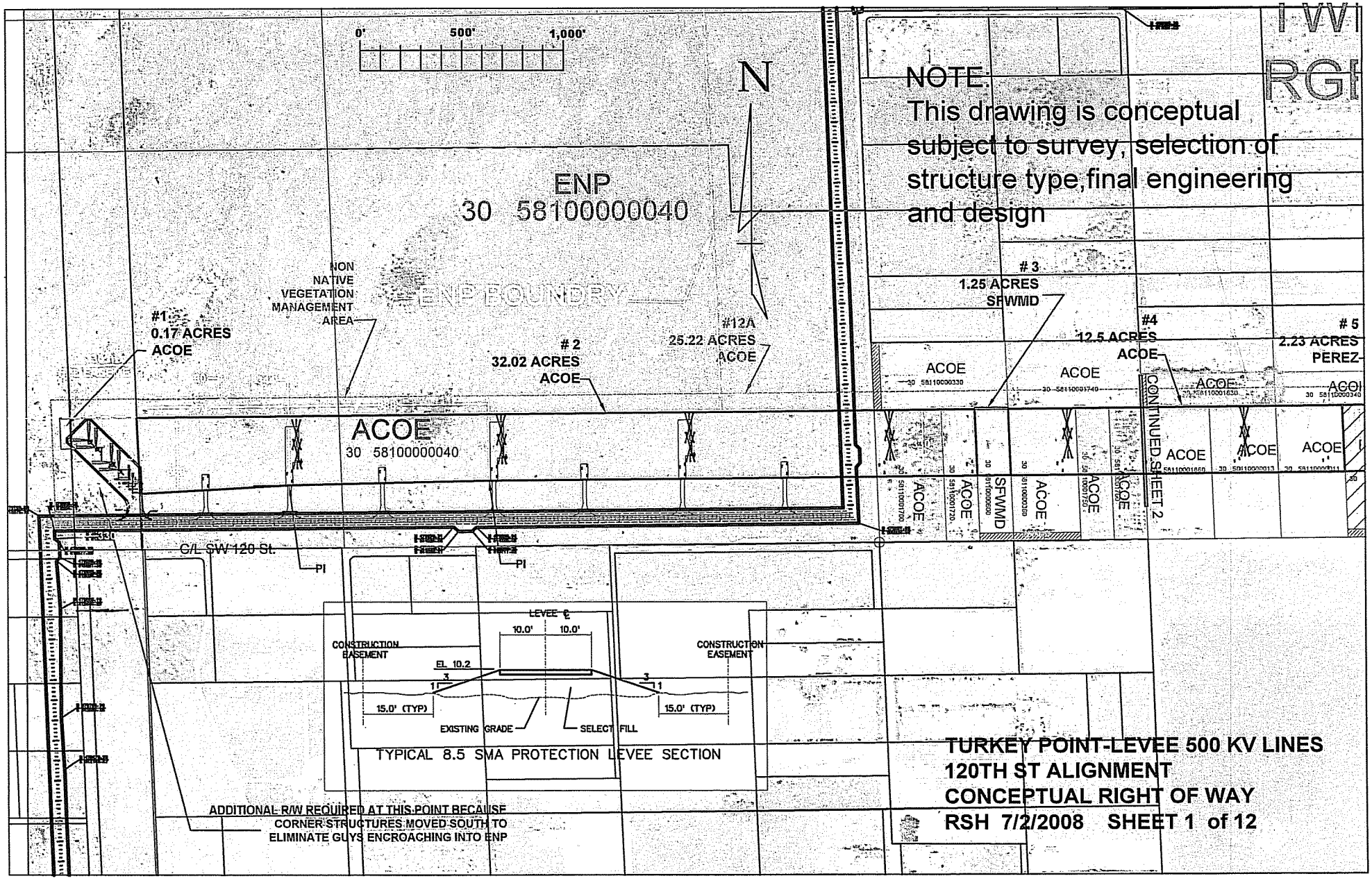
5) Right of Way Relocation, Anticipated Access Rights to Relocated Right of Way, dated July 2, 2008 (Appendix 2-E)

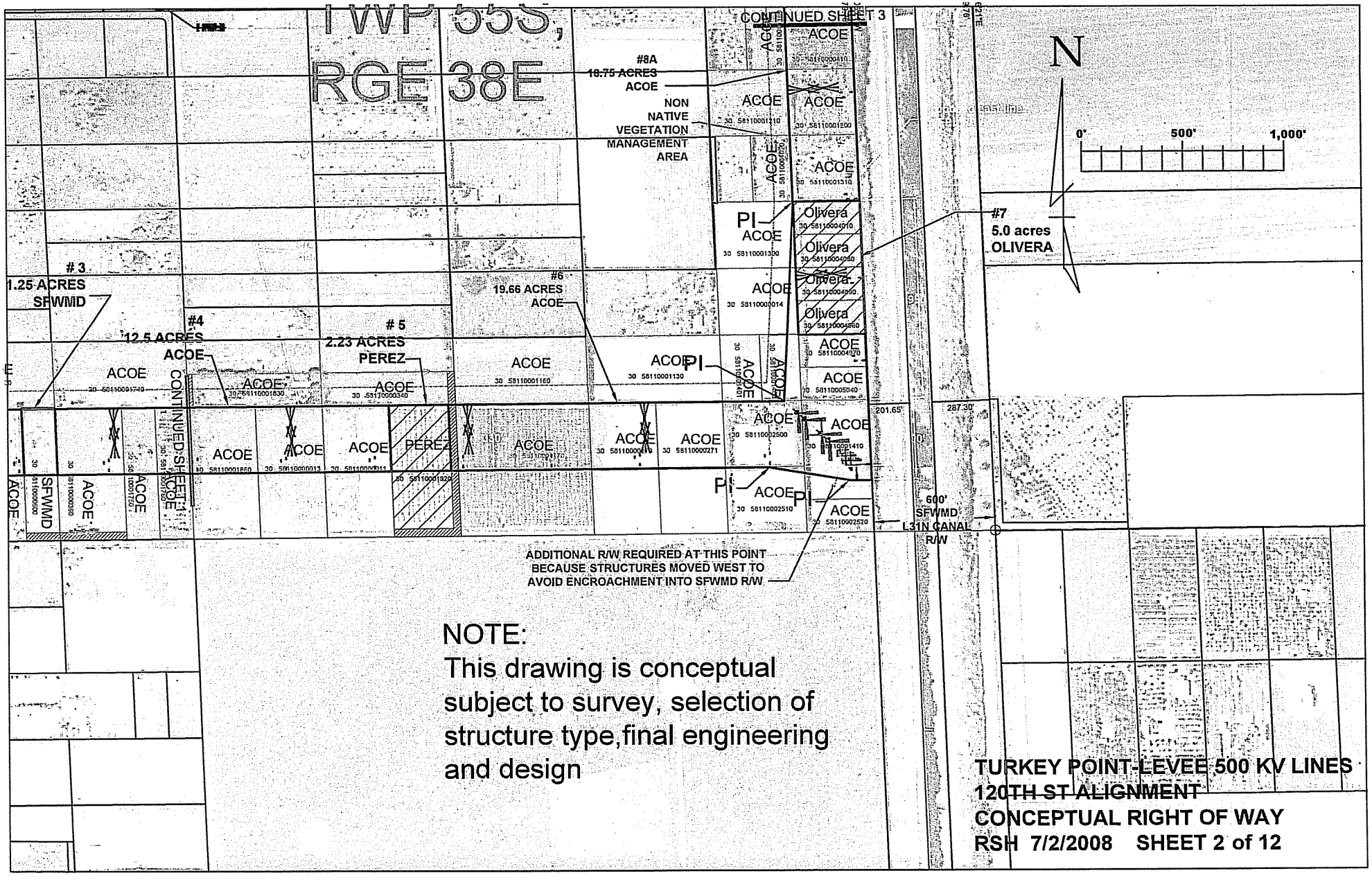

LEGEND
Replacement Corridor from SFWMD
Replacement Corridor from ENP
Replacement Corridor from TIITF
Replacement Corridor from ACOE
ENP Expansion Area
FPL Property (330'-370' wide R/W)
Private ownership
REQUIRED ACCESS
NOTE:
This drawing is conceptual subject to survey, selection of structure type,final engineering and design
N
Not to Scale:
Notes:
Access along SFWMD L-29,30 &31N Levees from NW 41 St. to SW 136 St.
Access along 8.5 SMA Protection Levee
EXISTING SFWMD BRIDGE
ACCESS POINT TO LEVEE ROAD FROM KROME AVE AT APPROXIMATELY NW 120 ST.
KROME AVE (SW 177 AVE)
SFWMD LEVEE CANAL L-30
4.9 MILES +/-
PROPOSED ACCESS
CANAL R/W
9.2miles+/-
PRIVATE OWNERSHIP
FPL R/W
~ NW 41 ST.
8.5MILES +/-
TIITF
EXISTING FPL R/W BY EASEMENT WITH UNDERLYING OWNERSHIPS
SFWMD
EXISTING SFWMD BRIDGE
WCA 3B
Note: North of Tamiami Trail, Portions of Replacement Corridor are on Canal R/W and adjacent lands
KROME AVE (SW 177 AVE)
90' NON NATIVE VEGETATION MANAGEMENT AREA
SFWMD
1 MILE +/-
565ft. +/-
L-30 R/W
EXISTING SFWMD BRIDGE
SW 8 ST. (TAMIAMI TRAIL)
EXISTING FEE OWNED FPL R/W
SFWMD LEVEE
0.25 MILE +/-
ACCESS POINT TO LEVEE ROAD FROM TAMIAMI TRAIL
KROME DETENTION CENTER
ENP
L-31N
L-31N R/W
ENP EXPANSION AREA
90' NON NATIVE VEGETATION MANAGEMENT AREA
SFWMD MICROWAVE TOWER
ADDITIONAL WIDTH NEEDED IN THIS AREA FOR ANGLE STRUCTURES
EXISTING FPL R/W BY EASEMENT
ENP
SW 88 ST.
8.5 miles+/-
EXISTING FEE OWNED FPL R/W
ACOE
SW 104 ST.
197 AV
150 ft. +/-
ENP EXPANSION AREA BOUNDRY
SW 112 ST.
PROPOSED ACCESS
120 St. ROUTE
660'
PRIVATE OWNERSHIP
C/L SW 120 ST.
ACOE
150 ft. +/-
EXISTING FEE OWNED FPL R/W TO BE RETAINED
ACOE
PRIVATE OWNERSHIP
SFWMD
197 AV
ENP EXPANSION AREA BOUNDRY
SW 104 ST.
To L-31N levee
0.7 mile +/-
To SW 136 St.
SW 112 ST.
PROPOSED ACCESS
C/L SW 136 ST.
660'
ACOE
C/L SW 120 ST.
1.5 miles +/-
EXISTING FEE OWNED FPL R/W TO BE RETAINED
ACOE
112 St. ROUTE.
CONCEPTUAL PLAN VIEW WITH UNDERLYING OWNERSHIPS WITH ACCESS
RSH 7/2/2008



KEY MAP
FOR ROUTE
ALIGNMENTS

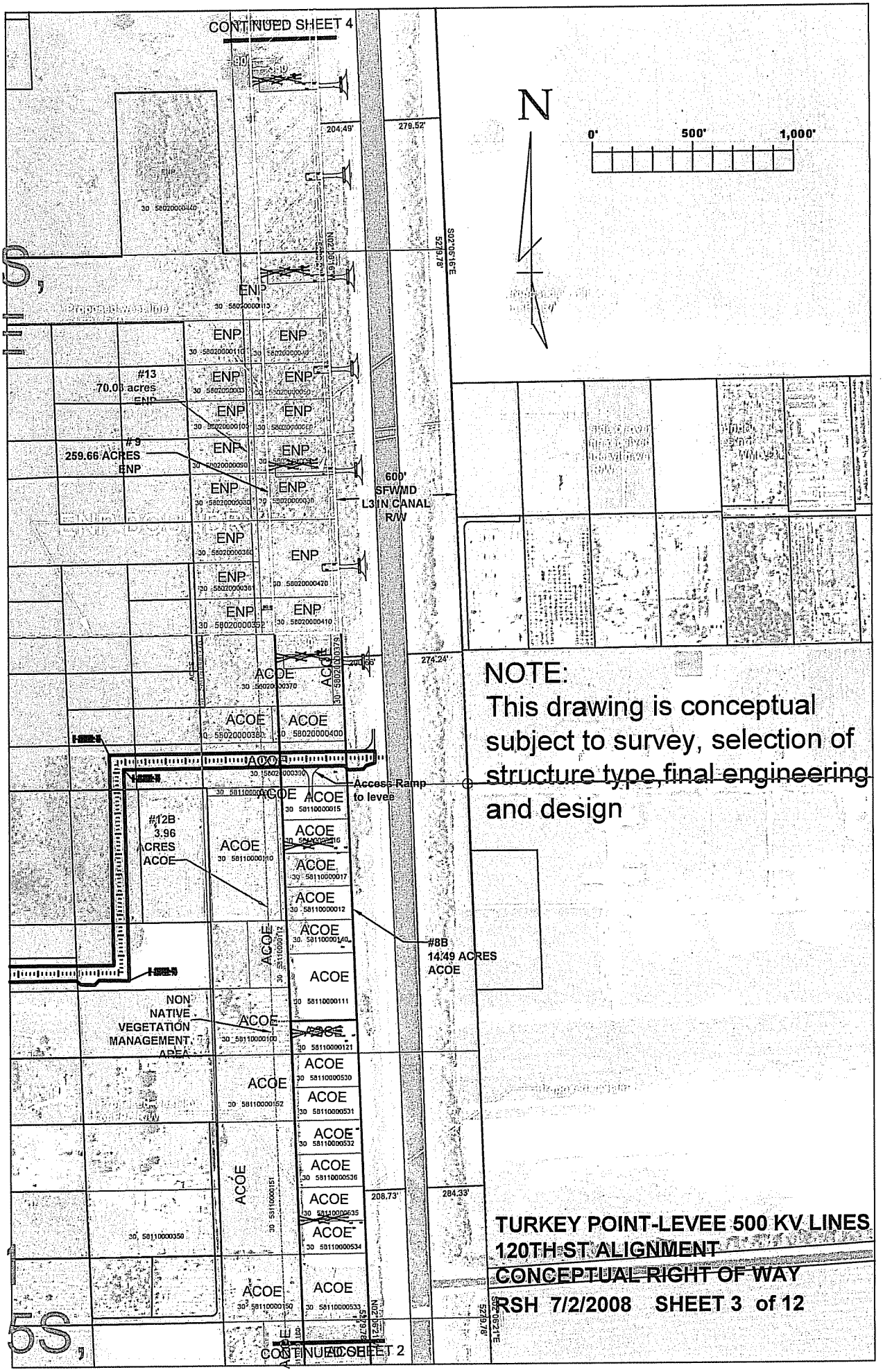
RSH 7/2/08


0' 500' 1,000'
N
NOTE:
This drawing is conceptual subject to survey, selection of structure type, final engineering and design
ENP
30 58100000040
NON NATIVE VEGETATION MANAGEMENT AREA
ENP BOUNDRY
#1
0.17 ACRES
ACOE
2
32.02 ACRES
ACOE
#12A
25.22 ACRES
ACOE
3
1.25 ACRES
SFWMD
#4
12.5 ACRES
ACOE
5
2.23 ACRES
PEREZ
ACOE
30 58100000040
ACOE
ACOE
ACOE
ACOE
ACOE
ACOE
ACOE
SFWMD
CONTINUED SHEET 2
C/L SW 120 St.
PI
PI
LEVEE ℄
10.0'
10.0'
CONSTRUCTION EASEMENT
CONSTRUCTION EASEMENT
EL. 10.2
3
1
3
1
15.0' (TYP)
15.0' (TYP)
EXISTING GRADE
SELECT FILL
TYPICAL 8.5 SMA PROTECTION LEVEE SECTION
ADDITIONAL R/W REQUIRED AT THIS POINT BECAUSE CORNER STRUCTURES MOVED SOUTH TO ELIMINATE GUYS ENCROACHING INTO ENP
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 1 of 12



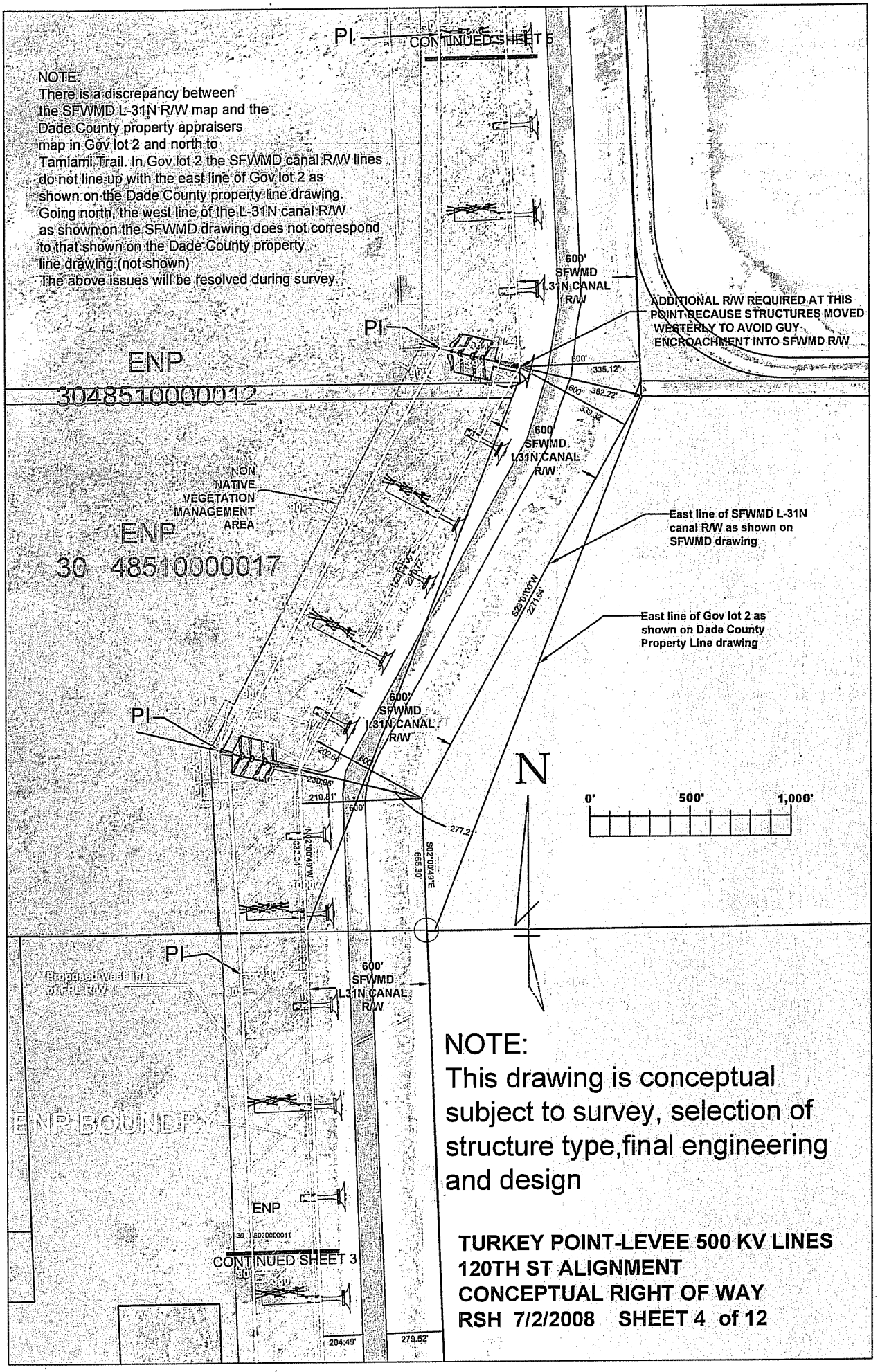
NOTE:
This drawing is conceptual subject to survey, selection of structure type, final engineering and design

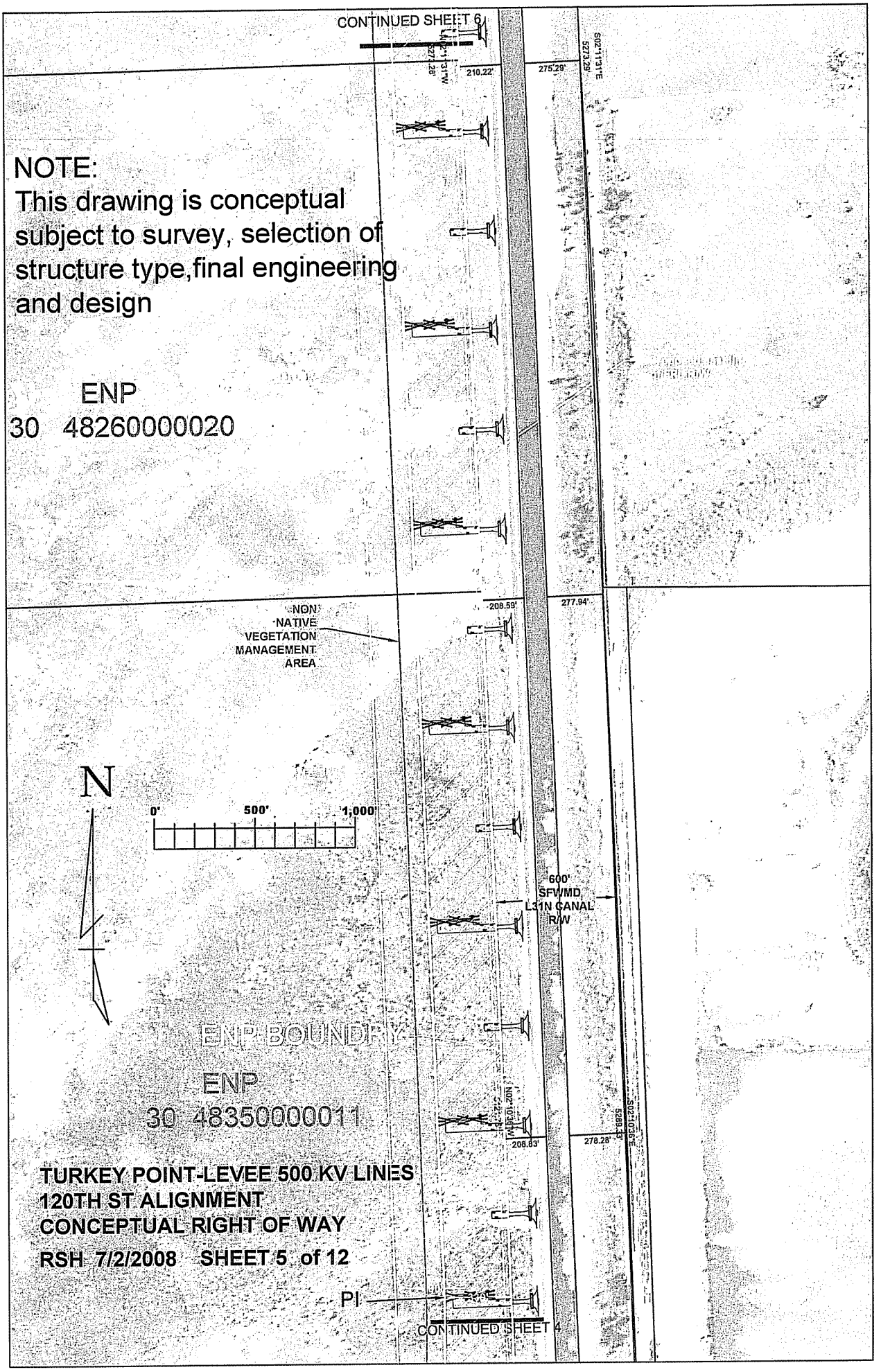
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 2 of 12

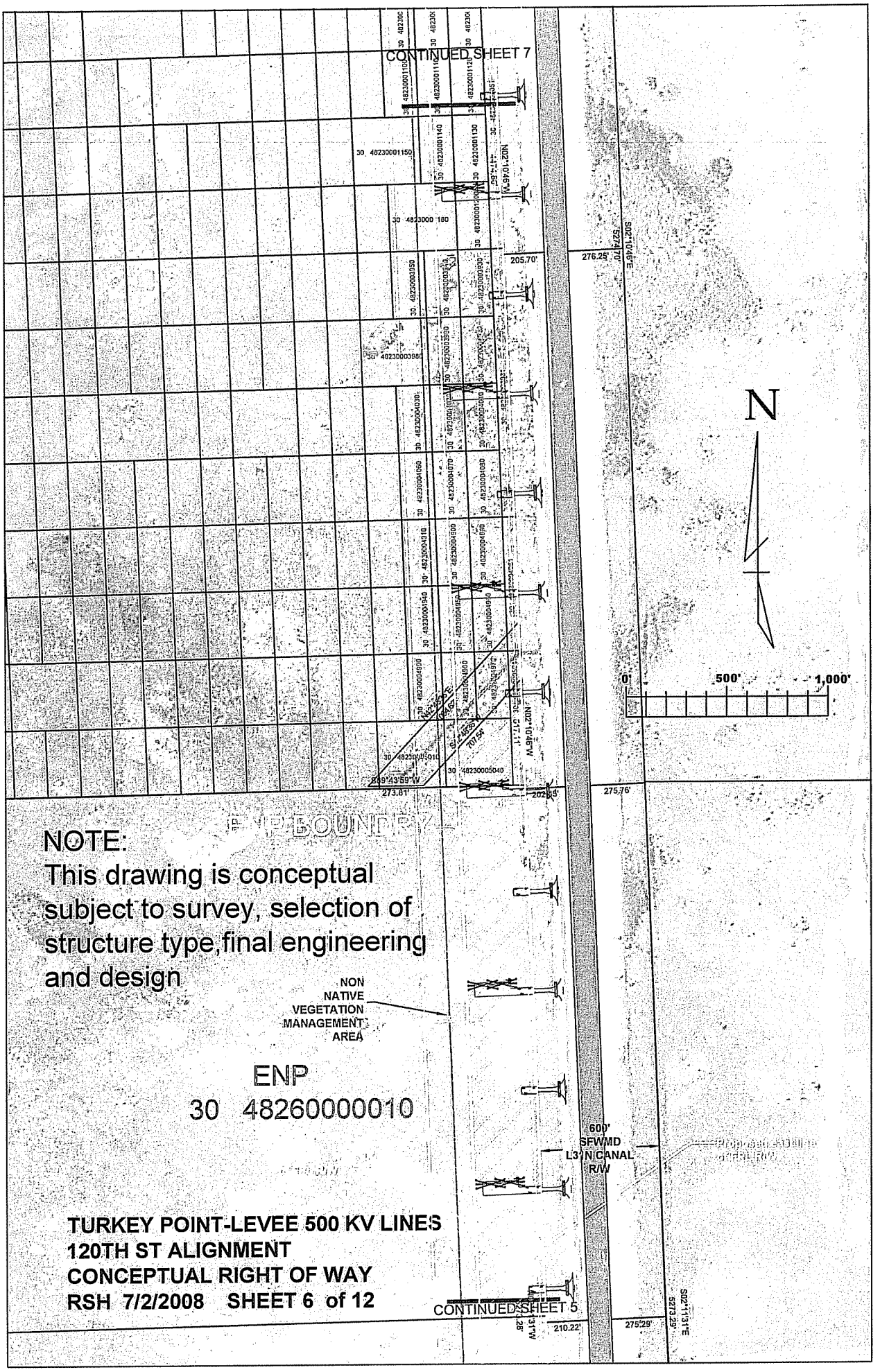


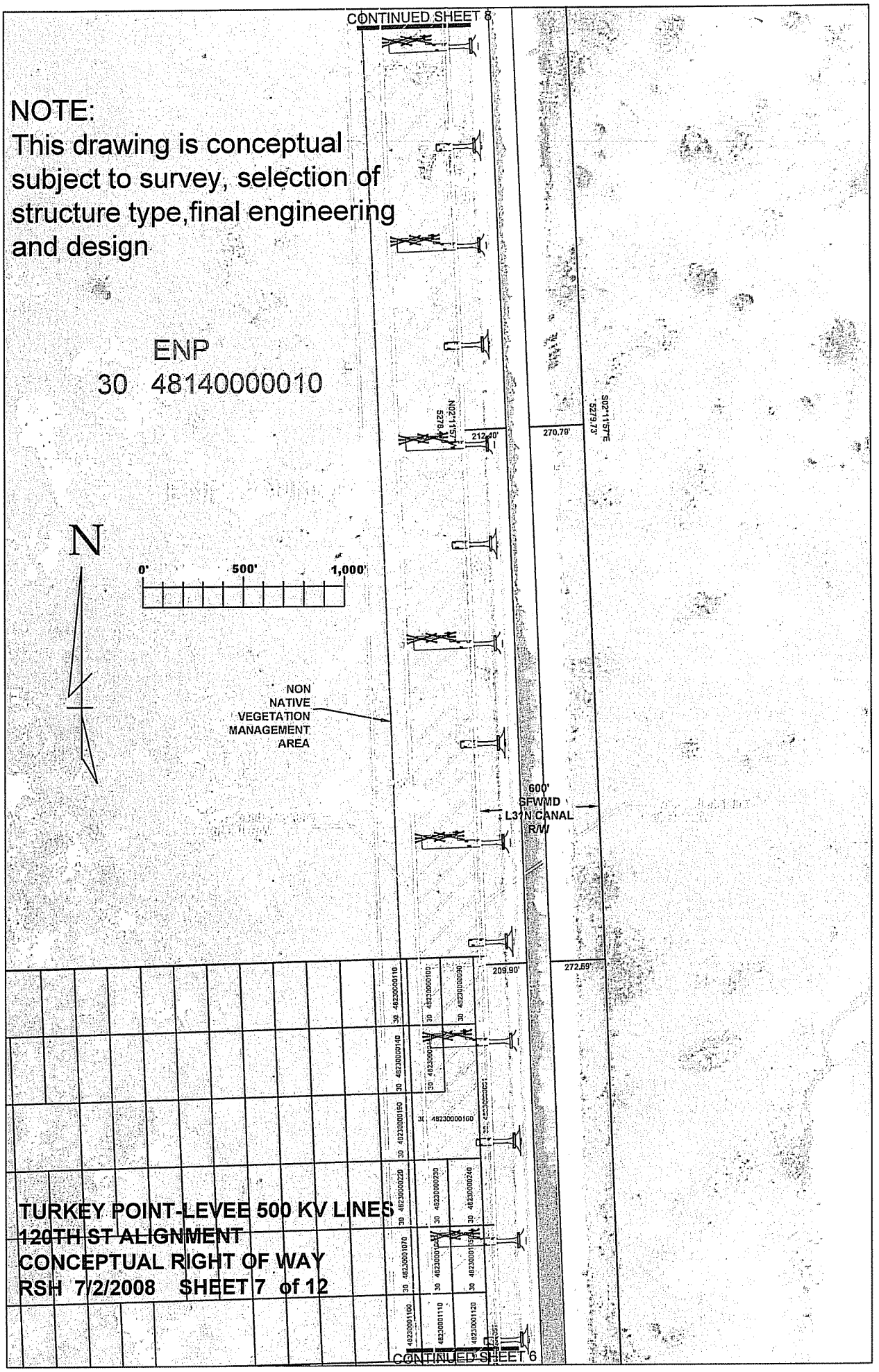
NOTE:
This drawing is conceptual subject to survey, selection of structure type, final engineering and design

TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 3 of 12

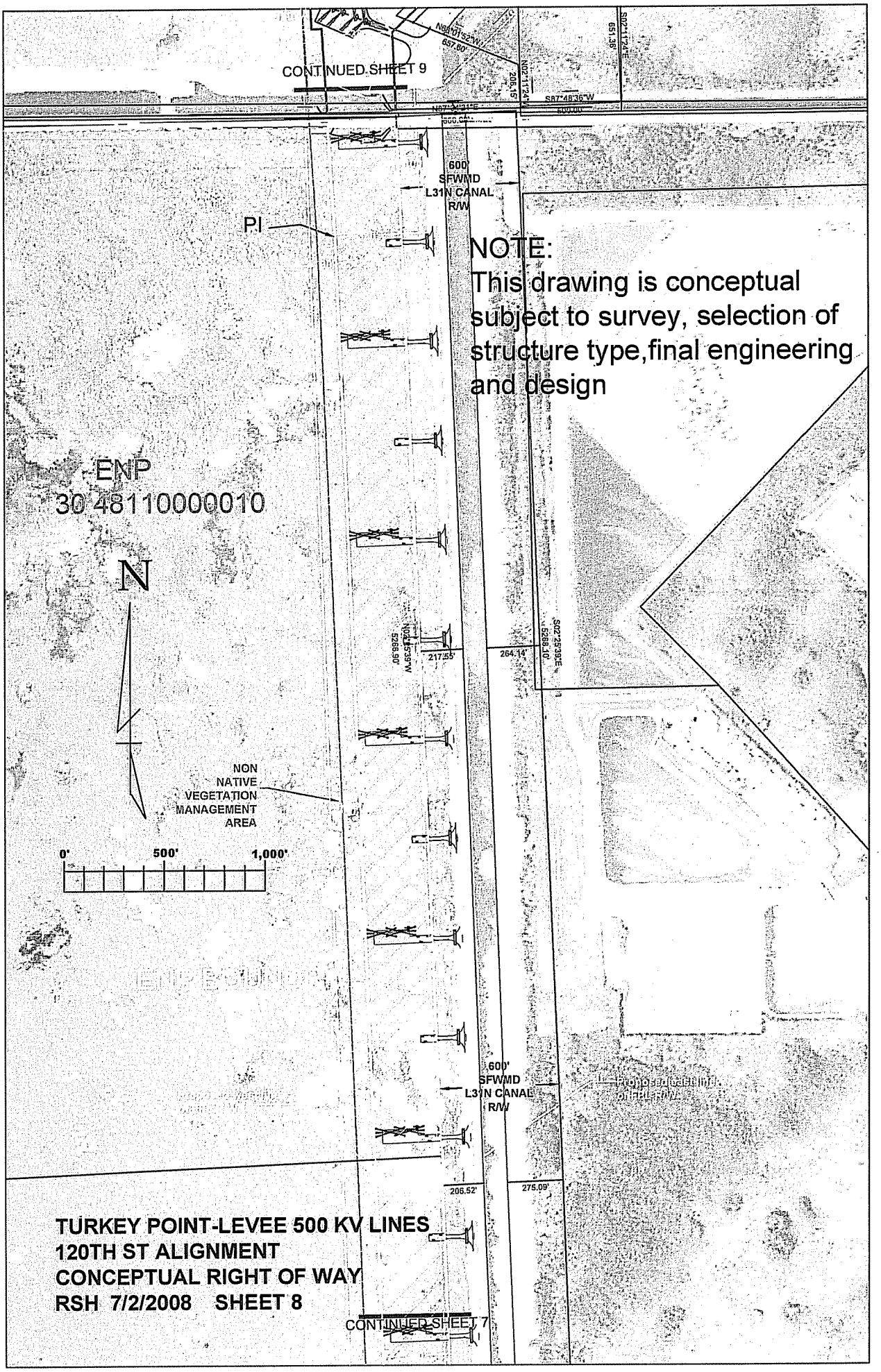

PI
CONTINUED SHEET 5
NOTE:
There is a discrepancy between the SFWMD L-31N R/W map and the Dade County property appraisers map in Gov lot 2 and north to Tamiami Trail. In Gov lot 2 the SFWMD canal R/W lines do not line up with the east line of Gov lot 2 as shown on the Dade County property line drawing. Going north, the west line of the L-31N canal R/W as shown on the SFWMD drawing does not correspond to that shown on the Dade County property line drawing (not shown)
The above issues will be resolved during survey.
600' SFWMD L31N CANAL R/W
ADDITIONAL R/W REQUIRED AT THIS POINT BECAUSE STRUCTURES MOVED WESTERLY TO AVOID GUY ENCROACHMENT INTO SFWMD R/W
PI
ENP
30485100000012
600'
335.12'
362.22'
339.32'
600' SFWMD L31N CANAL R/W
NON NATIVE VEGETATION MANAGEMENT AREA
ENP
30 48510000017
East line of SFWMD L-31N canal R/W as shown on SFWMD drawing
S29°01'00"W
221.64'
East line of Gov lot 2 as shown on Dade County Property Line drawing
PI
600' SFWMD L31N CANAL R/W
202.64'
230.86'
210.81'
277.2'
N29°00'49"W
S29°00'49"E
666.30'
N
0'
500'
1,000'
PI
Proposed wetland mitigation area
600' SFWMD L31N CANAL R/W
ENP BOUNDRY
ENP
30 5020000011
CONTINUED SHEET 3
204.49'
279.52'
NOTE:
This drawing is conceptual subject to survey, selection of structure type,final engineering and design
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 4 of 12


CONTINUED SHEET 6
NOTE:
This drawing is conceptual subject to survey, selection of structure type,final engineering and design
ENP
30 48260000020
NON NATIVE VEGETATION MANAGEMENT AREA
N
0'
500'
1,000'
600' SFWMD L31N CANAL R/W
ENP BOUNDRY
ENP
30 48350000011
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 5 of 12
PI
CONTINUED SHEET 4

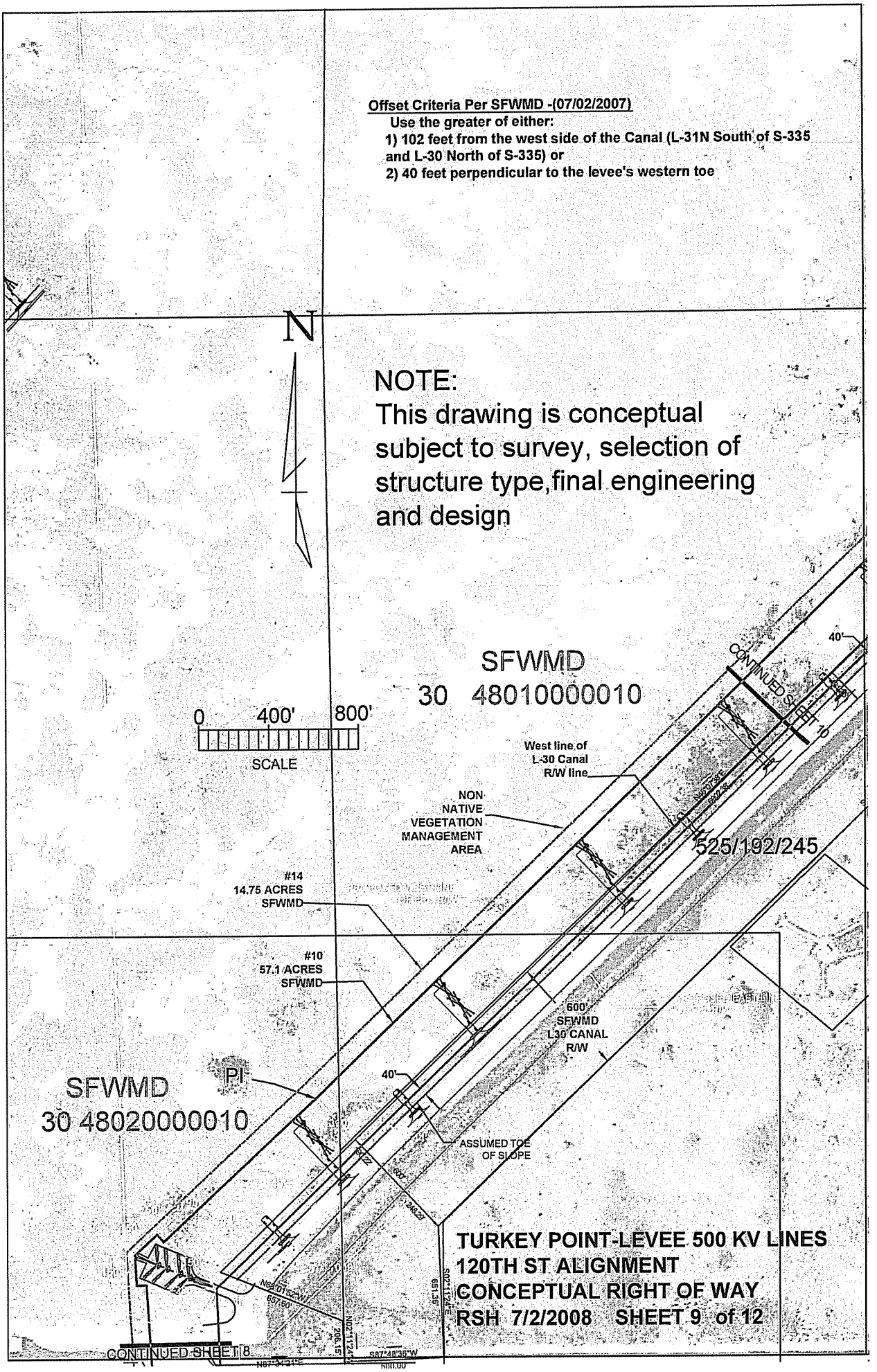

CONTINUED SHEET 7
30 48230001150
30 48230000160
30 48230003950
30 48230003980
30 48230004050
30 48230004070
30 48230004090
30 48230004910
30 48230004950
30 48230005010
30 48230005040
N02°10'46"W
S02°10'46"E
S02°11'31"E
S89°43'59"W
205.70'
276.29'
275.76'
275.29'
273.81'
210.22'
707.54'
N
0'
500'
1,000'
NOTE:
This drawing is conceptual subject to survey, selection of structure type, final engineering and design
NON NATIVE VEGETATION MANAGEMENT AREA
ENP
30 48260000010
600' SFWMD L31N CANAL R/W
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 6 of 12
CONTINUED SHEET 5

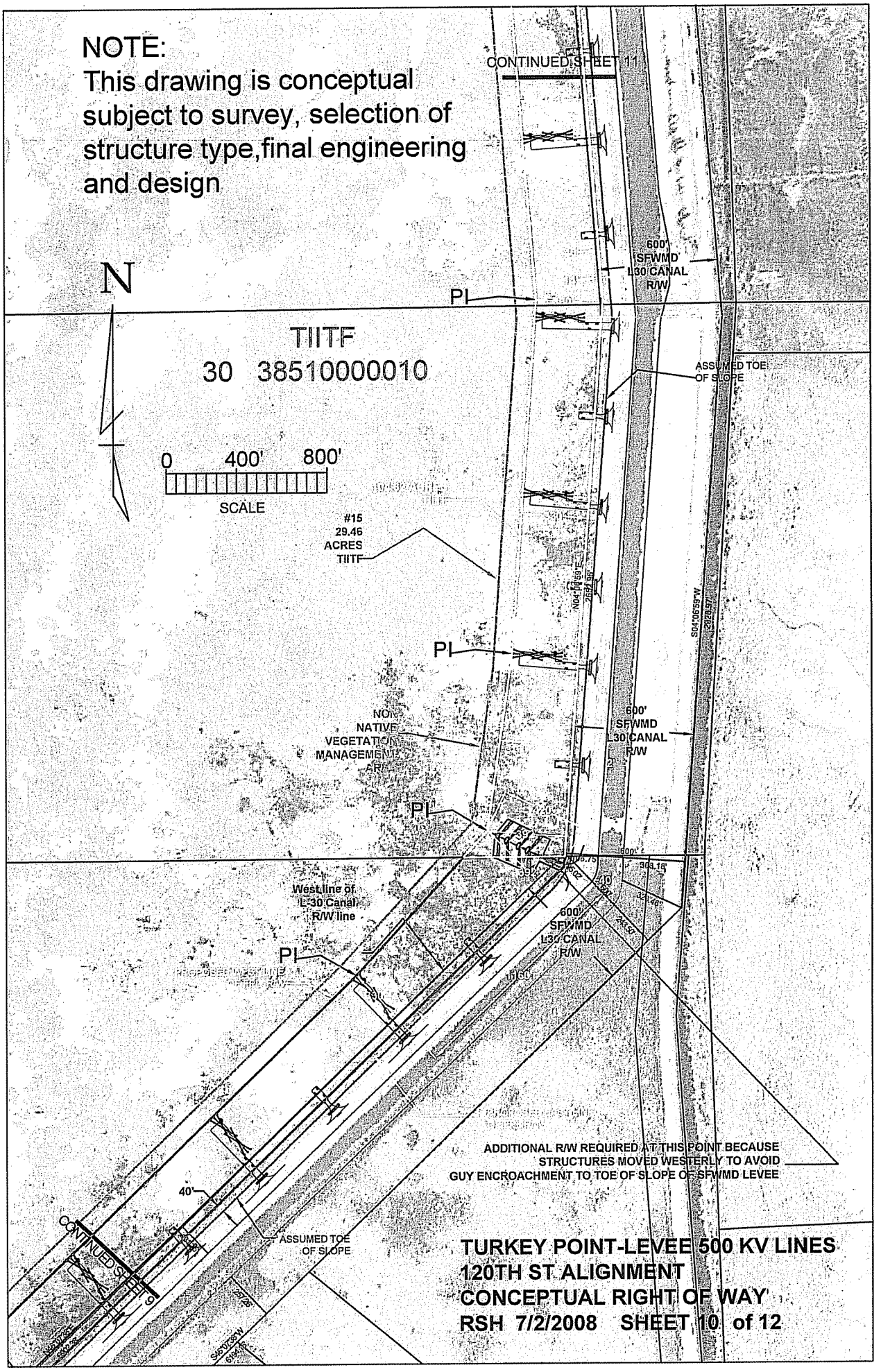


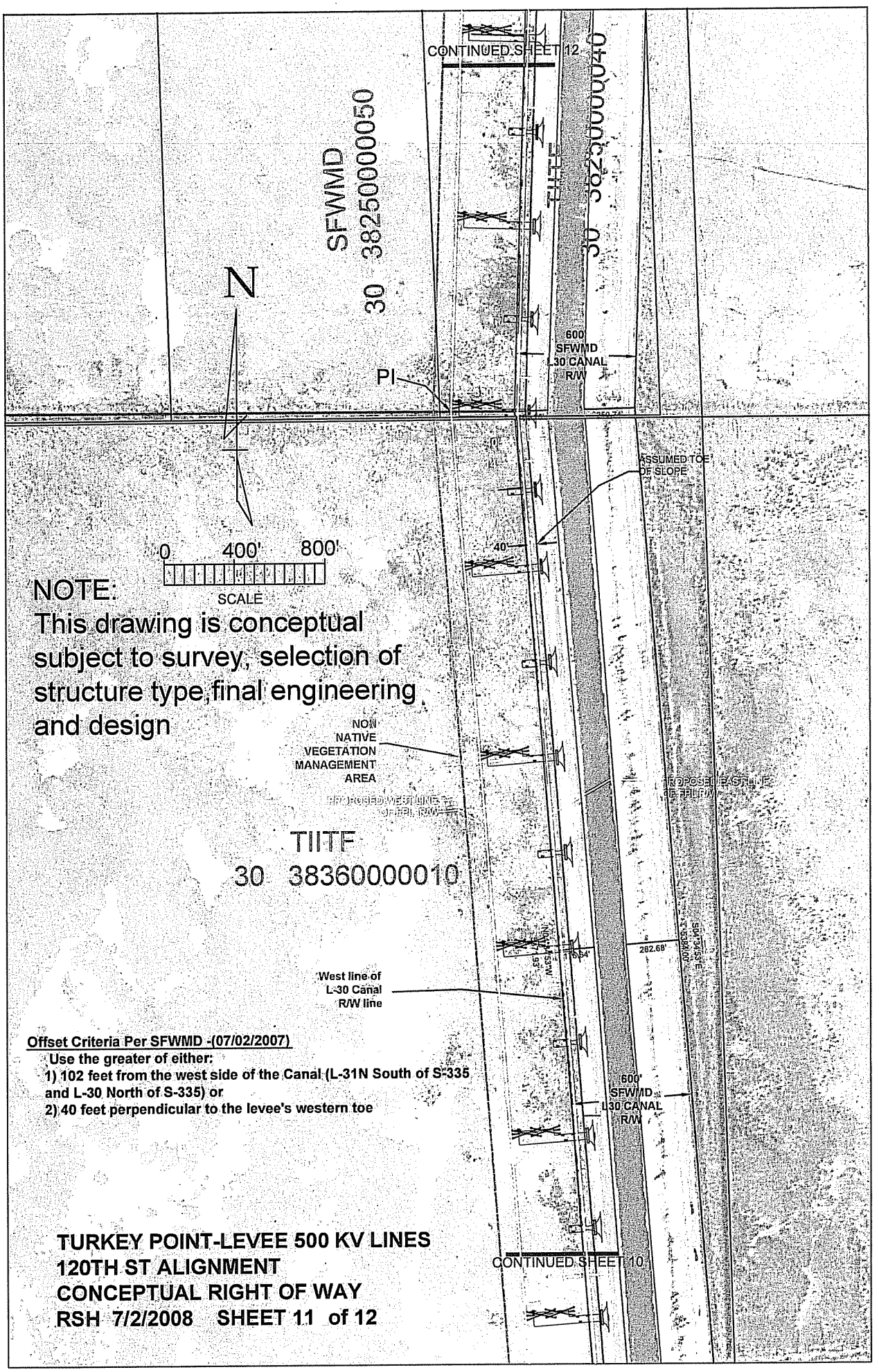
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 7 of 12



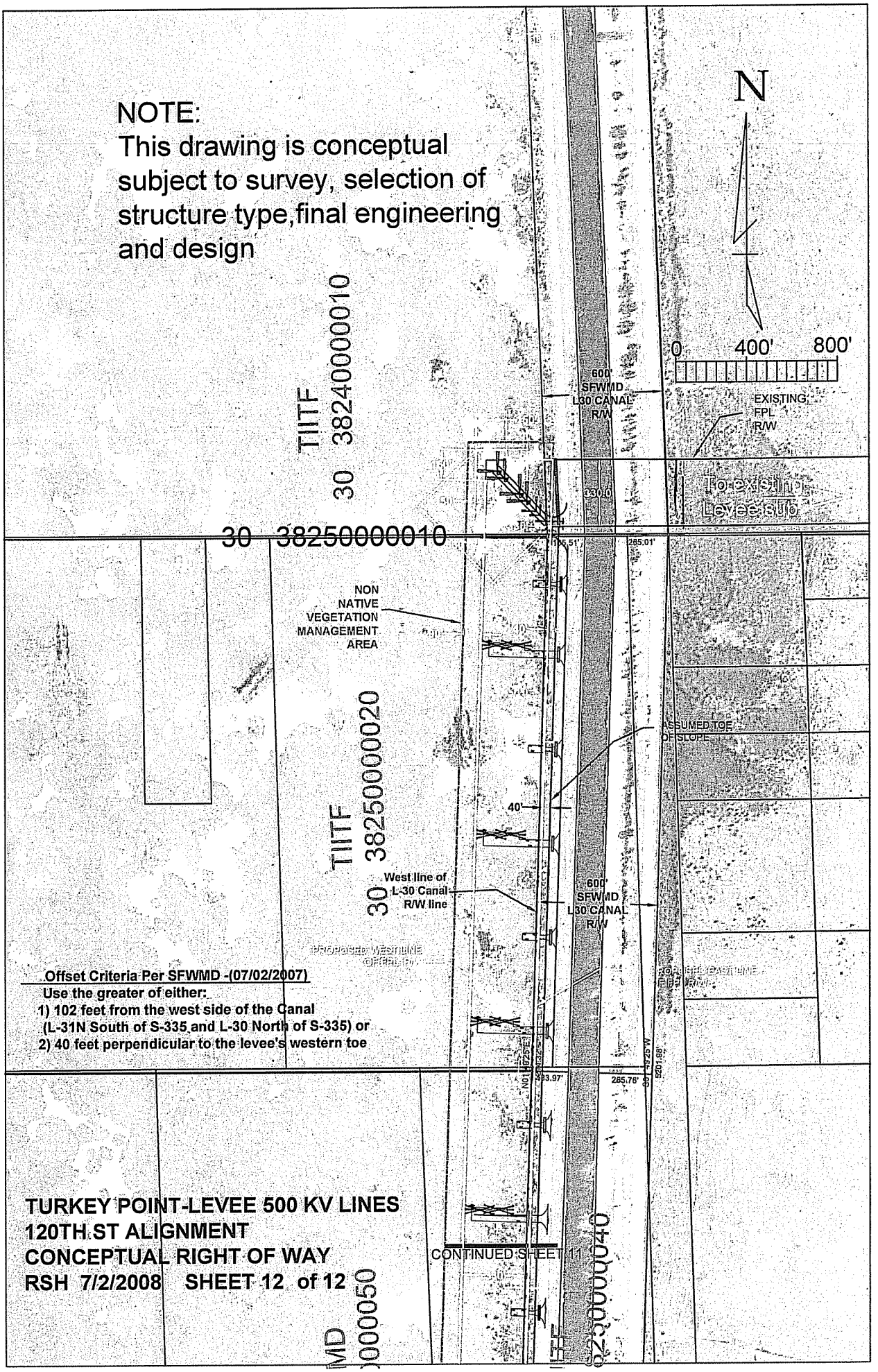
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 8

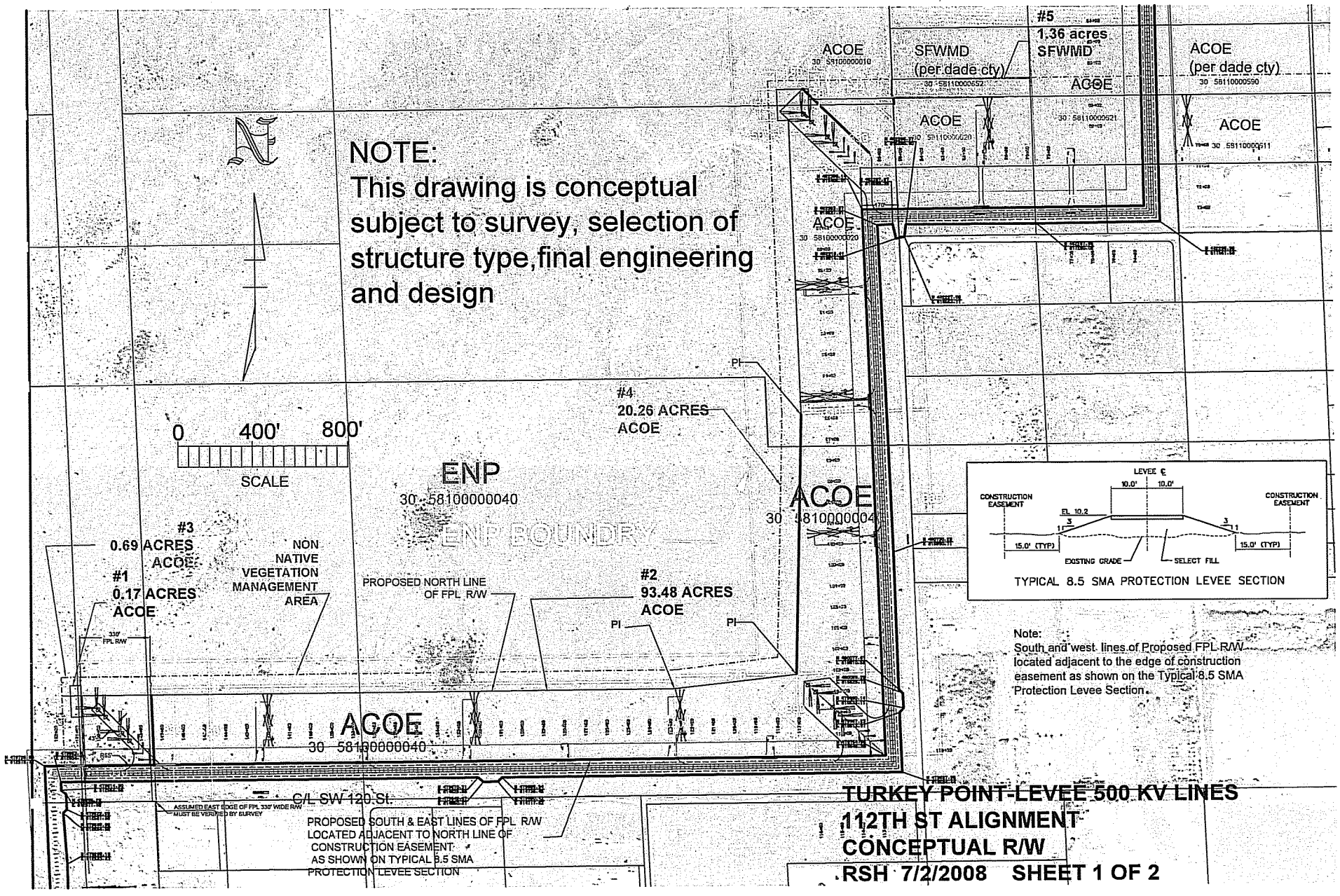

Offset Criteria Per SFWMD -(07/02/2007)
Use the greater of either:
1) 102 feet from the west side of the Canal (L-31N South of S-335 and L-30 North of S-335) or
2) 40 feet perpendicular to the levee's western toe
N
NOTE:
This drawing is conceptual subject to survey, selection of structure type,final engineering and design
SFWMD
30 48010000010
0 400' 800'
SCALE
West line of L-30 Canal R/W line
NON NATIVE VEGETATION MANAGEMENT AREA
525/192/245
#14
14.75 ACRES
SFWMD
#10
57.1 ACRES
SFWMD
600' SFWMD L30 CANAL R/W
40'
SFWMD
30 48020000010
PI
ASSUMED TOE OF SLOPE
CONTINUED SHEET 8
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 9 of 12


NOTE:
This drawing is conceptual subject to survey, selection of structure type,final engineering and design
CONTINUED SHEET 11
N
TIITF
30 38510000010
0 400' 800'
SCALE
600' SFWMD L30 CANAL R/W
PI
ASSUMED TOE OF SLOPE
#15
29.46
ACRES
TIITF
NON NATIVE VEGETATION MANAGEMENT AREA
West Line of L-30 Canal R/W line
ADDITIONAL R/W REQUIRED AT THIS POINT BECAUSE STRUCTURES MOVED WESTERLY TO AVOID GUY ENCROACHMENT TO TOE OF SLOPE OF SFWMD LEVEE
40'
CONTINUED SHEET 9
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 10 of 12



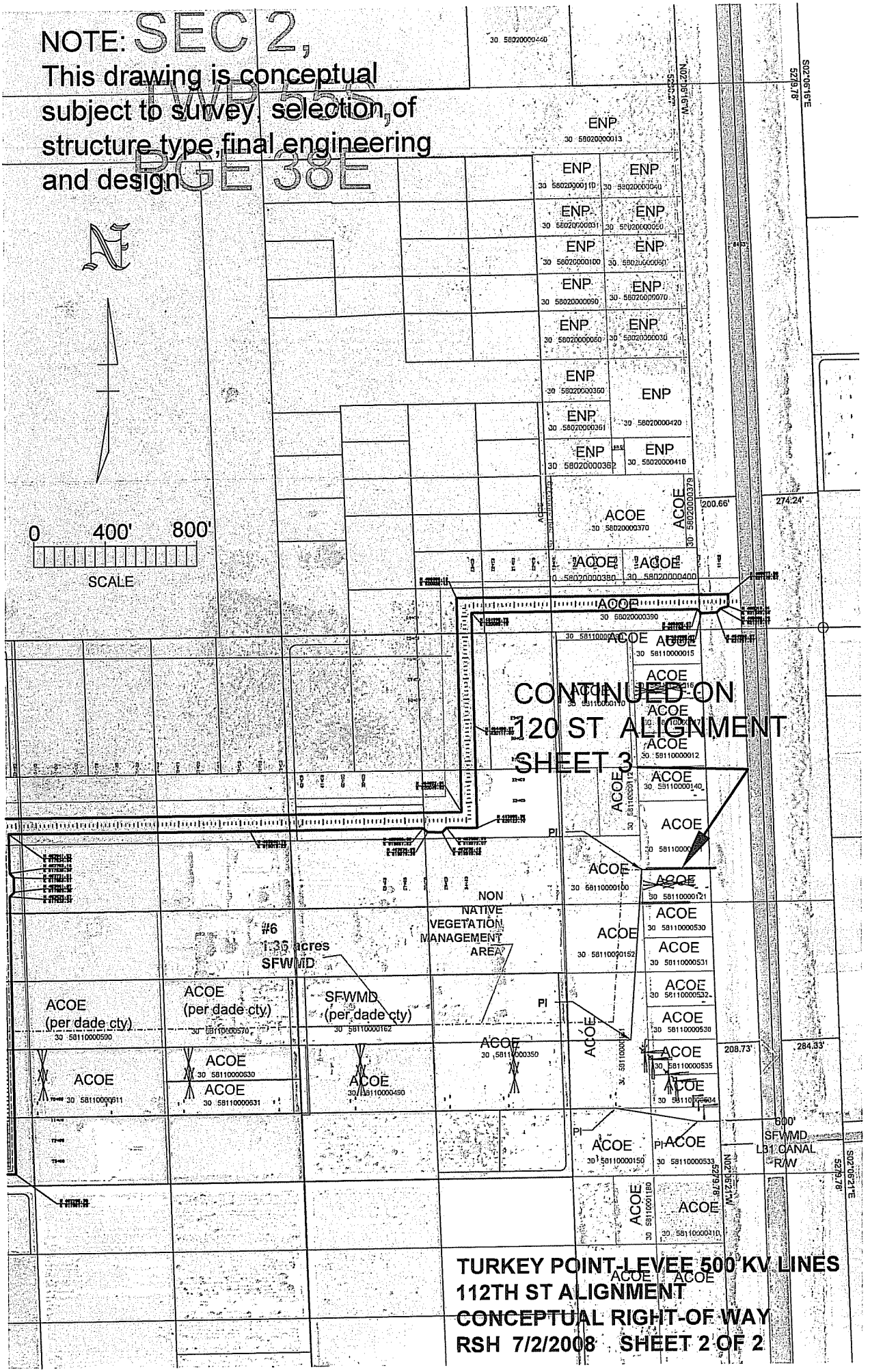
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 11 of 12


NOTE:
This drawing is conceptual subject to survey, selection of structure type, final engineering and design
N
0
400'
800'
600' SFWMD L30 CANAL R/W
EXISTING FPL R/W
To existing Levee sub
TIITF 30 38240000010
30 38250000010
NON NATIVE VEGETATION MANAGEMENT AREA
ASSUMED TOE OF SLOPE
40'
TIITF 30 38250000020
West line of L-30 Canal R/W line
600' SFWMD L30 CANAL R/W
Offset Criteria Per SFWMD -(07/02/2007)
Use the greater of either:
1) 102 feet from the west side of the Canal (L-31N South of S-335 and L-30 North of S-335) or
2) 40 feet perpendicular to the levee's western toe
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 12 of 12
CONTINUED SHEET 11


NOTE:
This drawing is conceptual subject to survey, selection of structure type,final engineering and design
0 400' 800'
SCALE
ENP
30 58100000040
ENP BOUNDRY
#1
0.17 ACRES
ACOE
#2
93.48 ACRES
ACOE
#3
0.69 ACRES
ACOE
#4
20.26 ACRES
ACOE
#5
1.36 acres
SFWMD
NON NATIVE VEGETATION MANAGEMENT AREA
PROPOSED NORTH LINE OF FPL R/W
PI
ACOE
30 58100000040
ACOE
30 58100000010
SFWMD
(per dade cty)
30 58100000552
ACOE
30 58100000521
ACOE
(per dade cty)
30 58100000590
ACOE
30 58100000611
ACOE
30 58100000020
ACOE
30 58100000004
C/L SW 120 St.
ASSUMED EAST EDGE OF FPL 330' WIDE R/W MUST BE VERIFIED BY SURVEY
PROPOSED SOUTH & EAST LINES OF FPL R/W LOCATED ADJACENT TO NORTH LINE OF CONSTRUCTION EASEMENT AS SHOWN ON TYPICAL 8.5 SMA PROTECTION LEVEE SECTION
LEVEE ℄
10.0' 10.0'
CONSTRUCTION EASEMENT
CONSTRUCTION EASEMENT
EL 10.2
3
1
15.0' (TYP)
15.0' (TYP)
EXISTING GRADE
SELECT FILL
TYPICAL 8.5 SMA PROTECTION LEVEE SECTION
Note:
South and west lines of Proposed FPL R/W located adjacent to the edge of construction easement as shown on the Typical 8.5 SMA Protection Levee Section.
TURKEY POINT-LEVEE 500 KV LINES
112TH ST ALIGNMENT
CONCEPTUAL R/W
RSH 7/2/2008 SHEET 1 OF 2

NOTE: SEC 2,
This drawing is conceptual subject to survey, selection of structure type, final engineering and design

TWP 55S
RGE 38E



Right of Way Relocation
Anticipated Access Rights to Relocated Right of Way

Access rights necessary for constructing, operating and maintaining transmission lines and other facilities on the Levee-Turkey Point relocated right of way from SW 120 St. to NW 41 St.

All Sections:
Right of ingress and egress (on, over and across) for personnel, material and equipment of FPL, its contractors, agents, successors or assigns over the lands. Rights to install, maintain, improve, modify or tie-into existing access roads to allow for safe access for personnel, vehicles, material and equipment. Rights for temporary storage of materials or equipment during the construction/maintenance period. Rights to install, maintain, improve or modify fencing/gates.

ACOE
From FPL R/W just north of SW 120th Street East to exit from inside 8.5 SMA Protection Levee
Use SFWMD 8.5 SMA Protection Levee for access to facilities. The access to the relocated right of way will be from the levee along and outside of the relocated right of way (except for those sections of the levee that cross the relocated right of way).

- Access and use of the levee (8.5 SMA Protection Levee) between FPL right of way and SW 197th Ave
- Ability to construct access roads and ramps onto the levee for access from FPL R/W and other public access, if required.
- Ability to construct finger roads, ramps and pads for access to the facilities from the levee.

For alternate route along 112th Street.

- Access and use of the levee (8.5 SMA Protection Levee) going east from FPL right of way to SW 197th Ave, then north slightly past SW 112th Street, than east to SW 194th Ave
- Ability to construct access roads and ramps onto the levee for access from FPL R/W and other public access, if required
- Ability to construct finger roads, ramps and pads for access to the facilities from the levee

From 8.5 SMA Protection Levee East to L-31N, then north to ENP Boundary (near SW 100th Street)
A patrol road will be used within the transmission right of way along this section. Depending on surface and soil conditions, the patrol road may require simple clearing up to installation of compacted fill. Access to the R/W will be from the 8.5 SMA Protection Levee (or other public access) on south end and L-31N on east/north end. Access to the 8.5 SMA Protection Levee will be from FPL R/W or SW 197th Ave. Access to L-31N will be from SW 8th Street, 8.5 SMA Protection Levee near SW100th Street, from relocated right of way near SW 120th Street (new access ramp to L-31N to be installed if needed) or SW 136th Street.

SFWMD and TIITF
From ENP Boundary (near SW 100th Street) to SW 8th Street.
Use SFWMD L-31N right of way on the west side of the canal for access to the relocated right of way. Entry onto the L-31N right of way will be from SW 8th Street, 8.5 SMA Protection Levee near SW100th Street(new access ramp to L-31N to be installed if needed), from relocated right of way near SW 120th Street (new access ramp to L-31N to be installed if needed) or SW 136th Street. (Note: Other public roads may be used, but it appears that they are being vacated to the government owners of adjacent lots)

From SW 8th Street to NW 41st Street
Use SFWMD L-29/30 levee/right of way on the north and west side of the canals for access to the relocated right of way. Entry onto the L-29/30 right of way will be from SW 8th Street approximately 1.3 miles west of Krome Ave (SFWMD S356), from Krome Avenue approximately 1.1 mile north of SW 8th Street (SFWMD S335) and from Krome Avenue approximately 8.5 miles north of 8th Street (SFWMD bridge).

For these segments, easement must also grant rights to

- Construct access roads and ramps onto the levee for access from FPL R/W and other public access, if required.
- Construct finger roads, ramps and pads for access to the facilities from the levee.

Appendix 2-1A
Legal Description of Replacement Corridor

[Legal description to be provided following survey]

Appendix 3

Legal Description of Utility Easements

[Legal descriptions to be provided following survey]

Appendix 3A
Utility Easement from United States to FPL

UNITED STATES OF AMERICA,
DEPARTMENT OF THE ARMY

UTILITY EASEMENT

LOCATED IN

MIAMI-DADE COUNTY, FLORIDA

THE UNITED STATES OF AMERICA, BY AND THROUGH THE UNITED STATES ARMY CORPS OF ENGINEERS, THE SECRETARY THE ARMY, under and by virtue of the authority vested in the Secretary by Title 10, United States Code, Section 2668, hereinafter referred to as the "**Grantor**", having found that the granting of this easement is not incompatible with the public interest, hereby grants to **FLORIDA POWER & LIGHT COMPANY, A FLORIDA CORPORATION**, its successors and assigns, hereinafter referred to as the "**Grantee**, an easement forever for a utility corridor being a minimum three hundred thirty feet (330') in width, but no greater than five hundred eighty-four feet (584') in width (as more particularly shown on that certain plan entitled _____ dated ___, 2008) to allow for guying and related appurtenances, to be used for the construction, operation and maintenance of utility facilities including overhead and underground electric transmission and distribution lines, including but not limited to, wires, poles, transmission structures, towers, cables, conduits, anchors, guys, roads, trails and equipment associated therewith, attachments and appurtenant equipment for communication purposes, and one or more pipelines and appurtenant equipment for the transmission of substances of any kind (all of the foregoing hereinafter referred to as "***facilities***"), over, under, in, on, upon, through and across the lands of the Grantor situated in the Miami-Dade County, Florida and being more particularly described in **Exhibit "A"** attached hereto and made a part hereof ("***Easement Area***") together with the right and privilege from time to time to reconstruct, inspect, alter, improve, enlarge, add to, change the voltage as well as the nature or physical characteristics of, replace, remove or relocate such facilities or any part of them upon, across, over, under and or through the Easement Area with all rights and privileges necessary or convenient for the full enjoyment or the use thereof for the herein described purposes, including, but not limited to, the right of FPL to use any existing or future road on the Easement Area, and the right of FPL to install, maintain, improve or modify ramps, roads, bridges and fences/gates (with FPL promptly providing Grantor with keys to all such fences/gates) at FPL's expense, to allow for the safe access of personnel, vehicles, materials and equipment; subject to Grantor's advance review and written approval, which may not be unreasonably withheld, conditioned or delayed, of any FPL proposal to install, improve, or modify ramps, roads, bridges and/or fences/gates, and also including the right to cut and keep clear all trees, undergrowth and other obstructions within the Easement Area, the right to mark the location of any underground facilities by above ground and other suitable markers, and the right of ingress and egress for personnel and equipment of Grantee, its contractors, agents, successors or assigns, on foot

and by motor vehicle, including trucks and heavy equipment, on said land, for the purpose of exercising and enjoying the rights granted by this easement and any or all of the rights granted hereunder. Grantor and Grantee agree that the Easement Area may be flooded provided that no portion of FPL's facilities above a maximum water elevation of 10.5 feet NGVD 1929 elevation, is flooded. Grantor further agrees that no portion of the Easement Area shall be paved and no building, well, irrigation system, structure, obstruction, or improvement (including any improvements for flood control purposes) shall be located, constructed, maintained or operated over, under, upon through or across the Easement Area by Grantor, or the successors or assigns of Grantor without the prior written approval of Grantee, or its successors or assigns, which may not be unreasonably withheld, conditioned or delayed.

Grantee must repair any damage to the Easement Area resulting from Grantee's use thereof under this Easement. If Grantee fails to repair the Easement Area resulting from Grantee's use within thirty (30) days following Grantor's written notice to Grantee of such damage (or within such time as agreed upon in writing by Grantor and Grantee), Grantor may, at Grantor's sole option, repair the Easement Area at Grantee's sole cost and expense. In the event that the Grantor exercises its rights or repair, Grantor shall submit a written demand for such costs and expenses to Grantee, and Grantee shall pay the indicated cost of any such repair or maintenance within forty-five (45) days of the date of demand of the same from Grantor. If Grantee fails to pay such costs in the timeframe provided in this Paragraph, then any such unpaid amounts shall bear interest at the highest rate permitted by applicable law (the "Default Rate").

THIS EASEMENT is granted subject to the following conditions:

1. **TERM**

This easement is hereby granted in perpetuity beginning upon the date of execution by Grantor.

2. **CONSIDERATION**

The consideration for this easement shall be the land exchanges contemplated in that certain Agreement by and between Grantor and Grantee dated August ___, 2008 regarding FPL's Utility Corridor within the Everglades National Park Expansion Area.

3. **NOTICES**

All correspondence and notices to be given pursuant to this easement shall be addressed, if to the Grantee, to: Florida Power & Light Company, P.O. Box 14000, 700 Universe Boulevard, Juno Beach, FL 33408-0420 Attention: Corporate Real Estate and, if to the United States, to: the District Engineer, Attention: Chief Real Estate Division, P.O. Box 4970, Jacksonville, Florida 32232; or as may from time to time otherwise be directed by the parties. Notice shall be deemed to have been duly given if and when enclosed in a properly sealed envelope or wrapper addressed as aforesaid, and deposited, postage prepaid, in a post office regularly maintained by the United States Postal Service.

4. **AUTHORIZED REPRESENTATIVES**

As used herein, "said officer" shall mean the District Engineer. Except as otherwise specifically provided, any reference herein to "Secretary", "District Engineer", or "said officer", shall include their duly authorized representatives. Any reference to "Grantee" shall include assignees, transferees and their duly authorized representatives.

5. **SUPERVISION BY THE DISTRICT ENGINEER** [Intentionally deleted]

6. **APPLICABLE LAWS AND REGULATIONS**

The Grantee shall comply with all applicable Federal, state, county and municipal laws, ordinances and regulations wherein the Easement Area is located, including, but not limited to, the provisions of the latest edition of the National Electrical Safety Code (NESC) and the Environmental Protection Agency regulations on Polychlorinated Biphenyls (PCS's).

7. **CONDITION OF EASEMENT AREA ON THE PREMISES**

The Grantee acknowledges that it has inspected the Easement Area, knows the condition, and understands that the use of the same is granted without any representation or warranties whatsoever and without any obligation on the part of the United States.

8. **INSPECTION AND REPAIRS**

The Grantee shall inspect the facilities that it will construct within the Easement Area at reasonable intervals and immediately repair any defects found by such inspection or when required by said officer to repair any such defects.

9. **PROTECTION OF GOVERNMENT PROPERTY**

The Grantee shall be responsible for any damage that may be caused to the property of the United States by the activities of the Grantee under this easement and shall exercise due diligence in the protection of all government property located on the Easement Area against fire or damage caused by Grantee, its employees and/or contractors. Any property of the United States damaged or destroyed by the Grantee incidental to the exercise of Grantee's privileges herein granted, shall be promptly repaired or replaced by the Grantee to a condition reasonably satisfactory to said officer, or, reimbursement made therefore by the Grantee in an amount necessary to restore or replace the property to a condition reasonably satisfactory to said officer.

10. **RIGHT TO ENTER**

The right is reserved to the United States, its officers, agents, and employees to enter upon the Easement Area at any time and for any purpose necessary or convenient in connection with government purposes, to make inspections, to remove timber or other material, except property of the Grantee, and/or to make any other use of the lands as may be necessary in connection with government purposes but not inconsistent with the use, occupation, maintenance or enjoyment of the Easement Area by Grantee or its successors or assigns, or as might cause a hazardous condition.

11. TRANSFERS AND ASSIGNMENTS

Without prior written approval by said officer, which approval shall not be unreasonably withheld, conditioned or delayed, the Grantee shall neither transfer nor assign this easement or any part thereof nor grant any interest, privilege or license whatsoever in connection with this easement. The provisions and conditions of this easement shall extend to and be binding upon and shall inure to the benefit of Grantor and the representatives, successors and assigns of the Grantee.

12. INDEMNITY

The United States shall not be responsible for damages to property or injuries to persons which may arise from or be incident to the exercise of the privileges herein granted, or for damages to the property or injuries to the person of the Grantee's officers, agents or employees or others who may be on the Easement Area at their invitation or the invitation of any one of them, and the Grantee shall hold the United States harmless from any and all such claims arising from the activities of Grantee, its officers, agents, employees and invitees on the Easement Area, excluding however, damages due to the fault or negligence of the United States or its contractors.

13. SUBJECT TO EASEMENTS [Intentionally deleted.]

14. RELOCATION OF FACILITIES [Intentionally deleted.]

15. TERMINATION

This easement will be released and terminated of record by Grantee following the recording of the deed from the United States to the South Florida Water Management District ("SFWMD") for the premises upon which the Easement Area is located in the public records of Miami-Dade County, Florida, and the subsequent recording by Grantee of an easement from SFWMD to Grantee for the purposes herein granted over the Easement Area. Grantee will record such release and termination of easement in the public records of Miami-Dade County, Florida within thirty (30) days following Grantee's recording of the easement described in this paragraph from SFWMD to Grantee.

16. SOIL AND WATER CONSERVATION

The Grantee shall repair any damage to existing soil and water conservation structures located on the Easement Area which occurs as a result of the activities of the Grantee, its contractors, subcontractors, agents and employees. Grantee shall take appropriate measures to prevent or control soil erosion within the Easement Area herein granted as a result of Grantee's, Grantee's agents', employees', contractors' and subcontractors' activities within the Easement Area. Any soil erosion occurring outside of the Easement Area resulting from the activities of the Grantee shall be corrected by the Grantee at Grantee's expense.

17. ENVIRONMENTAL PROTECTION

a. Within the limits of their respective legal powers, the parties hereto shall protect the Easement Area against pollution of its air, ground and water resulting from their respective uses of the Easement Area. The Grantee shall promptly comply with any applicable laws, regulations, conditions or instructions affecting the activity hereby authorized if and when issued by the Environmental Protection Agency, or any Federal, state, interstate or local governmental agency. The disposal of any toxic or hazardous materials within the Easement Area is strictly prohibited. The Grantee shall not discharge waste or effluent from the Easement Area in such a manner that the discharge will contaminate streams or other bodies of water or otherwise become a public nuisance.

b. The use of any pesticides or herbicides within the Easement Area shall be in conformance with all applicable Federal, state and local laws and regulations. The Grantee must secure written approval of the owner of the land underlying the Easement Area, which approval will not be unreasonably withheld, conditioned or delayed, before any pesticides or herbicides are applied to the Easement Area.

c. The Grantee will use all reasonable means available to protect the environment and natural resources from damage associated with Grantee's use of the Easement Area, and where damage nonetheless occurs arising from the Grantee's activities, the Grantee shall be liable to restore the damaged resources.

18. **HISTORIC PRESERVATION**

The Grantee shall not remove or disturb, or cause or permit to be removed or disturbed, any historical, archeological, architectural or other cultural artifacts, relics, remains or objects of antiquity within the Easement Area. In the event such items are discovered on the Easement Area, the Grantee shall immediately notify said officer and protect the site and material from further disturbance until said officer gives clearance to proceed.

19. **NON-DISCRIMINATION**

The Grantee shall not discriminate against any person or persons because of race, color, age, sex, handicap, national origin, or religion in the conduct of its operations on the Easement Area.

20. **RESTORATION** [Intentionally deleted.]

21. **DISCLAIMER**

This instrument is effective only insofar as the rights of the United States in the property are concerned, and the Grantee shall obtain such permission as may be required on account of any other existing rights. It is understood that the granting of this easement does not eliminate the necessity of obtaining any permit or license, which may be required by Federal, state or local statute in connection with use of the premises.

IN WITNESS WHEREOF, I have hereunto set my hand by authority of the Secretary of the Army, this _____ day of _____, 2008.

UNITED STATES OF AMERICA

BY:_____
SHARON W. CONKLIN
Chief, Real Estate Division
U.S. Army Engineer District
Jacksonville, Florida

ACKNOWLEDGMENT

STATE OF FLORIDA)
)**ss:**
COUNTY OF DUVAL)

On this _____ day of _____, 2008 before me, the undersigned notary public, personally appeared SHARON W. CONKLIN, CHIEF, REAL ESTATE DIVISION, UNITED STATES ARMY CORPS OF ENGINEERS, personally known to me to be the person who subscribed to the foregoing instrument or who produced _____as identification and acknowledged that she executed the same on behalf of United States of America by and through The Army Corps of Engineers and acknowledged that she was duly authorized to do so.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
Notary Public, State of Florida
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

THIS EASEMENT is also executed by the Grantee this _____ day of _____, 2008.

FLORIDA POWER & LIGHT COMPANY

By: _____
Terry L. Hicks,
Vice President of Corporate Real Estate

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF PALM BEACH)

On this _____ day of _____, 2008 before me, the undersigned notary public, personally appeared Terry L. Hicks, Vice President Corporate Real Estate of FLORIDA POWER & LIGHT COMPAN, personally known to me to be the person who subscribed to the foregoing instrument and acknowledged that he executed the same on behalf of FLORIDA POWER & LIGHT COMPANY and acknowledged that he was duly authorized to do so.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
Notary Public, State of Florida
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

Exhibit "A"

Legal Description of Easement Area

[Legal descriptions to be provided following completion of surveys and are subject to the approval of the parties]

Appendix 4
Legal Description of Non-Native Vegetation Management Easement from the United States to FPL

[Legal description to be provided following survey]

Appendix 4A
Non-Native Vegetation Management Easement from the United States to FPL

Prepared by and Following Recording Return to:

Patricia Lakhia, Esquire
Florida Power& Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420

NON-NATIVE VEGETATION AND FIRE MANAGEMENT EASEMENT

The **UNITED STATES OF AMERICA, BY AND THROUGH THE UNITED STATES ARMY CORPS OF ENGINEERS ("Grantor")** with an address of 701 San Marco Boulevard, Jacksonville, Florida 32207, in consideration of the payment of Ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, grants and gives to **FLORIDA POWER & LIGHT COMPANY, a Florida corporation** with an address of 700 Universe Boulevard, Juno Beach, Florida 33408, its employees, contractors, sub-contractors, licensees, agents, successors, and assigns (collectively, "**Grantee**"), an easement forever for the purpose of removing fire prone exotics including but not limited to Melaleuca and Australian pine, within the following easements or parcels of land, each being ninety (90) feet in width, and more particularly described on the attached Exhibit "A" which is incorporated herein by reference ("Easement Area").

Grantee understands that herbicides applied within the Easement Area shall only be those registered by the U.S. Environmental Protection Agency and which have state approval. Herbicide application rates and concentrations will be in accordance with label directions and will be carried out by a licensed applicator, meeting all federal, state and local regulations. Herbicide applications shall be selectively applied to targeted vegetation. Broadcast application of herbicide shall not be used within the Easement Area unless the effects on non-targeted vegetation are minimized.

Grantee agrees to secure any and all applicable federal, state and local permits required in connection with Grantee's use of the Easement Area, and at all times to comply with all requirements of all federal, state and local laws, ordinances, rules and regulations applicable or pertaining to the use of the Easement Area by Grantee.

Grantor reserves the right to maintain, construct or alter roads which are located on the Easement Area and are necessary to Grantor's operations, and in doing so, agrees that it shall not temporarily or permanently impede Grantee's access over the Easement Area.

Grantee agrees that it will not use the Easement Area in any manner which will interfere with Grantor's use of the Easement Area or interfere with Grantor's project or cause a hazardous condition to exist. Grantee agrees that no hazardous substance, as the term is defined in Section 101 (14) of the Comprehensive Environmental Response Compensation and Liability Act ("**CERCLA**") (42 USC Section 9601 [14]), petroleum products, liquids or flammables shall be stored on the Easement Area. Grantee agrees further that in the event it should create a hazardous condition on the Lands, then upon

notification by Grantor, Grantee shall, within seventy-two (72) hours, at its sole cost and expense, correct such condition or situation.

Grantee must repair any damage to the Easement Area resulting from Grantee's use thereof under this Easement. If Grantee fails to repair the Easement Area resulting from Grantee's use within thirty (30) days from the date of Grantor's written notice to Grantee of such damage (or within such time as agreed upon in writing by Grantor and Grantee), Grantor may, at its sole option, repair the Easement at Grantee's sole cost and expense. In the event that Grantor exercises its rights of repair, Grantor shall submit a written demand for such costs and expenses to Grantee, and Grantee shall pay the indicated cost of any such repair or maintenance within forty-five (45) days of the date of demand of the same from Grantor. If Grantee fails to pay such costs in the timeframe provided in this easement, then any such unpaid amounts shall bear interest at the highest rate permitted by applicable law (the "Default Rate").

All notices which are required or permitted hereunder must be in writing and shall be deemed to have been given, delivered or made, as the case may be (notwithstanding lack of actual receipt by the addressee) (i) three (3) business days after having been deposited in the United States mail, certified or registered, return receipt requested, sufficient postage affixed and prepaid, (ii) one (1) business day after having been deposited with an expedited, overnight courier service addressed to the party to whom notice is intended to be given at the address set forth below:

To Grantor:

District Engineer
Attention: Chief Real Estate Division
P.O. Box 4970
Jacksonville, Florida 32232

To FPL:

Director, Corporate Real Estate
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
Telephone: (561) 691-2123

with a copy to:
Law Department
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 334084-0420
Telephone: 561-304-5261

As a condition precedent to entry within the Easement Area by Grantee or its contactor, subcontractor, agent, representative, licensee, or invitee, Grantee shall require such Grantee contactor, subcontractor, agent, representative, licensee, and invitee to provide to the Grantor insurance with the same protection and insurance coverages

required by and afforded to the Grantee. Grantee shall also require that the Grantor be named as an additional insured on all such insurance and said liability insurance shall be primary to any liability or property insurance carried by Grantor.

Grantor makes no representation or warranty with respect to the title to or the condition of the Easement Area and that Grantee hereby accepts the Easement Area in its "AS-IS", "WHERE-IS" and "WITH ALL FAULTS" condition, including with respect to the environmental condition of the property and possible disposal of hazardous waste, substances, or pollutants as defined or regulated under applicable law.

IN WITNESS WHEREOF, the undersigned has caused this Easement to be executed as of the date first set forth above.

UNITED STATES OF AMERICA

By:_____
Sharon W. Conklin
Chief, Real Estate Division

_____
Signature
Print Name: _____

_____
Signature
Print Name: _____

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF DUVAL)

On this _____ day of _____, 2008 before me, the undersigned notary public, personally appeared Sharon W. Conklin, Chief, Real Estate Division of the UNITED STATES ARMY CORPS OF ENGINEERS, personally known to me to be the person who subscribed to the foregoing instrument or who has produced _____, as identification, and acknowledged that she executed the same on behalf of the UNITED STATES OF AMERICA, being duly authorized to do so.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
Notary Public, State of Florida
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

IN WITNESS WHEREOF, the undersigned has caused this Easement to be executed as of the date first set forth above.

Executed in the presence of:

GRANTEE:
FLORIDA POWER & LIGHT COMPANY

_____
Print Name:_____

By: _____
Terry L. Hicks,
Vice President of Corporate Real Estate

_____
Print Name:_____

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF PALM BEACH)

On this _____ day of _____, 2008, before me, the undersigned notary public, personally appeared, Terry L. Hicks, Vice President of Corporate Real Estate of Florida Power & Light Company, a Florida corporation, personally known to me to be the person who subscribed to the foregoing instrument and acknowledged that he executed the same on behalf of said corporation and that he was duly authorized so to do.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
Notary Public, State of Florida
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

Exhibit "A"

Legal Description of
NON-NATIVE VEGETATION AND FIRE MANAGEMENT EASEMENT

[Legal description to be provided following survey]

Appendix 5
Release of Easement from FPL to the United States

Prepared By and Return to Following Recording:
Patricia Lakhia, Esquire
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, Florida 33408-0420
Folio No._____

RELEASE OF EASEMENT

FLORIDA POWER AND LIGHT COMPANY, a Florida corporation, whose mailing address is P.O. Box 14000, 700 Universe Boulevard, Juno Beach, FL 33408-0420 (the "***FPL***"), the owner and holder of that certain Easement Agreement recorded in the public records of Miami-Dade County Florida recorded in Official Record Book ____ at page _____ (the "***Easement***"), for and in consideration of certain benefits accruing to it, does hereby release unto the **UNITED STATES OF AMERICA** ("***USA***") all of FPL's right, title, or interest as lies within the property described on the attached Exhibit "A" which is incorporated herein by reference ("***Property***"). And hereby agrees that from and after the date hereof the Property shall be freed of said Easement and the rights and privileges granted therein and any other right, title or interest of FPL in the Property.

IN WITNESS WHEREOF, the said FLORIDA POWER & LIGHT COMPANY has caused this Release of Easement to be signed in its name by its proper officers and its corporate seal to be affixed, this _____ day of _____, 2008.

Signed, Sealed & Delivered in
The Presence of:

_____
Print Name:_____

_____
Print Name:_____

FPL:
FLORIDA POWER AND LIGHT
COMPANY

BY:_____
Terry L. Hicks
Vice President of Corporate
Real Estate

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF PALM BEACH)

The foregoing instrument was acknowledged before me this _____day of _____, 2008, by Terry L. Hicks, Vice President of Corporate Real Estate of Florida Power & Light Company, a Florida corporation, on behalf of the corporation, being duly authorized to do so, and who is personally known to me.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
Notary Public, State of Florida
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

Exhibit "A"

[Legal Description to be provided]

Appendix 6
Legal Description of Access Easement from the United States to FPL
[Legal description to be provided following survey]

Appendix 6A
Access Easement from the United States to FPL

UNITED STATES OF AMERICA, DEPARTMENT OF THE ARMY

ACCESS EASEMENT

LOCATED IN

MIAMI-DADE COUNTY, FLORIDA

THE UNITED STATES OF AMERICA, THROUGH THE ARMY CORPS OF ENGINEERS, THE SECRETARY THE ARMY, under and by virtue of the authority vested in the Secretary by Title 10, United States Code, Section 2668 (hereinafter referred to as "**Grantor**"), having found that the granting of this easement is not incompatible with the public interest, hereby grants to **Florida Power & Light Company, a Florida corporation**, its successors and assigns, and its agents, employees, contractors, sub-contractors and invitees, hereinafter referred to as the "**Grantee**", an non-exclusive easement forever for access in, on, over, under and across the property more particularly identified on the attached **Exhibit "A"** to this Easement (the "**Easement Area** "), which Exhibit is made a part hereof, for ingress and egress by FPL and its agents, employees, contractors, sub-contractors, invitees, successors and assigns, on foot and by motor vehicle, including trucks, materials and heavy equipment, to and from FPL's facilities located on adjacent lands. This easement is granted with all rights necessary and convenient for the full use and enjoyment of the Easement Property for the purposes described herein, including without limitation the right of FPL to use any existing or future road on the Easement Area, and the right of FPL to install, maintain, improve or modify fences/gates (with FPL promptly providing Grantor with keys to all such fences/gates), ramps, roads and bridges, at FPL's expense, to allow for safe access for personnel, vehicles, materials and equipment; subject to Grantor's advance review and written approval, which may not be unreasonably withheld, conditioned or delayed, of any FPL proposal to install, improve, or modify fences/gates, ramps, roads, or bridges.

Grantee must repair any damage to the Easement Area resulting from Grantee's use thereof under this Easement. If Grantee fails to repair the Easement Area resulting from Grantee's use within thirty (30) days following Grantor's written notice to Grantee of such damage (or within such time as agreed upon in writing by Grantor and Grantee), Grantor may, at Grantor's sole option, repair the Easement Area at Grantee's sole cost and expense. In the event that the Grantor exercises its rights or repair, Grantor shall submit a written demand for such costs and expenses to Grantee, and Grantee shall pay the indicated cost of any such repair or maintenance within forty-five (45) days of the date of demand of the same from Grantor. If Grantee fails to pay such costs in the timeframe provided in this Paragraph, then any such unpaid amounts shall bear interest at the highest rate permitted by applicable law (the "Default Rate").

THIS EASEMENT is granted subject to the following conditions:

1. TERM

This easement is hereby granted in perpetuity beginning upon the date of execution of this easement by Grantor.

2. CONSIDERATION

The consideration for this easement shall be the land exchanges identified in that certain Agreement by and between Grantor and Grantee dated August __, 2008 regarding FPL's Utility Corridor within the Everglades National Park Expansion Area.

3. NOTICES

All correspondence and notices to be given pursuant to this easement shall be addressed, **if to the Grantee**, to: Florida Power & Light Company, P.O. Box 14000, 700 Universe Boulevard, Juno Beach, FL 33408-0420 Attention: Corporate Real Estate and, **if to the United States**, to: the District Engineer, Attention: Chief Real Estate Division, P.O. Box 4970, Jacksonville, Florida 32232; or as may from time to time otherwise be directed by the parties. Notice shall be deemed to have been duly given if and when enclosed in a properly sealed envelope or wrapper addressed as aforesaid, and deposited, postage prepaid, in a post office regularly maintained by the United States Postal Service.

4. AUTHORIZED REPRESENTATIVES

As used herein, "said officer" shall mean the District Engineer. Except as otherwise specifically provided, any reference herein to "Secretary", "District Engineer", or "said officer", shall include their duly authorized representatives. Any reference to "Grantee" shall include assignees, transferees and their duly authorized representatives.

5. SUPERVISION BY THE DISTRICT ENGINEER [Intentionally deleted.]

6. APPLICABLE LAWS AND REGULATIONS

The Grantee shall comply with all applicable Federal, state, county and municipal laws, ordinances and regulations wherein the Easement Area is located, including, but not limited to, the provisions of the latest edition of the National Electrical Safety Code (NESC) and the Environmental Protection Agency regulations on Polychlorinated Biphenyls (PCS's).

7. CONDITION OF EASEMENT AREA

The Grantee acknowledges that it has inspected the Easement Area, knows the condition, and understands that the use of the same is granted without any representation or warranties whatsoever and without any obligation on the part of the United States.

8. PROTECTION OF GOVERNMENT PROPERTY

The Grantee shall be responsible for any damage that may be caused to the property of the United States by the activities of the Grantee under this easement and shall exercise

due diligence in the protection of all government property located on the Easement Area against fire or damage caused by Grantee, its employees and/or contractors. Any property of the United States damaged or destroyed by the Grantee incidental to the exercise of Grantee's privileges herein granted, shall be promptly repaired or replaced by the Grantee to a condition reasonably satisfactory to said officer, or reimbursement made therefore by the Grantee in an amount necessary to restore or replace the property to a condition reasonably satisfactory to said officer.

9. RIGHT TO ENTER

The right is reserved to the United States, its officers, agents, and employees to enter upon the Easement Area at any time and for any purpose necessary or convenient in connection with government purposes, to make inspections, to remove timber or other material, except property of the Grantee, and/or to make any other use of the lands as may be necessary in connection with government purposes but not inconsistent with the use, occupation, maintenance or enjoyment of the Easement Area by Grantee or its successors or assigns, or as might cause a hazardous condition.

10. TRANSFERS AND ASSIGNMENTS

Without prior written approval by said officer, which approval will not be unreasonably withheld, conditioned or delayed, the Grantee shall neither transfer nor assign this easement or any part thereof nor grant any interest, privilege or license whatsoever in connection with this easement. The provisions and conditions of this easement shall extend to and be binding upon and shall inure to the benefit of Grantor, Grantee and the representatives, successors and assigns of the Grantee.

11. INDEMNITY

The United States shall not be responsible for damages to property or injuries to persons which may arise from or be incident to the exercise of the privileges herein granted, or for damages to the property or injuries to the person of the Grantee's officers, agents or employees or others who may be on the Easement Area at their invitation or the invitation of any one of them, and the Grantee shall hold the United States harmless from any and all such claims arising from the activities of Grantee, its officers, agents, employees and invitees on the Easement Area , **excluding, however,** damages due to the fault or negligence of the United States or its contractors.

12. SUBJECT TO EASEMENTS [Intentionally deleted.]

13. TERMINATION

This easement will be released and terminated of record by Grantee following the recording of the deed from the United States to the South Florida Water Management District ("SFWMD") for the premises upon which the Easement Area is located in the public records of Miami-Dade County, Florida, and the Grantee's subsequent recording of an easement from SFWMD to Grantee for the purposes herein granted over the Easement Area. Grantee will record such release and termination of easement in the public records of Miami-Dade County, Florida within thirty (30) days following the

Grantee's recording of the easement described in this paragraph from SFWMD to Grantee.

14. SOIL AND WATER CONSERVATION

The Grantee shall repair any damage to existing soil and water conservation structures located on the Easement Area which occurs as a result of the activities of the Grantee, its contractors, subcontractors, agents and employees. Grantee shall take appropriate measures to prevent or control soil erosion within the Easement Area herein granted as a result of Grantee's and Grantee's agents', employees', contractors' and subcontractors' activities within the Easement Area. Any soil erosion occurring outside of the Easement Area resulting from the activities of the Grantee shall be corrected by the Grantee at Grantee's expense.

15. ENVIRONMENTAL PROTECTION

a. Within the limits of their respective legal powers, the parties hereto shall protect the Easement Area against pollution of its air, ground and water resulting from their respective uses of the Easement Area. The Grantee shall promptly comply with any applicable laws, regulations, conditions or instructions affecting the activity hereby authorized if and when issued by the Environmental Protection Agency, or any Federal, state, interstate or local governmental agency. The disposal of any toxic or hazardous materials within the Easement Area is strictly prohibited. The Grantee shall not discharge waste or effluent from the Easement Area in such a manner that the discharge will contaminate streams or other bodies of water or otherwise become a public nuisance.

b. The use of any pesticides or herbicides within the Easement Area shall be in conformance with all applicable Federal, state and local laws and regulations. The Grantee must secure written approval of the owner of the land underlying the Easement Area, which approval shall not be unreasonably withheld, conditioned or delayed, before any pesticides or herbicides are applied to the Easement Area.

c. The Grantee will use all reasonable means available to protect the environment and natural resources from damage associated with Grantee's use of the Easement Area, and where damage nonetheless occurs arising from the Grantee's activities, the Grantee shall be liable to restore the damaged resources.

16. HISTORIC PRESERVATION

The Grantee shall not remove or disturb, or cause or permit to be removed or disturbed, any historical, archeological, architectural or other cultural artifacts, relics, remains or objects of antiquity within the Easement Area. In the event such items are discovered on the Easement Area, the Grantee shall immediately notify said officer and protect the site and material from further disturbance until said officer gives clearance to proceed.

17. NON-DISCRIMINATION

The Grantee shall not discriminate against any person or persons because of race, color, age, sex, handicap, national origin, or religion in the conduct of its operations on the Easement Area.

18. DISCLAIMER

This instrument is effective only insofar as the rights of the United States in the property are concerned, and the Grantee shall obtain such permission as may be required on account of any other existing rights. It is understood that the granting of this easement does not eliminate the necessity of obtaining any permit or license, which may be required by Federal, state or local statute in connection with use of the premises.

Remainder of page intentionally blank. Signature pages follow.

IN WITNESS WHEREOF, I have hereunto set my hand by authority of the Secretary of the Army, this _____ day of _____, 2008.

UNITED STATES OF AMERICA,

BY:_____
SHARON W. CONKLIN
Chief, Real Estate Division
U.S. Army Engineer District
Jacksonville, Florida

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF DUVAL)

On this the _____ day of _____, 2008 before me, the undersigned notary public, personally appeared SHARON W. CONKLIN, CHIEF, REAL ESTATE DIVISION, UNITED STATES ARMY CORPS OF ENGINEERS, personally known to me to be the person who subscribed to the foregoing instrument or who produced _____as identification and acknowledged that she executed the same on behalf of UNITED STATES OF AMERICA THROUGH THE ARMY CORPS OF ENGINEERS and acknowledged that she was duly authorized to do so.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
Notary Public, State of Florida
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

THIS EASEMENT is also executed by the Grantee this _____ day of _____, 2008.

FLORIDA POWER & LIGHT COMPANY

By: _____
Terry L. Hicks,
Vice President Corporate Real Estate

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF PALM BEACH)

On this _____ day of _____, 2008 before me, the undersigned notary public, personally appeared Terry L. Hicks, Vice President, Corporate Real Estate of FLORIDA POWER & LIGHT COMPANY, personally known to me to be the person who subscribed to the foregoing instrument as identification and acknowledged that he executed the same on behalf of FLORIDA POWER & LIGHT COMPANY and acknowledged that he was duly authorized to do so.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
Notary Public, State of Florida
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

EXHIBIT "A"

THE EASEMENT AREA

[*Legal descriptions to be provided following completion of surveys*]

Appendix 7
Legal Description of Areas of Replacement Corridor Affected by Perpetual Flowage Easements in Favor of the United States and Accompanying Plan Reflecting Same

[to be provided]

Appendix 7A

DEPARTMENT OF THE ARMY
CONSENT TO EASEMENT

Consent No. DACW17-9-

Project: Modified Water Deliveries to Everglades National Park, Tamiami Trail Modifications

Tract Nos. (3):_____
_____
_____

THIS CONSENT TO EASEMENT AGREEMENT ("Consent"), made by and between the **UNITED STATES OF AMERICA, DEPARTMENT OF THE ARMY**, hereinafter referred to as the "***Government***", acting by and through the Chief, Real Estate Division, U.S. Army Corps of Engineers, Jacksonville District, hereinafter referred to as "***said officer***," and Florida Power & Light Company, hereinafter referred to as the "***Grantee***":

WHEREAS, the Government has acquired perpetual flowage easements over the above-numbered tracts of land, which easements, by their terms, prohibit the construction and maintenance of any structures on the land except as may be approved in writing by the United States of America, acting by and through the representative of the District Engineer, identified herein as "said officer;" and

WHEREAS, the Government and Grantee have entered into an agreement titled, "Agreement Between the United States Acting through the United States Army Corps of Engineers and Florida Power & Light Company Regarding FPL's Utility Corridor Within the Everglades National Park Expansion Area," hereinafter referred to as "***the Agreement,***" wherein certain lands are identified in **Exhibit 7-1** and **Exhibit 7-1A**, copies of which Exhibits are attached hereto and incorporated herein, as comprising Grantee's "***Replacement Corridor***", including some lands over which the Government holds a flowage easement; and

WHEREAS, Grantee has requested approval to construct, maintain, operate, repair and replace certain structures and facilities within the Replacement Corridor identified in and consistent with terms of the Agreement;

NOW THEREFORE, this consent is granted and accepted under the following conditions:

1. That Government consents to Grantee's, its successors' and assigns' construction, operation, maintenance and utilization of the Replacement Corridor as a utility corridor to allow for guying and related appurtenances to be used for the construction, operation and maintenance of utility facilities including overhead and underground electric

transmission and distribution lines, including but not limited to wire, poles, transmission structures, towers, cables, conduits, anchors, guys, roads, trails and equipment associated therewith, attachments and appurtenant equipment for communication purposes and one or more pipelines and appurtenant equipment for the transmission of substances, on over, across, in, on, upon and through the Replacement Corridor, together with the right to reconstruct, inspect, alter, improve, enlarge, add to, change the voltage of, as well as the nature or physical characteristics of, replace, remove or relocate such facilities or any part of them, upon, across, over, under or through the Replacement Corridor, with all rights and privileges necessary or convenient for the full enjoyment or use thereof. Grantee shall have these rights with the same force and effect as if the instruments evidencing the FPL fee and easements interests in the Replacement Corridor had been executed and delivered prior to the execution and delivery of the Grantor flowage easements, and without regard to the priority of recording of the Grantor flowage easements and instruments evidencing FPL's interests in the Replacement Corridor. Government further consents that provided that FPL's facilities are designed and constructed to accommodate a maximum water elevation of 10.5 feet NGVD 1929 elevation, Government shall not interfere with, interrupt or impair FPL's facilities or FPL's use of the Replacement Corridor. It is understood that this consent is effective only insofar as the property rights of the Government in the Replacement Corridor to be occupied by Grantee are concerned, and that it does not relieve the Grantee from the necessity of obtaining grants from the owners of the fee and/or other interests, therein, nor does it obviate the requirement that the Grantee obtain State or local assent required by law for the activity authorized herein. The areas of the Replacement Corridor affected by Government's perpetual flowage easements are more particularly described in the attached **Exhibit 7-1B,** which Exhibit is incorporated herein by reference.

2. That the proposed improvements, use and activities authorized on the Replacement Corridor by this Consent shall be consistent with the terms and conditions of this Consent and the Agreement.

3. That the exercise of the privileges hereby consented to shall be without cost or expense to the Government.

4. That any property of the Government damaged or destroyed by the Grantee incident to the exercise of the privileges herein granted shall be promptly repaired or replaced by the Grantee to the reasonable satisfaction of the said officer, or in lieu of such repair or replacement, the Grantee shall, pay to the Government an amount sufficient to compensate for the loss sustained by the Government by reason of damage to or destruction of Government property.

5. That the Government shall not be responsible for damages to Grantee's property constructed or located below 10.5 feet NGVD 1929 elevation, or injuries to persons which may arise from or be incident to the exercise of the privileges herein granted, or the persons of Grantee's officers, agents, servants, or employees, or others who may be on the Replacement Corridor at the invitation of the Grantee or the invitation of one of them, except to the extent caused by the negligent or willful actions of the Government, its agents, employees, contractors and subcontractors within the Replacement Corridor.

6. That with respect to Grantee's facilities constructed below 10.5 feet NGVD 1929 elevation, the Government shall in no case be liable for any damage, either hidden or

known, to any improvements herein authorized which may be caused by any action of the Government, under the rights obtained in its easements, or that may result from the future operations undertaken by the Government, and no claim or right to compensation shall accrue from such damage to Grantee facilities constructed below 10.5 feet NGVD 1929 elevation. Government will not construct any improvements, nor grant or assign any rights, nor interfere with Grantee's use and enjoyment of Grantee's fee and easement interests, within the Replacement Corridor.

7. That the Grantee within the limits of its respective legal powers shall comply with all Federal, interstate, State, and/or local governmental regulations, conditions, or instructions for the protection of the environment and all other matters as they relate to real property interests granted herein.

8. That this consent may not be transferred to a third party without the prior written notice to the Chief, Real Estate Division, U.S. Army Corps of Engineers, Jacksonville District, Post Office Box 4970, Jacksonville, Florida 32232-0019, and by the transferee's written agreement to comply with and be bound by all the terms and conditions of this consent. In addition, if the Grantee transfers the improvements authorized herein by conveyance of realty, the deed shall reference this consent and the terms and conditions herein and the consent shall be recorded along with the deed in the Registrar of Deeds or with other appropriate official.

This consent is not subject to Title 10, United States Code, Section 2662.

IN WITNESS WHEREOF, I have hereunto set my hand, by authority of the Secretary of the Army, this _____ day of _____ 2008.

UNITED STATES OF AMERICA

BY:_____

SHARON W. CONKLIN
Chief, Real Estate Division
U.S. Army Engineer District
Jacksonville, Florida

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF DUVAL)

On this _____ day of _____, 2008 before me, the undersigned notary public, personally appeared SHARON W. CONKLIN, CHIEF, REAL ESTATE DIVISION, UNITED STATES ARMY CORPS OF ENGINEERS, personally known to me to be the person who subscribed to the foregoing instrument or who produced _____ as identification and acknowledged that she executed the same on behalf of UNITED STATES OF AMERICA THROUGH THE ARMY CORPS OF ENGINEERS and acknowledged that she was duly authorized to do so.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
Notary Public, State of Florida
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

AGREED TO AND ACCEPTED
FLORIDA POWER& LIGHT COMPANY

BY:_____
Terry L. Hicks,
Vice President of Corporate Real Estate

_____
Witness

_____
Witness

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF PALM BEACH)

On this _____ day of _____, 2008 before me, the undersigned notary public, personally appeared Terry L. Hicks, Vice President, Corporate Real Estate of FLORIDA POWER & LIGHT COMPANY, personally known to me to be the person who subscribed to the foregoing instrument and acknowledged that he executed the same on behalf of FLORIDA POWER & LIGHT COMPANY and acknowledged that he was duly authorized to do so.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
Notary Public, State of Florida
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

EXHIBIT 7-1

Proposed Relocation of FPL Utility Corridor on Lands proposed to be conveyed in Fee Simple from the US (ENP/National Park Service) and Easements from the SFWMD, ACOE and TIITF

See attached:

1) Conceptual Plan View with Underlying Ownerships with Access, dated July 2, 2008, 1 sheet, (Not to Scale) (Appendix 2-A);

2) Key Map for Route Alignments, 1 sheet dated July 2, 2008 (Appendix 2-B);

3) Turkey Point Levee 500 kV lines, 120th St. Alignment, Conceptual Right of Way, Sheets 1 through 12, dated July 2, 2008 (Appendix 2-C); and

4) Turkey Point Levee 500 kV Lines, 112th Street Alignment, Conceptual Right of Way, Sheets 1 and 2, dated July 2, 2008 (Appendix 2-D);

5) Right of Way Relocation, Anticipated Access Rights to Relocated Right of Way, dated July 2, 2008 (Appendix 2-E)

EXHIBIT 7-1 A

Legal Description of Replacement Corridor

[Legal descriptions to be provided following completion of surveys and are subject to the approval of the parties]

EXHIBIT 7-1 B

Legal Description: Areas of Replacement Corridor Affected by Perpetual Flowage Easements in Favor of the United States and Accompanying Plan Reflecting Same

[to be provided]

CONTINGENT AGREEMENT FOR AN EXCHANGE OF LANDS BETWEEN THE UNITED STATES OF AMERICA AND FLORIDA POWER & LIGHT COMPANY FOR EXCHANGE AND RELOCATION OF FLORIDA POWER & LIGHT COMPANY'S LANDS AND INTERESTS IN LANDS LOCATED IN OR ADJACENT TO THE EVERGLADES NATIONAL PARK EXPANSION AREA

This Contingent Agreement entered into this _____ day of _____, 2008, (hereinafter "**Agreement**") is entered into by the United States of America ("**United States**"), acting through the National Park Service (hereinafter "**NPS**") and the Florida Power & Light Company (hereinafter "**FPL**"), a Florida corporation, to address conditions for a proposed exchange and relocation of certain property interests of FPL (including provision of easements and other actions) to facilitate acquisitions authorized by the Everglades National Park and Expansion Act of 1989. NPS and FPL are collectively referred to as the "**Parties**", and sometimes individually as a "**Party**".

I. Recitals

1.1 The Everglades National Park Protection and Expansion Act of 1989, 16 U.S.C. § 410r-5 *et seq.*, expanded the boundaries of the ENP to include approximately 109,600 acres south of the Tamiami Trail, and through that Act and additional legislation authorized the United States (through NPS and the United States Army Corps of Engineers) to acquire lands within the designated area ("**ENP Expansion Area**"). The purposes of the expansion of ENP include the preservation of the outstanding natural features of the park, enhancement and restoration of the ecological values natural hydrologic conditions and public enjoyment of such areas by adding the areas commonly known as the Northeast Shark River Slough and the East Everglades, and assurance that the park can maintain the natural abundance, diversity, and ecological integrity of the ecosystem. NPS and as well as the United States Army Corps of Engineers ("**ACOE**") are further authorized by 16 U.S.C. § 410r-8 to acquire lands in addition to the designated 109,600 acres for the purposes of the construction of Modified Water Deliveries to ENP.

1.2 FPL is a utility in the State of Florida and responsible for supplying safe, reliable electrical power to the citizens of Florida. It owns, and has owned since the 1960's and early 1970's, a 330' to 370' wide corridor of property approximately 7.4 miles in length through what has become the ENP Expansion Area, and in additional areas authorized for acquisition by the NPS and the ACOE (collectively, the "**FPL Property**"). The FPL Property to be acquired by the United States pursuant to this Agreement is more particularly identified in **Appendix 1** to this Agreement. The FPL Property is approximately 320 acres.

1.3 FPL asserts that the FPL Property is a vital portion of a contiguous forty (40) mile corridor essential for the placement of critical infrastructure necessary for the transmission of high voltage electrical power for the benefit of the citizens of South Florida and that this contingent land exchange, when coupled with the complementary transactions referenced in Section 1.9, will maintain the viability of FPL's property as a contiguous corridor.

1.4 NPS asserts that utilization of the present FPL Property for an electrical transmission corridor which would bisect a portion of the ENP Expansion Area is contrary to the intended purposes of the ENP Expansion Area. The use of the terms "corridor", "transmission corridor", "utility corridor" or "replacement corridor" in this Agreement is not an admission or acknowledgement by NPS that the use of the FPL Property as a transmission corridor is permissible or suitable as FPL has not begun the permitting process.

1.5 The Parties agree that each will benefit from resolution of this dispute through a negotiated agreement.

1.6 The Parties have identified approximately 260 acres of property and interests at the eastern edge of the ENP Expansion Area that, if exchanged pursuant to the terms of this Agreement and approved for development for electrical transmission facilities, would have substantially less impact on the ENP, including the ENP Expansion Area, compared to use of the present FPL Property if used for the development of electrical transmission facilities. In fact, the relocation of lands held by FPL from the interior of the ENP Expansion Area to the eastern edge of the ENP Expansion Area and use of such lands as an electrical transmission facility, if approved for development, is more compatible with plans to restore more natural water flows to ENP than comparable development and use of the existing FPL Property. Restoration of more natural water flows in the ENP Expansion Area will enhance ENP purposes, resources and values. Relocation of the FPL lands and maintaining the viability of electrical transmission recognizes the public benefits of electrical power transmission facilities. Utilization of property along the eastern edge of the ENP Expansion Area in lieu of the FPL Property would minimize the need for utility access roads in wetlands due to the ability to share access for utility facilities with the South Florida Water Management District along its existing levee roads. The Parties agree that the development of the FPL lands for use as an electrical transmission facility requires various governmental approvals, including an ACOE Clean Water Act Section 404 permit. The Parties recognize that NPS does not have veto authority over Section 404 permits issued by the ACOE, but plays a consultative role during the public review and comment period on the draft permit. In the event that NPS identifies concerns with the draft Section 404 permit, NPS pledges to work with the ACOE and FPL to develop appropriate mitigation or other actions to ameliorate those concerns to the maximum extent practicable, recognizing that the issuance of the permit is solely the responsibility

of the ACOE. NPS agrees to work in good faith to identify any impacts and to work diligently to resolve any concerns.

1.7 The Parties recognize and agree that exchanges and relocation of lands and interests in lands, as described in this Agreement, are contingent upon enactment of legislation by the Congress of the United States approving ratifying, or confirming this Agreement.

1.8 Subject to legislative approval as described in Section 1.7 above and subject to the conditions set forth in this Agreement, the Parties shall exchange and relocate the following property interests more particularly described in **Appendices 1 and 2** to this Agreement:

a. That **FPL** convey in fee simple to the United States all of its right, title and interest in the lands within ENP as specifically described in **Appendix 1**, free and clear of all liens and encumbrances other than those agreed upon by the United States. The deed conveying such property shall be in substantially the form of the attached **Appendix 1A.**

b. That **FPL** shall release all of its right, title and interest in the easement lands identified in Appendix 1. The release of easement shall be in substantially the form of the attached **Appendix 1B.**

c. That the **United States through the NPS** convey in fee simple to FPL property located along the eastern edge of the ENP Expansion Area being a corridor with a minimum width of 330 feet (greater than 330 feet in the area of corridor corners and turns) as depicted in **Appendix 2**, free and clear of all liens, encumbrances and restrictions, including but not limited to restrictions on use, other than those agreed to in writing by FPL as provided below. NPS agrees that, with legislative approval and subsequent conveyance of this property to FPL, any utilization of the conveyed property as a utility corridor is not subject to NPS regulation set forth at 36 C.F.R. Part 14. The Parties recognize and agree that the descriptions in **Appendix 2** will be updated following completion of surveys and engineering design. The deed from the United States to FPL shall be in substantially the form of the attached **Appendix 2A**. NPS will use best efforts to secure removal or subordination of the governmental encumbrances affecting the fee simple land described in **Appendix 2** to the interests of FPL during the Offer period described in Section 2.6 of this Agreement. NPS will use commercially reasonable efforts to remove the private encumbrances affecting this property. As used in this Agreement, "commercially reasonable efforts" shall mean efforts which are designed to enable a Party, directly or indirectly, to expeditiously satisfy a condition to, or otherwise assist in the consummation of, the transactions contemplated by this Agreement and which do not require the performing Party to

expend any funds or assume liabilities other than expenditures and liability assumptions which are customary and reasonable in nature and amount in the context of the transactions contemplated by this Agreement.

d. That the **United States** through the NPS conveys to FPL a perpetual easement for the management of non-native vegetation that has the potential to be a fire hazard to transmission facilities that is a minimum 90 feet in width as depicted in **Appendix 2-1**. The easement granting such rights shall be in substantially the form of the attached **Appendix 2B**. NPS agrees that, with legislative approval and subsequent conveyance of this perpetual easement to FPL, management of vegetation will be conducted in accordance with the terms of the easement and will not be subject to NPS regulation set forth at 36 C.F.R. Part 14.

1.9 The Parties recognize and intend that separate but complementary agreements will be negotiated and executed involving the ACOE for easements over certain federal lands held by the ACOE and with the Board of Trustees of the Internal Improvement Trust Fund for the State of Florida ("**TIITF**"), a state agency, and the South Florida Water Management District ("**SFWMD**"), a public corporation, for interests in state lands as needed to achieve an equivalent, but environmentally preferable, contiguous transmission corridor in exchange for the current FPL property interests.

II. Undertakings of the Parties

2.1 Upon execution of this Agreement and enactment of legislation by the Congress ratifying the Agreement, and subject to Section 2.6 below, the Parties shall promptly implement the exchange of the lands and interests in lands as provided and described in this Agreement.

2.2 Prior to such action by the Congress, and subject to Section 2.10 below, no Party shall be required to undertake any action required by this Agreement or receive any benefit hereunder except that the Parties agree not to alienate, encumber, or otherwise effect a material change in the management of any lands or interests proposed to be exchanged or conveyed under this Agreement.

2.3 FPL agrees to support the terms of this Agreement during consideration by the Congress of legislation approving, ratifying or confirming the terms of this Agreement, and NPS similarly agrees to support the terms of this Agreement to the extent consistent with the legislative, budgetary, legal and programmatic policies of the Executive Branch of the United States. The Parties mutually agree that they will not seek to alter or have altered the terms of this Agreement, or to support legislative provisions that would have the consequence of altering the terms of this Agreement, without first trying in good faith and with due diligence to obtain the concurrence of the other Party to this Agreement in any such alteration, and will keep the other Party to this Agreement fully and timely

informed of any efforts in which they are involved or of which they are aware, individually or collectively, to make or obtain such alteration.

2.4 Notwithstanding any other provision of this Agreement, if the Congress enacts approving, ratifying or confirming legislation which amends or alters any of the terms of this Agreement in the absence of specific written concurrence of the Parties in such amendment or alteration, FPL shall have the right to terminate this Agreement without any further obligation hereunder by written notice received by the Director of the NPS.

2.5 This exchange, if ratified by Congress as provided in Sections 1.7 and 2.1 shall not be subject to the requirements of 16 USC § 460*l*-22(b) as: (1) the Parties and the ACOE have unsuccessfully attempted to negotiate over the value of the FPL Property for a period of years and this Agreement will avoid potential costly litigation over the fair market value of the FPL Property; (2) the provisions of 16 USC § 460*l*-22(b) apply to a land exchange between the NPS and one other entity, while this proposed exchange involves the ACOE and state parties in addition to FPL and NPS; and (3) the acreage relinquished by the NPS is less than the acreage to be conveyed to NPS by FPL and is of similar zoning.

2.6 In the event that legislation described in Section 2.1 is enacted into law, this Agreement shall constitute an offer from the United States to FPL (the "**Offer**"). FPL may accept the offer of the United States to enter into the exchange of interests in lands set forth in this Agreement by notice in writing to the Director at any time within ninety (90) days from the date of enactment of the legislation described herein.

2.7 The obligations and rights of the parties under this Agreement shall be effective and binding upon the Parties upon acceptance by FPL of the Offer as provided in Section 2.6 and the Parties shall promptly take actions necessary to execute and consummate the exchange.

2.8 Upon acceptance of the Offer, that FPL shall, simultaneously with and subject to the conveyance by the United States of all lands and interest described in **Appendix 2** to FPL as prescribed by this Agreement, convey or cause to be conveyed to the NPS all the right, title, and interest of FPL in the fee-owned lands particularly described in **Appendix** 1 and release all of FPL's right, title and interest in the easement lands described in **Appendix** 1. NPS shall, simultaneously with and subject to the conveyance by FPL of all right, title and interest of FPL in the fee-owned lands more particularly described in **Appendix 1** and release of all FPL right, title and interest in the easement lands described in **Appendix 1** to NPS, convey or cause to be conveyed to FPL the lands and interests more particularly described in **Appendix 2**. NPS shall also promptly take action to relocate the boundary of the ENP Expansion Area to the western edge of the lands conveyed to FPL.

2.9 The Parties agree that the exchange of lands and interests in lands held by FPL within the ENP Expansion Area and lands held by NPS that are the subject of this Agreement will enhance the restoration of more natural water flows to ENP. Restoration of more natural water flows will enhance the conservation of the outstanding resources and values of the area and further the purposes of ENP. The Parties agree that this Agreement results in mutual benefits, including maintaining the viability of electrical transmission in South Florida, enhancing the restoration of more natural water flows to ENP, and avoiding potential costly litigation related to the acquisition of FPL's present property interests within the East Everglades Expansion Area. However, in the event that the exchange of lands provided for in this Agreement is not consummated for any reason or is set aside because of a final and non-appealable order of a court of competent jurisdiction, the Parties shall return to their status and rights prior to the execution of this Agreement and the Parties agree to take whatever actions and execute whatever documents are necessary to restore the status quo ante the exchange.

2.10 Nothing in this Agreement shall be construed as creating any rights of enforcement by any person or entity that is not a Party to this Agreement.

2.11 For the purposes of expediting execution of this Agreement, it may be signed in separate counterparts, which, when all have so signed, shall be deemed a single agreement.

2.12 The Parties agree that, to the extent authorized by the legislation described in Section 1 of this Agreement, this Agreement may be amended by mutual consent of all the Parties hereto. If the NPS environmental assessment identifies effects requiring mitigation to support a finding of no significant impact on the contingent exchange that is the subject of this Agreement, the Parties agree to work in good faith to implement any additional mitigation as may be mutually agreed upon as appropriate to assure that there are no significant impacts from the contingent exchange.

2.13 No member or a delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this Agreement or to any benefit that may arise therefrom; but this provision shall not be construed to expand to this Agreement if made with a corporation for its general benefit.

[Signature pages follow]

AGREEMENT BETWEEN THE UNITED STATES OF AMERICA AND FLORIDA POWER & LIGHT COMPANY AND EXCHANGE FOR RELOCATION OF FLORIDA POWER & LIGHT COMPANY'S RIGHT OF WAY LOCATED IN OR ADJACENT TO THE EVERGLADES NATIONAL PARK EXPANSION AREA
[Signature Page]

Date: July 21, 2000

FPL:
FLORIDA POWER & LIGHT COMPANY,
a Florida Corporation

By: _____
Terry L. Hicks
Vice President of Corporate Real Estate

CONTINGENTAGREEMENT BETWEEN THE UNITED STATES OF AMERICA AND FLORIDA POWER & LIGHT COMPANY AND EXCHANGE FOR RELOCATION OF FLORIDA POWER & LIGHT COMPANY'S RIGHT OF WAY LOCATED IN OR ADJACENT TO THE EVERGLADES NATIONAL PARK EXPANSION AREA

[Signature Page]

Date: 7-24-08

NATIONAL PARK SERVICE, United States Department of the Interior

By: David Vela

David Vela, Regional Director,
Southeast Region,
National Park Service.

Appendix 1

Legal Description of FPL Property to be Conveyed, and Easements to be released, to the United States Pursuant to the Terms and Conditions of the Agreement

Property owned by Florida Power and Light Company located in the East Everglades Acquisition Area, between SW 8th Street and SW 120th Street, Miami, FL to be conveyed to the United States following execution of this Agreement, approval by Congress, and acceptance of the United States offer by FPL:

FPL Property to be Conveyed:

The West ½ of the West ½ of the East ½ of the West ½ of Section 3, Township. 55 South, Range 38 East, And

The West ½ of the West ½ of the East ½ of the West ½ of Section 10, Township 55 South, Range 38 East, less and except the South 660' feet thereof which is owned by Florida Power and Light Company; subject to a reserved easement for non-native vegetation management in favor of Florida Power and Light Company over the North 82.45 feet of the South 742.45 feet of said Section 10; and over which the U. S. Army Corps of Engineers has an easement, as described in a Declaration of Taking as recorded in Official Records Book ORB 18927, page 2948 of the Public Records of Miami-Dade County, Florida, And

The West 370 feet of Sections 10, 15, 22, 27 and 34, in Township 54 South, Range 38 East. All of the above in Miami-Dade County, Florida.

Subject to the exceptions noted in title commitments dated 3/15/07 and 3/12/07;

And

FPL Easements to be Released:

FPL easements over Government Lot 3:

i) As recorded in ORB 7237 Page 947 and more particularly described as follows:

Commence at the Northwest corner of Government Lot 3 which lies between Township 54 South and Township 55 South, Range 38 East, of Dade County, Florida; thence run North 89 degrees, 39 minutes, 28 seconds East, along the north line of said Government Lot 3 for a distance of 40.22 feet to the point of beginning of the parcel of land to be hereinafter described: ***From said point of beginning***, run South 4 degrees 22 minutes 17 seconds East for a distance of 75.19 feet; thence run North 89 degrees, 39 minutes, 28 seconds East, along a line 75 feet south of and parallel to the north line of said Government Lot 3 for a distance of 330.19 feet;

thence run North 4 degrees, 22 minutes 03 seconds West for a distance of 75.19 feet; thence run South 89 degrees, 39 minutes 28 seconds West, along the north line of said Government Lot 3, for a distance of 330.19 feet to the point of beginning.

ii) As described in that certain Order Taking filed to No. 72-14266 in the Circuit Court of the 11th Judicial Circuit in and for Dade County, Florida dated September 25, 1972, as Parcel 92, containing approximately **19.60 acres, more or less:**

Commence at the Southwest corner of Government Lot 3 between Township 54 South and Township 55 South of Range 38 East of Dade County, Florida; thence run N89 degrees 31 minutes 10 seconds East, along the south line of said Government Lot 3, for a distance of 1319.79 feet to the Northeast corner of the West 1/2 of the NW1/4 of Section 3, Township 55 South, Range 38 East, ***being the Point of Beginning of the parcel hereinafter described***: From said Point of Beginning, thence run North 4 degrees 22 minutes 17 seconds West for a distance of 2666.81 feet to a point of intersection with the North line of said Government Lot 3, point of Intersection being 40.02 feet East of the NW corner of said Government Lot 3 as measured along the North line of said Lot 3; thence run N 89 degrees 39 minutes 28 seconds East, along the North line of said Lot 3, for a distance of 330.19 feet; thence run South 4 degrees 22 minutes 03 seconds East for a distance of 2665.99 feet to a point of intersection with the South line of said Lot 3; thence run South 89 degrees 31 minutes 10 seconds West along the South line of said Lot 3, for a distance of 329.95 feet to the Point of Beginning; ***LESS*** the North 75 feet thereof. Containing 19.60 acres of land, more or less.

Appendix 1-A

Deed from FPL to the United States of America for FPL Fee-Owned Lands within the ENP Expansion Area.

Prepared By:

Florida Power & Light Company
700 Universe Boulevard
Juno Beach, Florida 33408
Folio No._____

SPECIAL WARRANTY DEED

THIS SPECIAL WARRANTY DEED, made this _____ day of _____, 20___, by FLORIDA POWER & LIGHT COMPANY, a corporation organized and existing under the laws of the State of Florida, having its mailing address at P.O. Box 14000, Juno Beach, Florida 33408-0420, (**"Grantor"**), to THE UNITED STATES OF AMERICA, (**"Grantee"**).

WITNESSETH:

Grantor, for and in consideration of the sum of TEN DOLLARS ($10.00) and other good and valuable considerations to said Grantor in hand paid by said Grantee, the receipt and sufficiency of which is acknowledged, hereby grants, bargains, sells and conveys to Grantee, its successors and assigns forever, all of that certain land situated and located in Miami-Dade County Florida and more particularly described as follows:

The West ½ of the West ½ of the East ½ of the West ½ of Section 3, Township. 55 South, Range 38 East, And

The West ½ of the West ½ of the East ½ of the West ½ of Section 10, Township 55 South, Range 38 East, less and except the South 660 feet thereof which is owned by Florida Power and Light Company and over which the U. S. Army Corps of Engineers has an easement, as described in a Declaration of Taking as recorded in Official Records Book ORB 18927, page 2948 of the Public Records of Miami-Dade County, Florida, And

The West 370 feet of Sections 10, 15, 22, 27 and 34, in Township 54 South, Range 38 East.
Subject to the exceptions noted in title commitments dated 3/15/07 and 3/12/07.

FPL expressly reserves an easement over the North 82.45 feet of the South 742.45 feet of said Section 10, Township 55 South, Range 38 East ("Easement Area") for the

purpose of removing fire prone exotics which pose a fire risk to FPL's facilities, including but not limited to melaleuca and Australian pine, in accordance with FPL's Vegetation Management Program and as mutually agreed upon with the National Park Service, within the Easement Area. Grantor understands that herbicides applied within the Easement Area shall only be those registered by the U.S. Environmental Protection Agency and which have state approval. Herbicide application rates and concentrations will be in accordance with label directions and will be carried out by a licensed applicator, meeting all federal, state and local regulations. Herbicide applications shall be selectively applied to targeted vegetation. Broadcast application of herbicide shall not be used within the easement unless the effects on non-targeted vegetation are minimized. Grantor understands and agrees that an Integrated Pest Management Plan must be submitted for each herbicide application. Grantor and Grantee agree to coordinate the Integrated Pest Management Plan within the Easement Area. Grantor and Grantee agree to coordinate fire management within the Easement Area and adjacent lands of the United States.

TO HAVE AND TO HOLD the same unto the Grantee, its successors and assigns forever.

Grantor hereby binds itself and its successors to warrant the title as against all acts of the Grantor and against the claims and demands of all persons claiming by or through Grantor herein and no other, subject only to the matters set forth above.

IN WITNESS WHEREOF, Grantor has caused its corporate seal to be affixed hereto, and this instrument to be signed by its duly authorized officer on the date first above written.

Executed in the presence of:

Grantor:
FLORIDA POWER & LIGHT COMPANY

_____
Print Name:_____

By: _____
Terry L. Hicks
Vice President of Corporate Real Estate

_____
Print Name:_____

ACKNOWLEDGEMENT

STATE OF FLORIDA)
)ss:
COUNTY OF PALM BEACH)

On this _____ day of _____, 20___, before me, the undersigned notary public, personally appeared, Terry L. Hicks, Vice President of Corporate Real Estate, of Florida Power & Light Company, a Florida corporation, personally known to me to be the person who subscribed to the foregoing instrument or who has produced a driver's license, as identification, and acknowledged that he executed the same on behalf of said corporation and that he was duly authorized so to do.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

(notary seal)

_____
NOTARY PUBLIC, STATE OF FLORIDA

Accepted By:

_____
On behalf of the United States of America

Appendix 1-B
FPL Release of Easement over Lands within the ENP Expansion Area
1 of 2

This Instrument prepared by
and return to following recording:

Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408

RELEASE OF EASEMENT

FLORIDA POWER AND LIGHT COMPANY, a Florida corporation, whose mailing address is P.O. Box 14000, 700 Universe Boulevard, Juno Beach, FL 33408-0420 (the "**Grantor**"), the owner and holder of an easement dated _____ and recorded in Official Record Book 7237, Page 947 of the Public Records of Miami-Dade County, Florida (the "**Easement**"), for and in consideration of certain benefits accruing to it, does hereby release unto the UNITED STATES OF AMERICA any and all right, title or interest as lies within the property described on the attached **Exhibit "A" ("Property").**

And hereby agrees that from and after the date hereof the Property shall be freed of said Easement and the rights and privileges granted therein and any other right, title or interest of the Grantor in the Property. **This release applies only to the Property.**

IN WITNESS WHEREOF, Grantor has caused this Release of Easement to be signed in its name by its proper officers and its corporate seal to be affixed, this _____ day of _____, 20____.

Signed, Sealed & Delivered in
The Presence of:

_____
Print Name:_____

_____
Print Name:_____

Grantor:
FLORIDA POWER AND LIGHT COMPANY

BY:_____
Terry L. Hicks
Vice President of Corporate Real Estate

ACKNOWLEDGEMENT

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this _____day of _____, 2008, by, Terry L. Hicks, Vice President of Corporate Real Estate of Florida Power & Light Company, a Florida corporation, on behalf of the corporation, being duly authorized to do so, and who is personally known to me.

_____
Notary Public

_____
Print
My Commission Expires: _____

Accepted by

_____

On behalf of the United States of America

Exhibit "A"
Legal Description of Property Released From FPL Easement

Commencing at the Northwest corner of Government Lot 3 which lies between Township 54 South and Township 55 South, Range 38 East, of Dade County, Florida; thence run North 89 degrees, 39 minutes, 28 seconds East, along the north line of said Government Lot 3 for a distance of 40.02 feet to the point of beginning of the parcel of land to be hereinafter described: ***From said point of beginning***, run South 4 degrees 22 minutes 17 seconds East for a distance of 75.19 feet; thence run North 89 degrees, 39 minutes, 28 seconds East, along a line 75 feet south of and parallel to the north line of said Government Lot 3 for a distance of 330.19 feet; thence run North 4 degrees, 22 minutes 03 seconds West for a distance of 75.19 feet; thence run South 89 degrees, 39 minutes 28 seconds West, along the north line of said Government Lot 3, for a distance of 330.19 feet to the point of beginning; being the same easement conveyed by Kendall-Krome Industrial Park, Inc., to Florida Light and Power Company, by Right of Way Agreement dated May 18, 1971 and recorded in Book 7237, Page 947 of the Official Records of Miami-Dade County.

Appendix 1-B
FPL Release of Easement over Lands within the ENP Expansion Area
2 0F 2

This Instrument prepared by
and return to following recording:

Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408

PARTIAL RELEASE OF EASEMENT

FLORIDA POWER AND LIGHT COMPANY, a Florida corporation, whose mailing address is P.O. Box 14000, 700 Universe Boulevard, Juno Beach, FL 33408-0420 (the "**Grantor**"), the owner and holder of an easement as described in that certain Order of Taking filed to No. 72-14266 in the Circuit Court of the 11th Judicial Circuit in and for Miami-Dade County, Florida dated September 25, 1972, as **Parcel 92**, containing approximately **19.60 acres, more or less** (the "**Easement**"), for and in consideration of certain benefits accruing to it, does hereby release unto the UNITED STATES OF AMERICA so much of said Easement and any other right, title, or interest as lies within the property described on the attached **Exhibit "A"** ("**Property**")which is incorporated herein by reference.

And hereby agrees that from and after the date hereof the Property shall be freed of said Easement and the rights and privileges granted therein and any other right, title or interest of the Grantor in the Property. **This release applies only to the Property and in no way affects other lands covered by the Order of Taking filed to No. 72-14266 in the Circuit Court of the 11th Judicial Circuit in and for Miami-Dade County, Florida dated September 25, 1972.**

IN WITNESS WHEREOF, Grantor has caused this Partial Release of Easement to be signed in its name by its proper officers and its corporate seal to be affixed, this _____ day of _____, 20__.

Signed, Sealed & Delivered in
The Presence of:

_____
Print Name:_____

_____
Print Name:_____

Grantor:
FLORIDA POWER AND LIGHT COMPANY

BY:_____
Terry L. Hicks
Vice President of Corporate Real Estate

ACKNOWLEDGEMENT

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this ____day of _____, 2008 by Terry L. Hicks, Vice President of Corporate Real Estate of Florida Power & Light Company, a Florida corporation, on behalf of the corporation, being duly authorized to do so, and who is personally known to me.

_____
Notary Public

_____
Print
My Commission Expires: _____

Accepted By:

_____
On behalf of the United States of America

Exhibit "A"

As described in that certain Order Taking filed to No. 72-14266 in the Circuit Court of the 11th Judicial Circuit in and for Dade County, Florida dated September 25, 1972, as Parcel 92, containing approximately **19.60 acres, more or less:**

Commence at the Southwest corner of Government Lot 3 between Township 54 South and Township 55 South of Range 38 East of Dade County, Florida; thence run N89 degrees 31 minutes 10 seconds East, along the south line of said Government Lot 3, for a distance of 1319.79 feet to the Northeast corner of the West 1/2 of the NW1/4 of Section 3, Township 55 South, Range 38 East, ***being the Point of Beginning of the parcel hereinafter described***: From said Point of Beginning, thence run North 4 degrees 22 minutes 17 seconds West for a distance of 2666.81 feet to a point of intersection with the North line of said Government Lot 3, point of Intersection being 40.02 feet East of the NW corner of said Government Lot 3 as measured along the North line of said Lot 3; thence run N 89 degrees 39 minutes 28 seconds East, along the North line of said Lot 3, for a distance of 330.19 feet; thence run South 4 degrees 22 minutes 03 seconds East for a distance of 2665.99 feet to a point of intersection with the South line of said Lot 3; thence run South 89 degrees 31 minutes 10 seconds West along the South line of said Lot 3, for a distance of 329.95 feet to the Point of Beginning; ***LESS*** the North 75 feet thereof. Containing 19.60 acres of land, more or less.

Appendix 2

Description of property interests to be conveyed to FPL by The United States of America.

The Parties agree that legal descriptions of the property interests identified below shall be generated by survey following the execution of this Agreement.

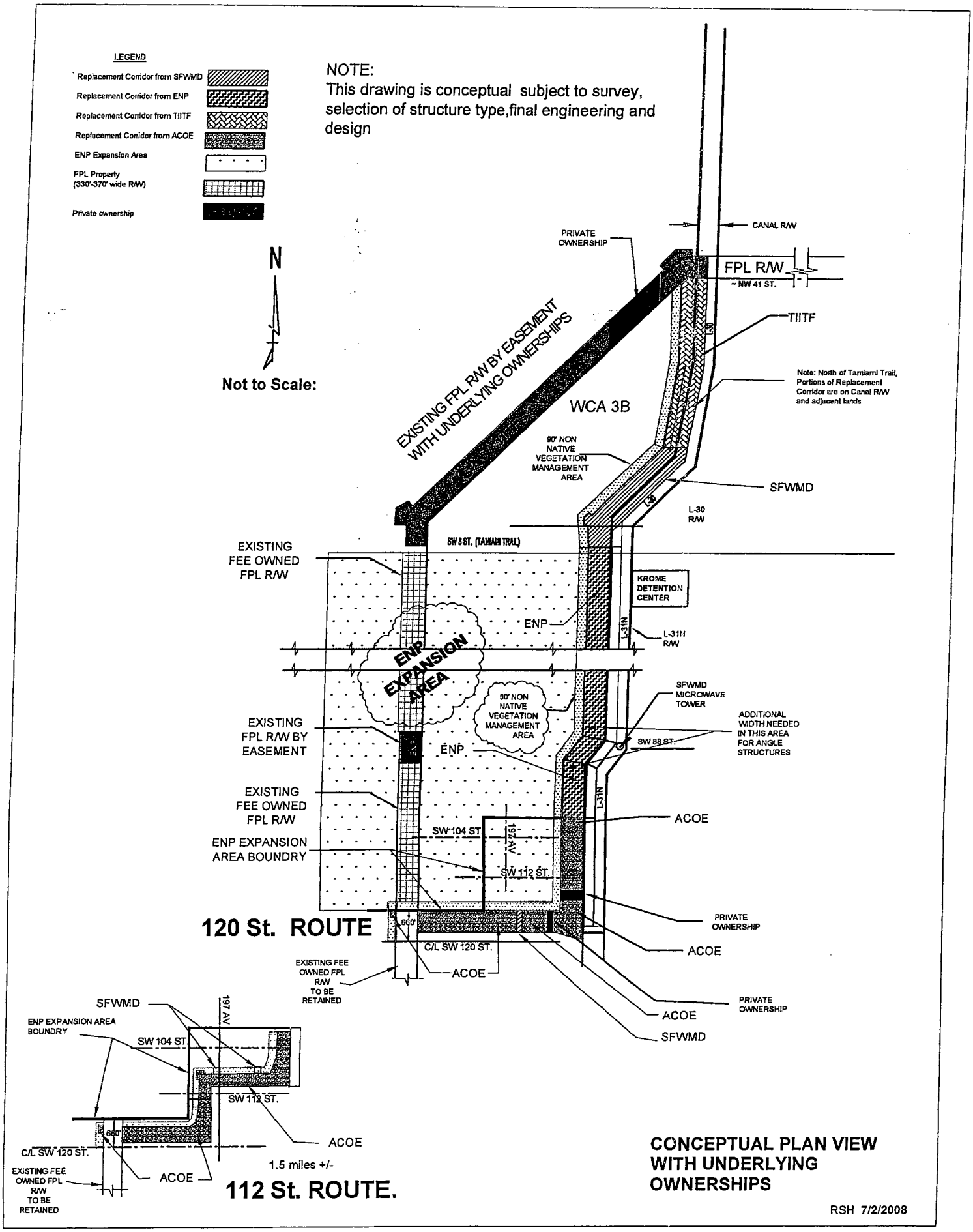
1) **Fee Conveyance from the United States to FPL.** The United States shall convey to FPL, in fee simple absolute, a corridor of at least 330' in width at the eastern edge of the ENP Expansion as more particularly shown on the plan attached hereto as Appendix 2-1 and identified as the **"US Fee Conveyance"**.

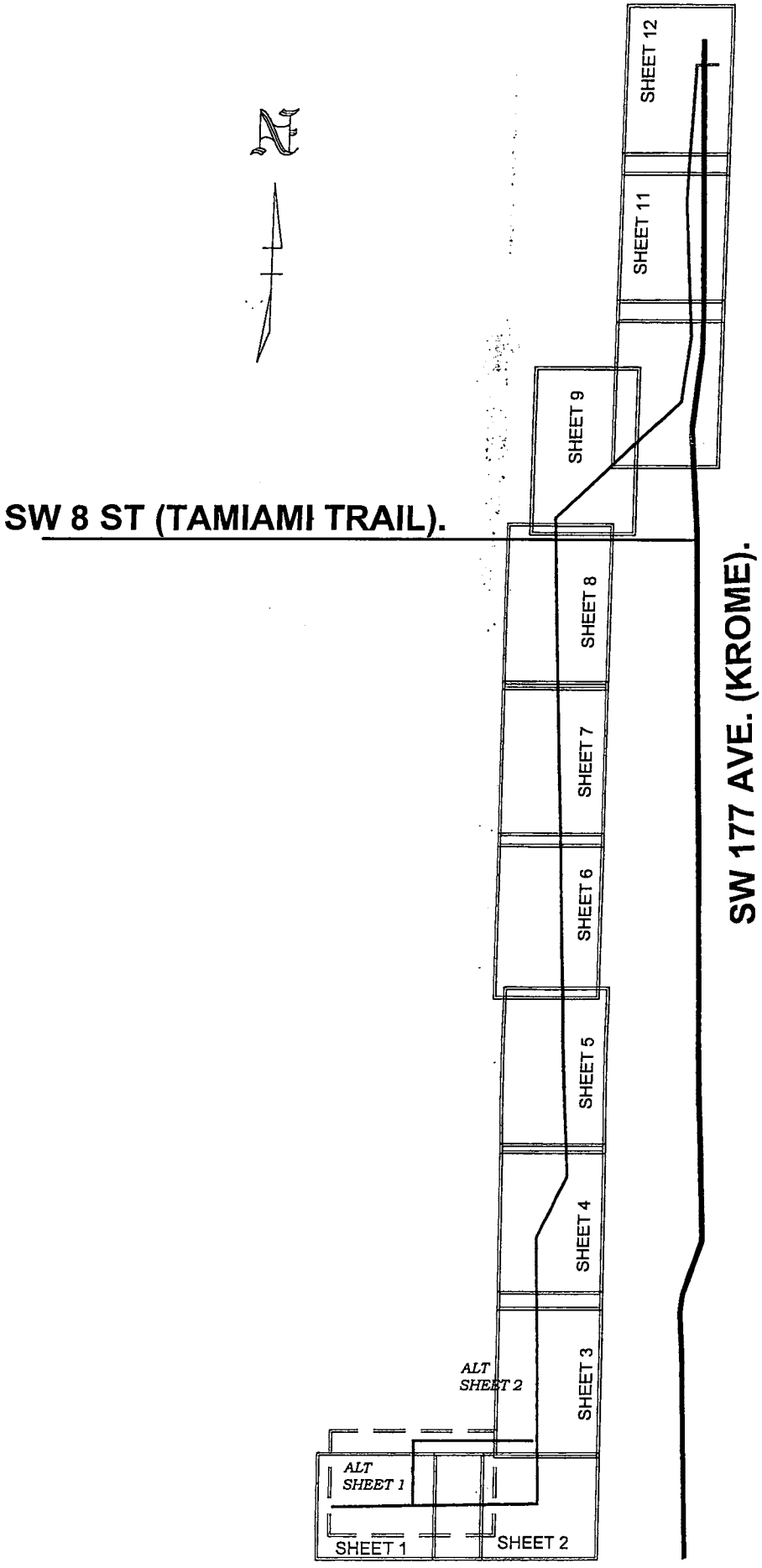
2) **Non-Native Vegetation Management Easements from the United States acting through the National Park Service to FPL.** The United States shall grant to FPL easements, 90' in width, for the management of non-native vegetation, as more particularly shown on the plan attached hereto as Appendix 2-1 with each such easement being identified as an **"NPS Non-Native Vegetation Management Easement"**.

Appendix 2-1
Plan of Easements and Fee Conveyances

1) Conceptual Plan with Underlying Ownerships dated July 2, 2008;
2) Key Map for Route Alignments dated July 2, 2008;
3) Turkey Point Levee 500 kV Lines, 120th Street Alignment, Conceptual Right of Way (12 sheets) dated July 2, 2008;
4) Turkey Point Levee 500 kV Lines, 112th Street Alignment, Conceptual Right of Way (2 sheets) dated July 2, 2008

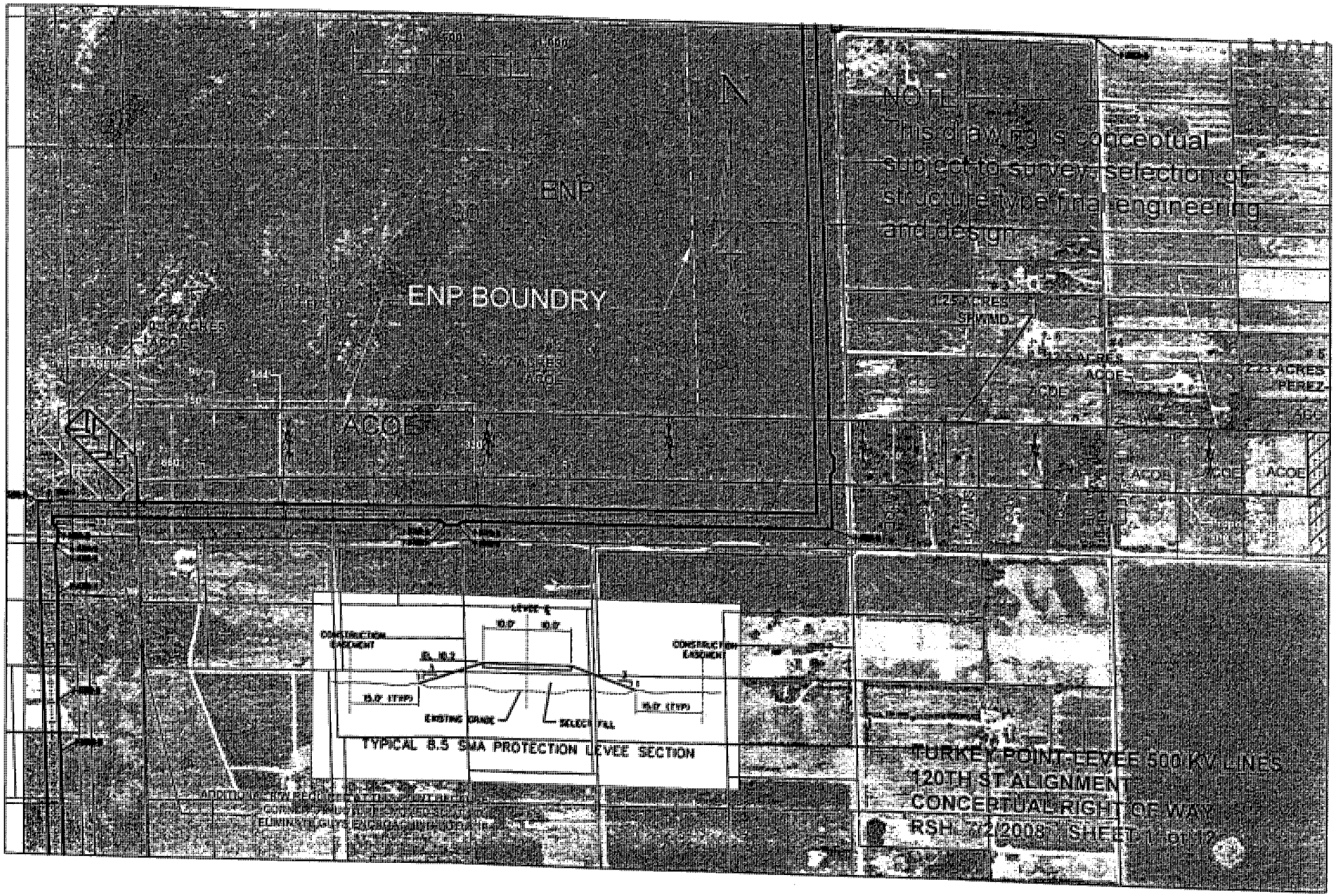
The Parties agree that the above plans are preliminary with final plans to be provided upon completion of engineering and survey.

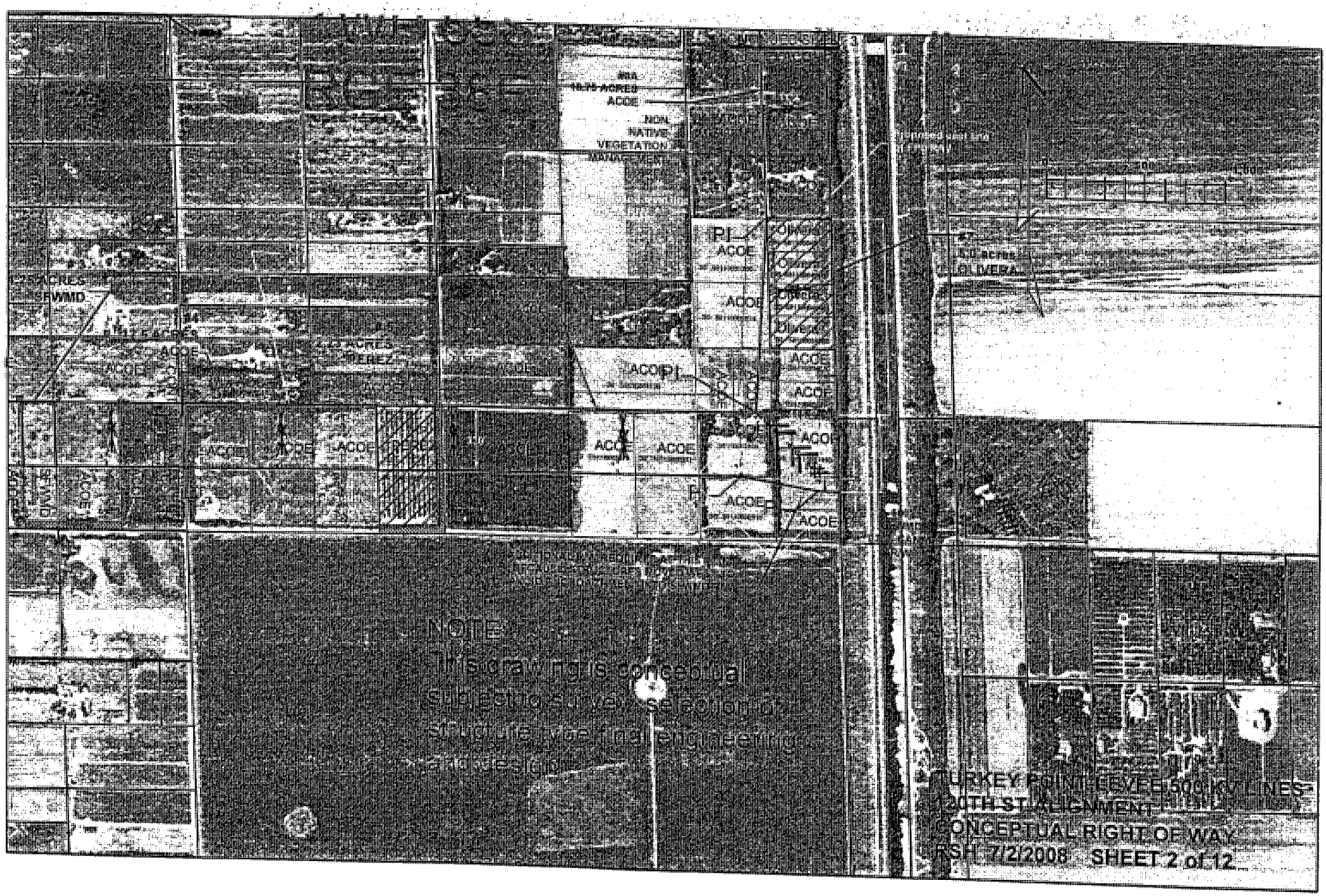

LEGEND
Replacement Corridor from SFWMD
Replacement Corridor from ENP
Replacement Corridor from TIITF
Replacement Corridor from ACOE
ENP Expansion Area
FPL Property (330'-370' wide R/W)
Private ownership
NOTE:
This drawing is conceptual subject to survey, selection of structure type,final engineering and design
N
Not to Scale:
PRIVATE OWNERSHIP
CANAL R/W
FPL R/W
NW 41 ST.
TIITF
Note: North of Tamiami Trail, Portions of Replacement Corridor are on Canal R/W and adjacent lands
EXISTING FPL R/W BY EASEMENT WITH UNDERLYING OWNERSHIPS
WCA 3B
90' NON NATIVE VEGETATION MANAGEMENT AREA
SFWMD
L-30 R/W
SW 8 ST. (TAMIAMI TRAIL)
EXISTING FEE OWNED FPL R/W
KROME DETENTION CENTER
ENP
L-31N
L-31N R/W
ENP EXPANSION AREA
90' NON NATIVE VEGETATION MANAGEMENT AREA
SFWMD MICROWAVE TOWER
ADDITIONAL WIDTH NEEDED IN THIS AREA FOR ANGLE STRUCTURES
EXISTING FPL R/W BY EASEMENT
ENP
SW 88 ST.
EXISTING FEE OWNED FPL R/W
ACOE
ENP EXPANSION AREA BOUNDRY
SW 104 ST
197 AV
SW 112 ST.
120 St. ROUTE
660'
C/L SW 120 ST.
PRIVATE OWNERSHIP
ACOE
EXISTING FEE OWNED FPL R/W TO BE RETAINED
ACOE
ACOE
PRIVATE OWNERSHIP
SFWMD
SFWMD
ENP EXPANSION AREA BOUNDRY
197 AV
SW 104 ST
SW 112 ST.
660'
ACOE
C/L SW 120 ST.
EXISTING FEE OWNED FPL R/W TO BE RETAINED
ACOE
1.5 miles +/-
112 St. ROUTE.
CONCEPTUAL PLAN VIEW WITH UNDERLYING OWNERSHIPS
RSH 7/2/2008

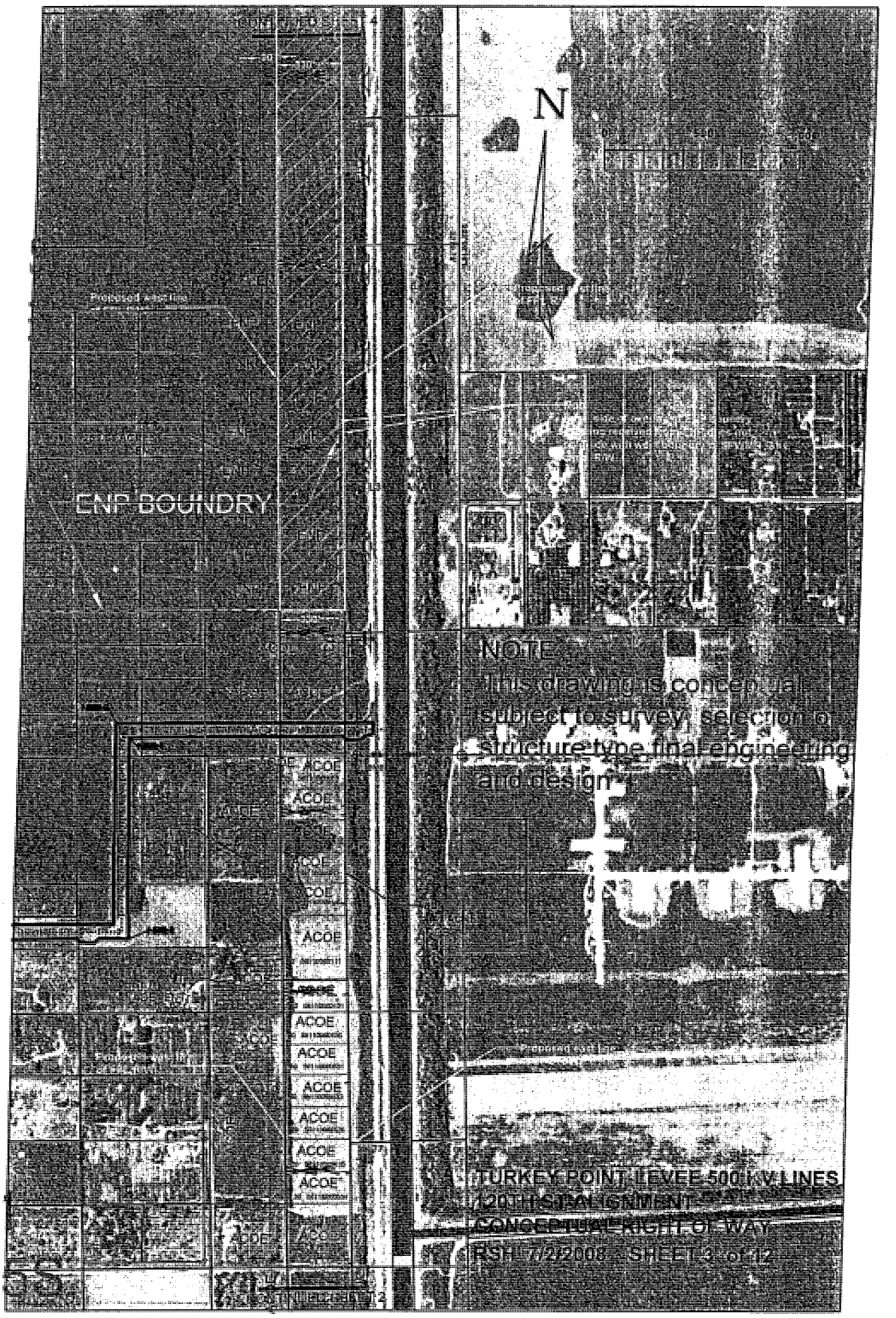


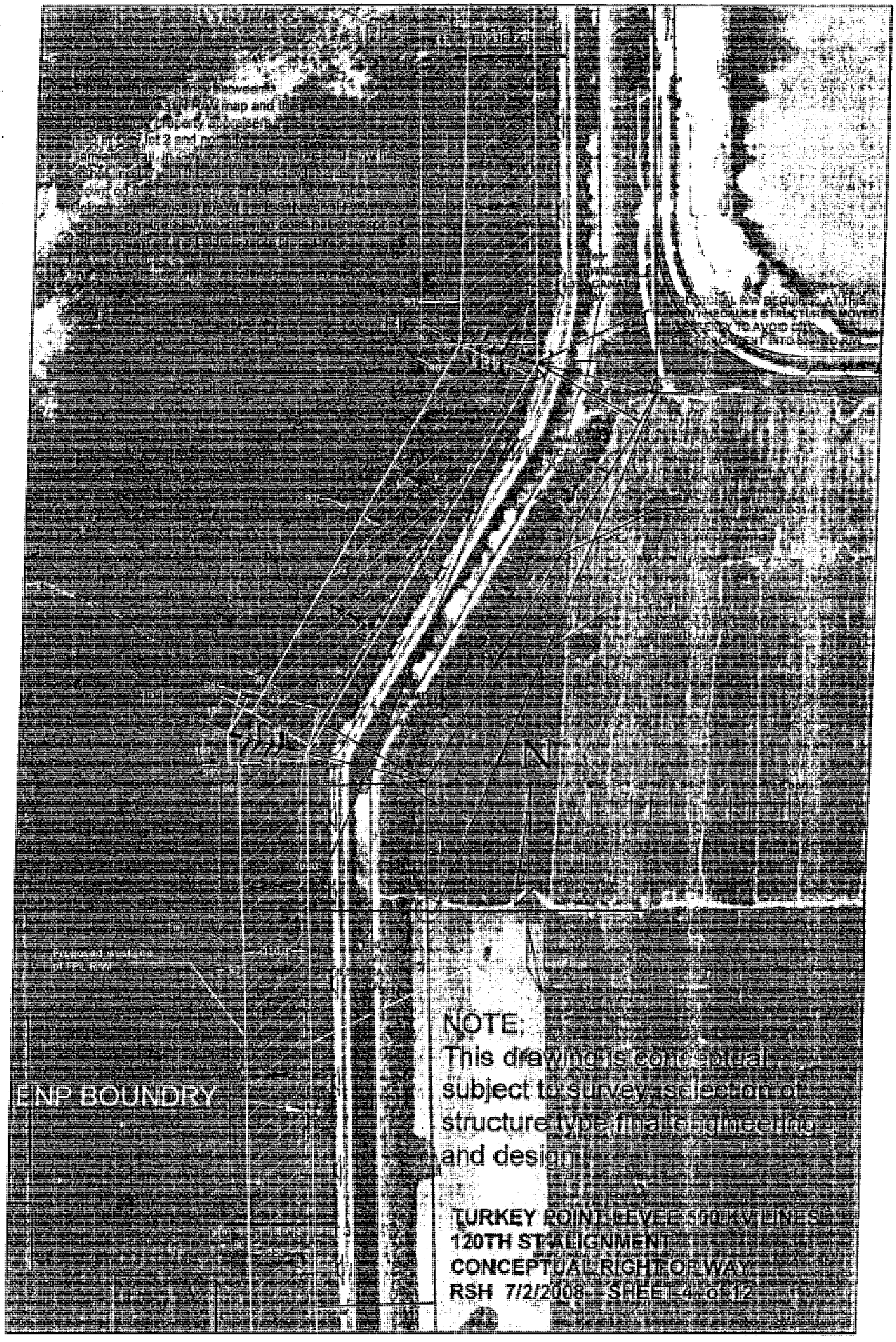
KEY MAP
FOR ROUTE
ALIGNMENTS

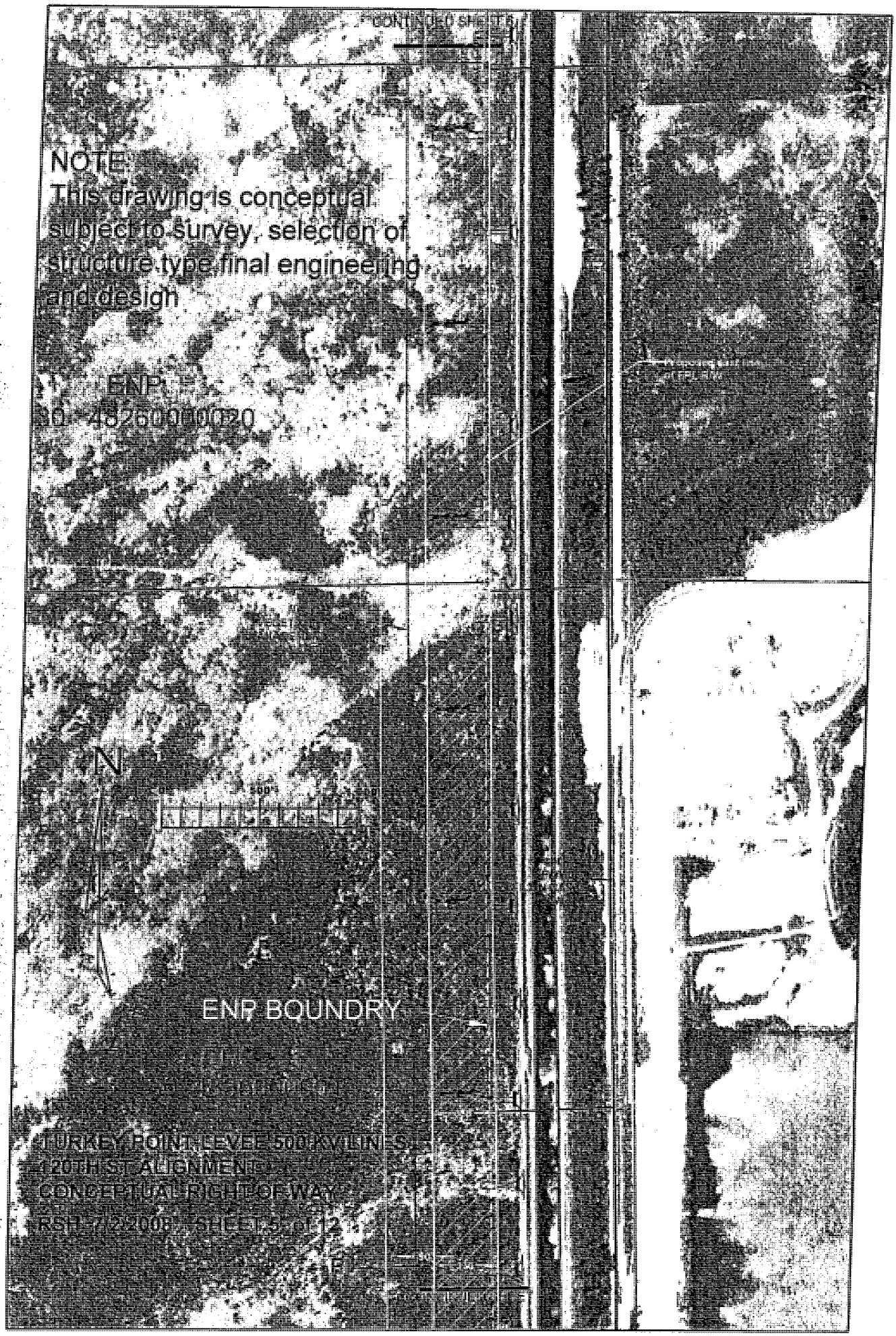
RSH 7/2/08

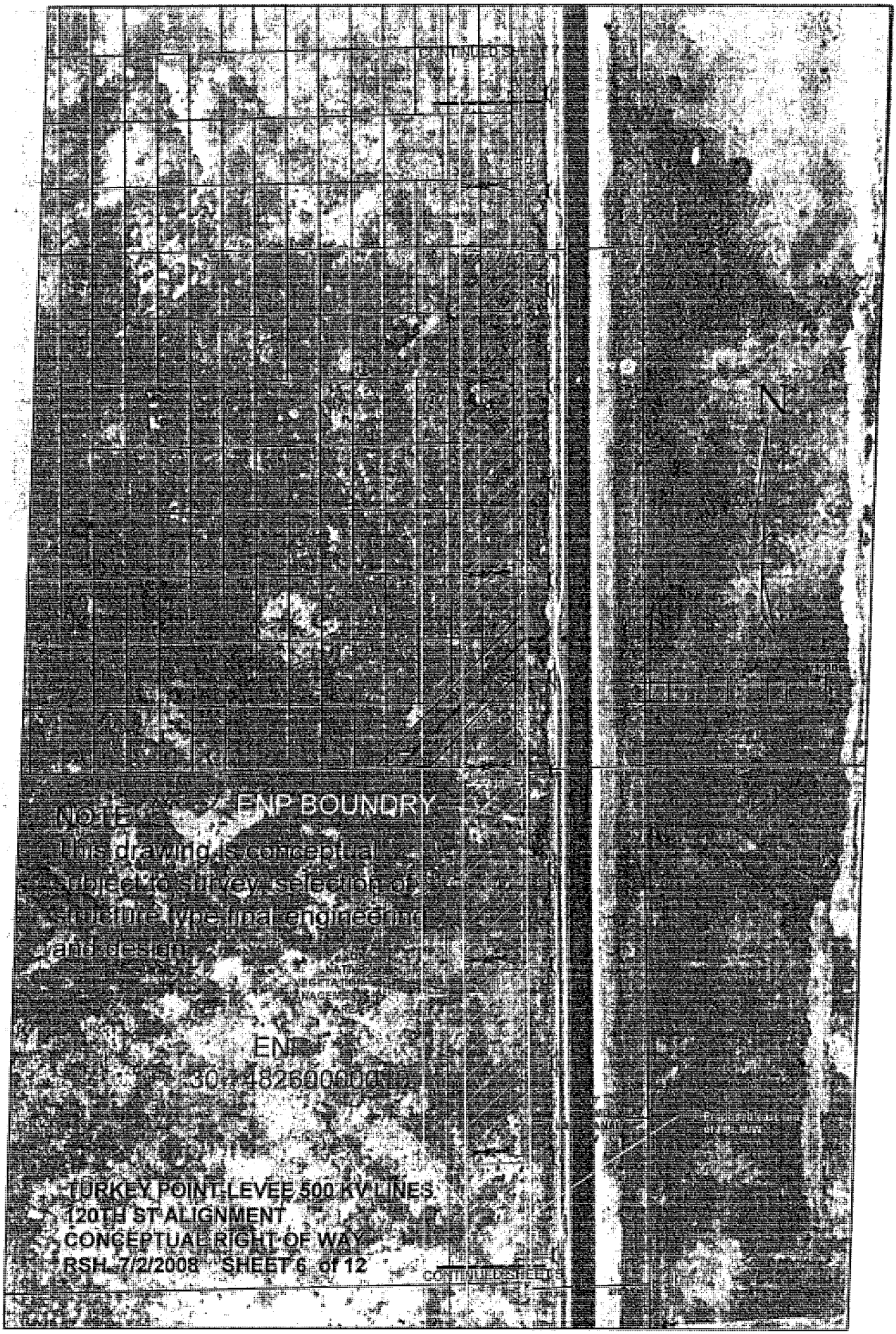

NOTE
This drawing is conceptual
subject to survey, selection of
structure type, final engineering
and design
ENP
ENP BOUNDRY
ACOE
TYPICAL 8.5 SMA PROTECTION LEVEE SECTION
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 72 (2008) SHEET 1 of 12


NOTE
This drawing is conceptual
subject to survey, separation of
structure, wire, final engineering
and modeling
TURKEY POINT LEVEL 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 2 of 12

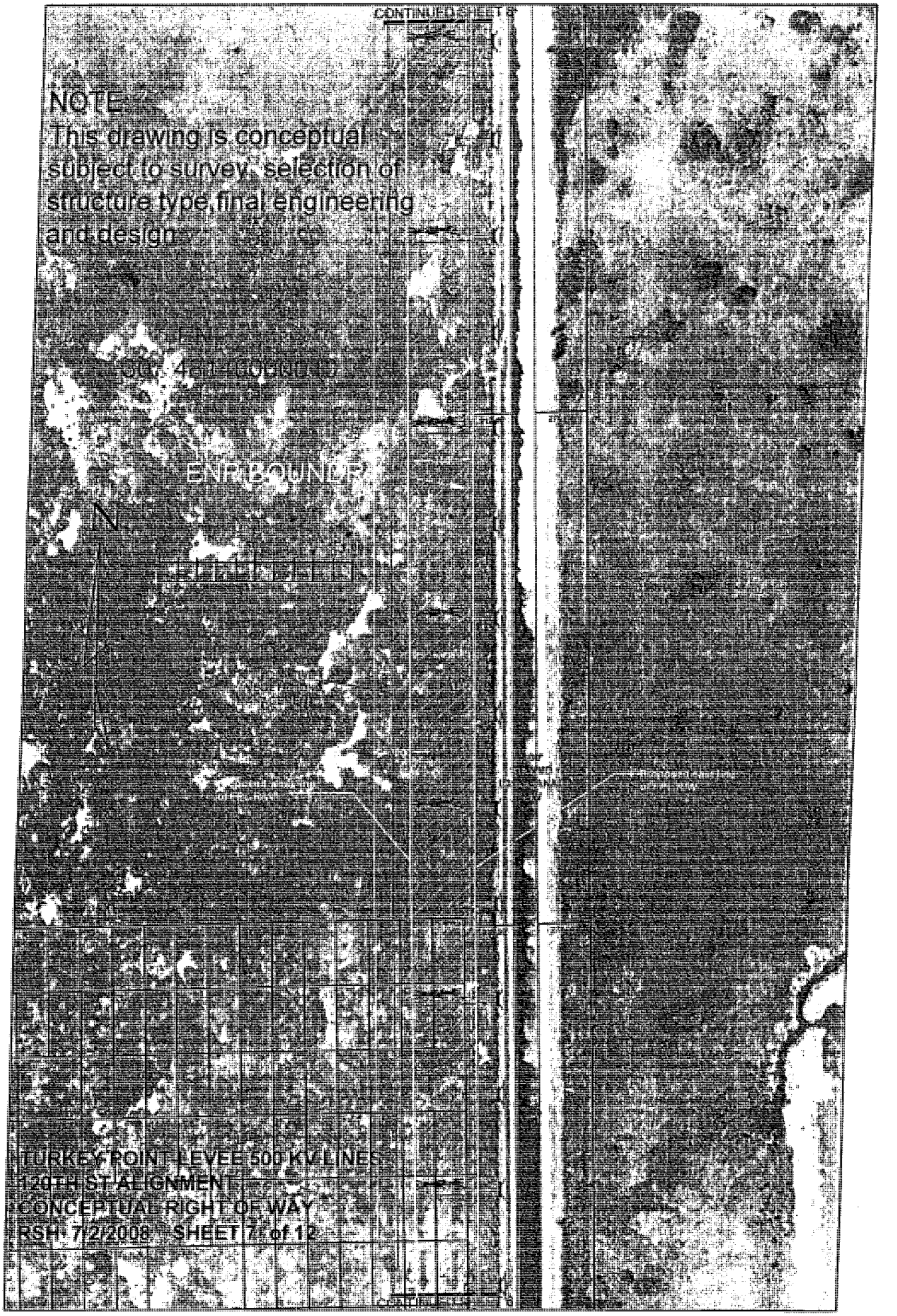

N
ENP BOUNDRY
NOTE
This drawing is conceptual subject to survey, selection to structure type final engineering and design
ACOE
TURKEY POINT TO EVER 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 3 of 12


NOTE;
This drawing is conceptual subject to survey, selection of structure type final engineering and design.
ENP BOUNDRY
TURKEY POINT LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 4 of 12


CONTINUED ON SHEET 6
NOTE:
This drawing is conceptual subject to survey, selection of structure type final engineering and design
ENP
30-48260010020
N
ENP BOUNDRY
TURKEY POINT-LEVEE 500 KV LIN
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 5 of 12

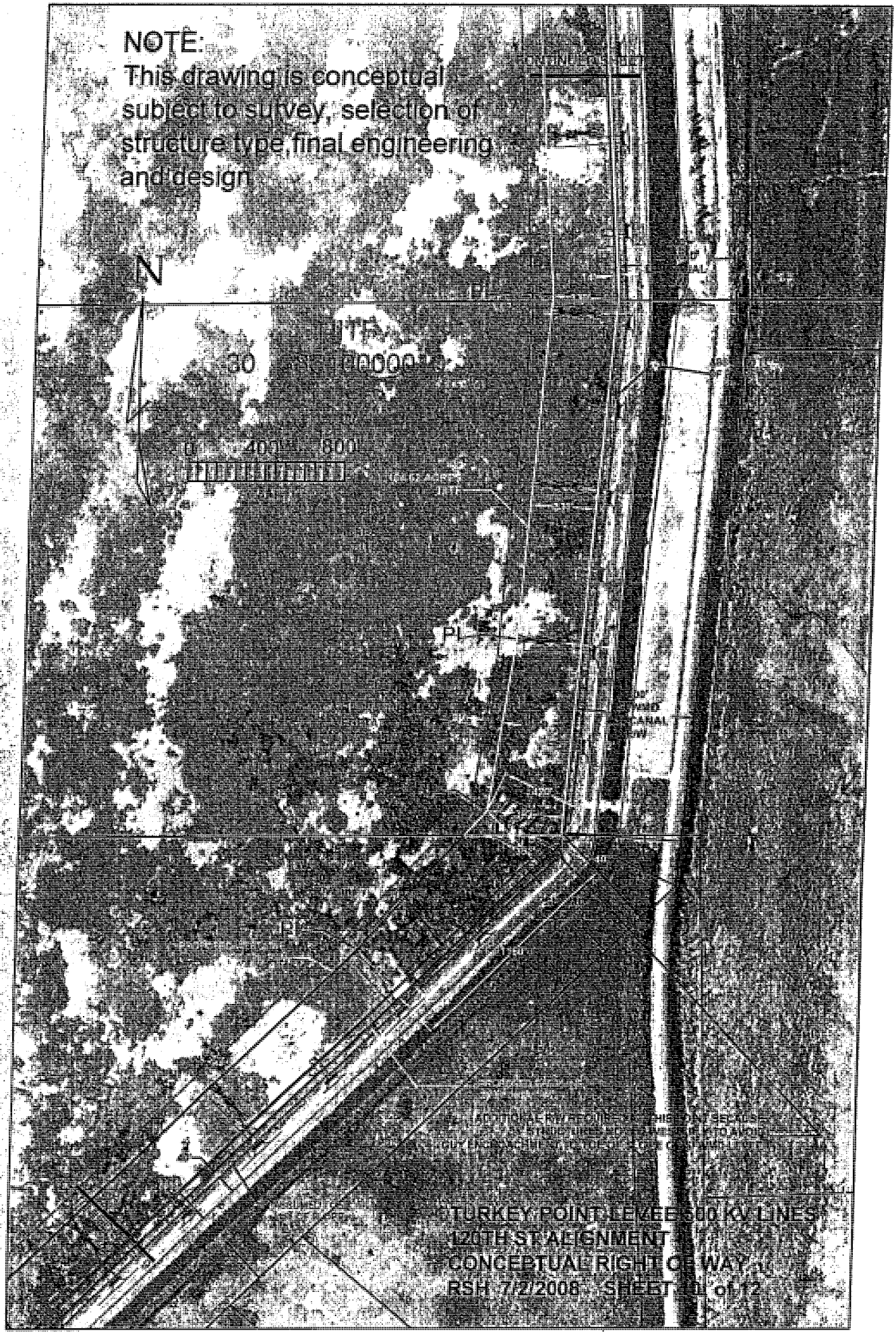


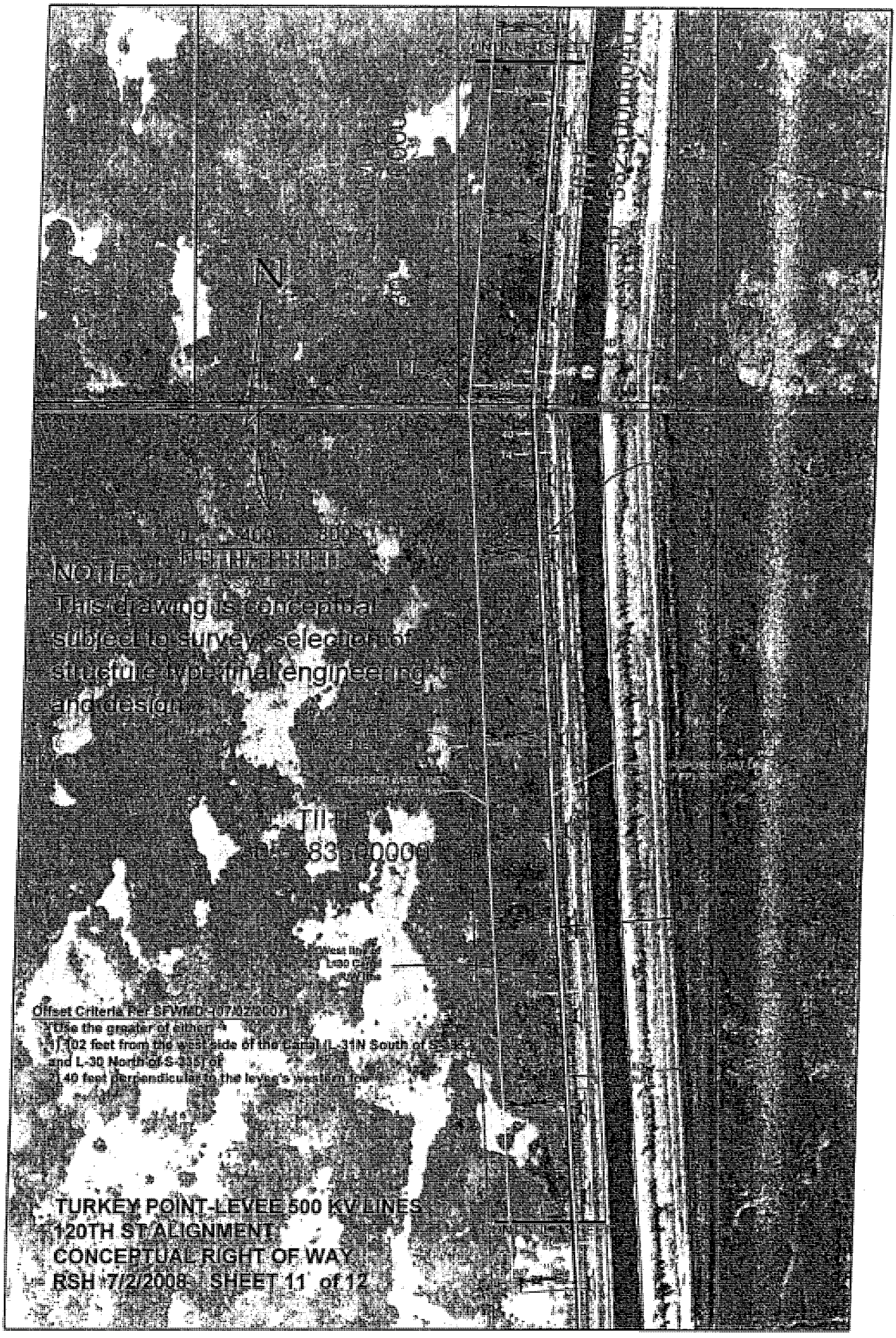
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT-OF-WAY
RSH 7/2/2008 SHEET 6 of 12

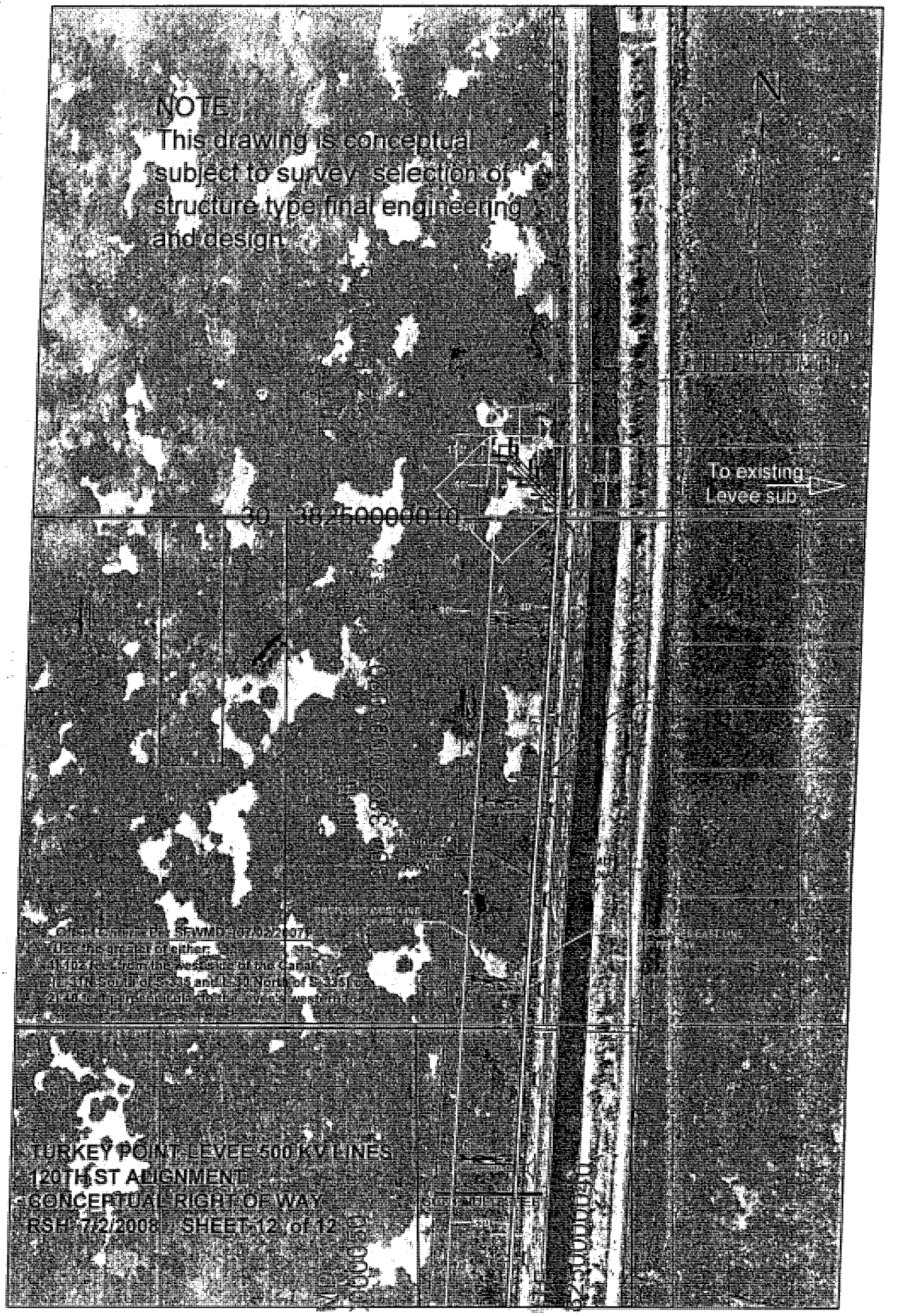

CONTINUED SHEET 6
NOTE
This drawing is conceptual subject to survey, selection of structure type, final engineering and design
ENR BOUNDRY
N
TURKEY POINT LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 7 of 12
CONTINUED SHEET 8

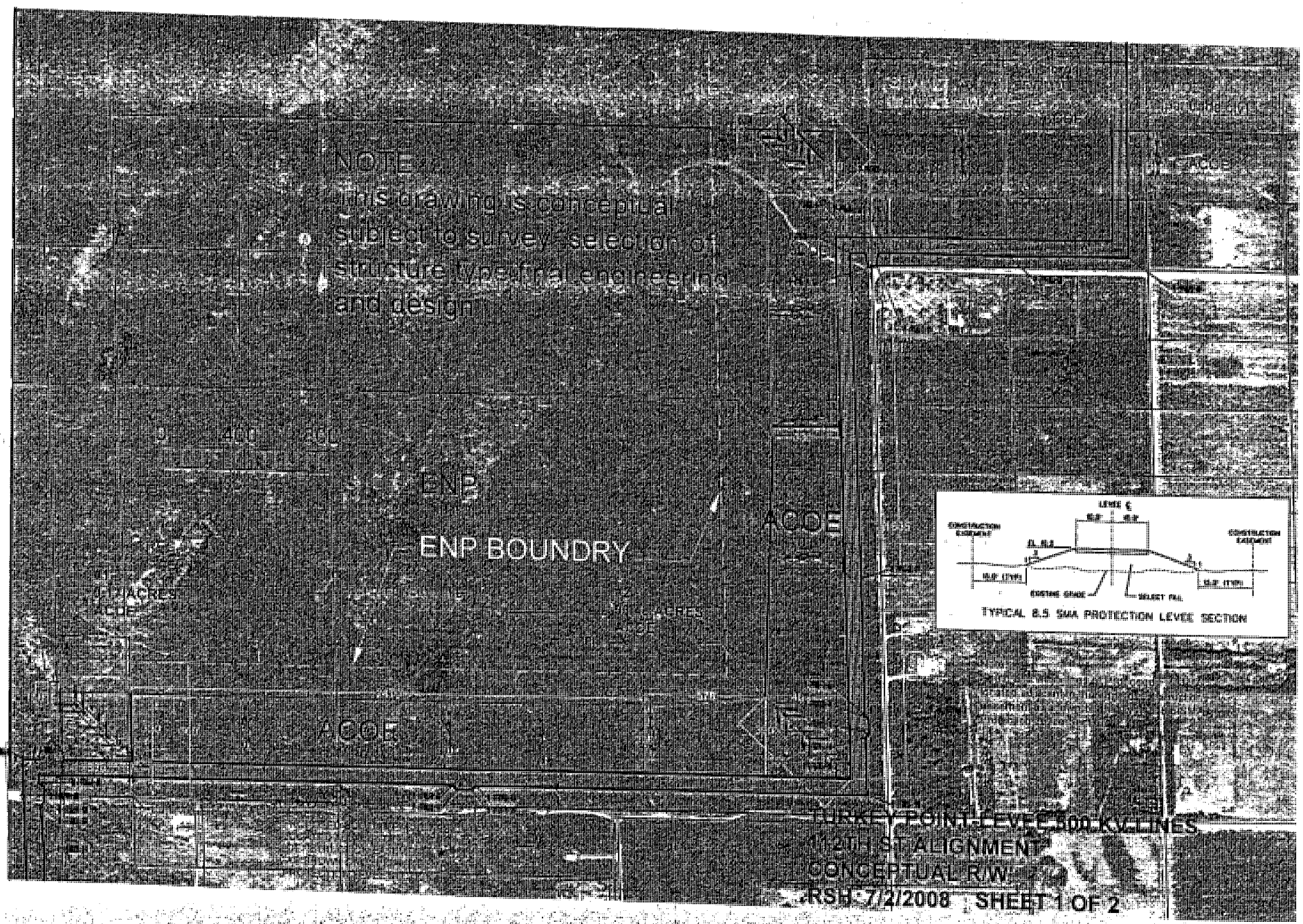

CONTINUED SHEET 9
NOTE:
This drawing is conceptual subject to survey, selection of structure type, final engineering and design
ENP BOUNDRY
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 8
CONTINUED SHEET 7

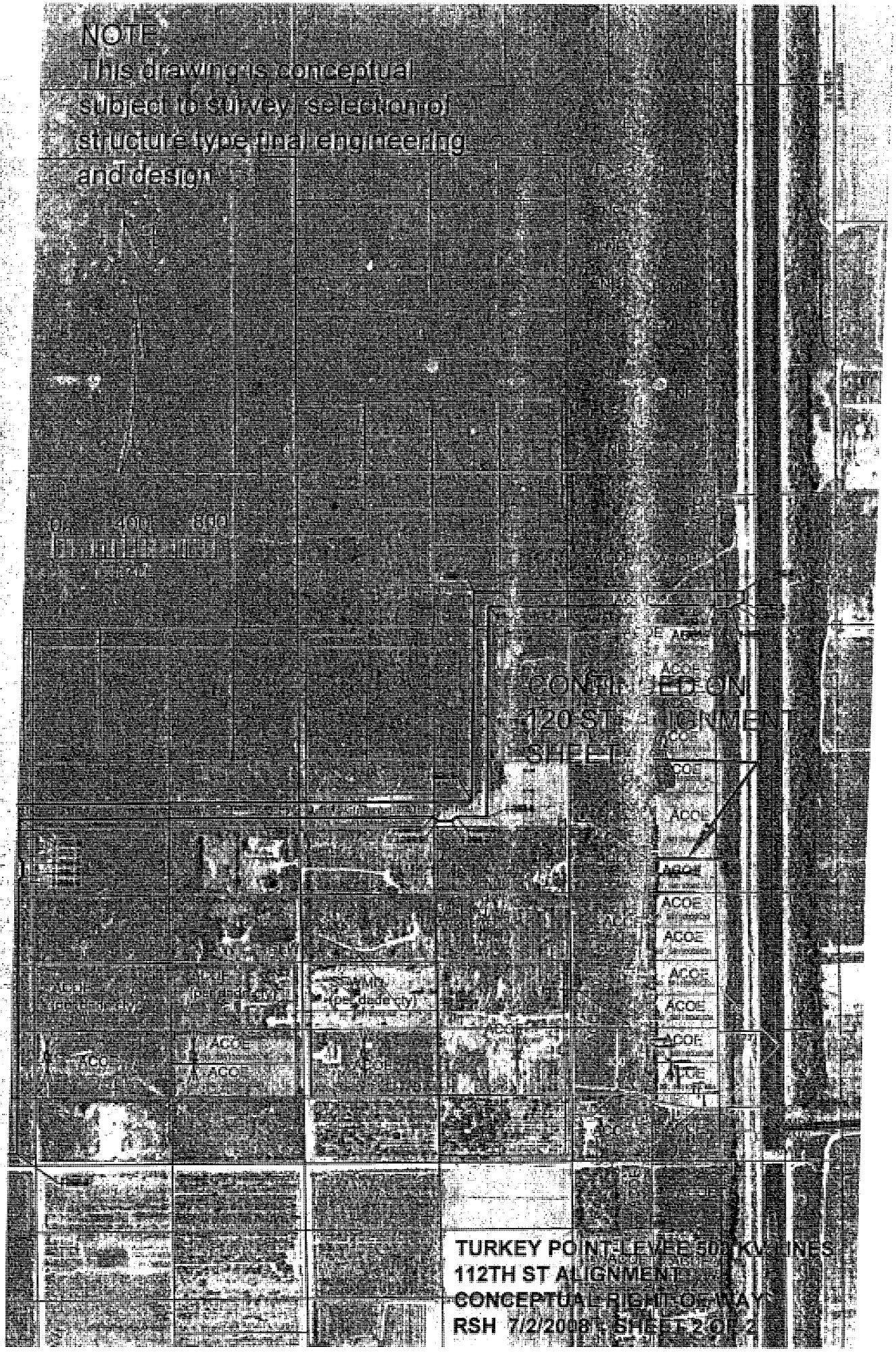

Offset Criteria Per SFWMD - (07/02/2007)
Use the greater of either:
1) 102 feet from the west side of the Canal (L-31N South of S-335 and L-30 North of S-335) or
2) 40 feet perpendicular to the levee's western toe
N
NOTE
This drawing is conceptual subject to survey, selection of structure type final engineering and design
SFWMD
30 4801000010
0' 400' 800'
SCALE
West line of L-30 Canal R/W line
NON NATIVE VEGETATION MANAGEMENT
PROPOSED WEST LINE OF R/W
#10
57.1 ACRES SFWMD
PROPOSED EAST LINE R/W
SFWMD
L-30 CANAL R/W
40'
SFWMD
30 4802000010
ASSUMED TOE OF SLOPE
TURKEY POINT LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 9 of 12
CONTINUED SHEET 8


NOTE:
This drawing is conceptual subject to survey, selection of structure type, final engineering and design
N
0 400 800
TURKEY POINT LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 10 of 12


NOTE:
This drawing is conceptual subject to survey, selection of structure type, final engineering and design.
Offset Criteria Per SFWMD-07/02/2008
Use the greater of either
1) 102 feet from the west side of the Canal (L-31N South of S-335 and L-30 North of S-335) or
2) 40 feet perpendicular to the levee's western toe
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 11 of 12


NOTE
This drawing is conceptual
subject to survey selection of
structure type final engineering
and design
N
To existing
Levee sub
30
TURKEY POINT LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 12 of 12


NOTE
This drawing is conceptual subject to survey selection of structure type final engineering and design
ENP
ENP BOUNDRY
ACOE
ACOE
ACOE
TYPICAL 8.5 SMA PROTECTION LEVEE SECTION
TURKEY POINT LEVEE 500 KV LINES
1120 FT ALIGNMENT
CONCEPTUAL R/W
RSH 7/2/2008 SHEET 1 OF 2


NOTE:
This drawing is conceptual subject to survey, selection of structure type, final engineering and design
0
400
800
CONTINUED ON
120 ST ALIGNMENT
SHEET
ACOE
TURKEY POINT-LEVEE 500 KV LINES
112TH ST ALIGNMENT
CONCEPTUAL RIGHT-OF-WAY
RSH 7/2/2008 - SHEET 2 OF 2

Appendix 2-A
Deed from the United States to FPL for Fee-Owned Lands at the Eastern Edge of the ENP Expansion Area

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
EVERGLADES NATIONAL PARK, FLORIDA

QUITCLAIM DEED

THE UNITED STATES OF AMERICA (**"Grantor"**), acting by and through the National Park Service, pursuant [cite acquisition authority used when the land or interests in land were acquired], and acts amendatory thereof and supplementary thereto, acquired certain land located in Miami-Dade County, Florida from the landowners set forth in **Exhibit A.** Said land was acquired in connection with the Everglades National Park; and

WHEREAS, the United States has determined that a portion these lands is no longer needed for park purposes in accordance with the [Exchange Agreement,] between the United States and Florida Power and Light Company, a Florida corporation (**"Grantee"**), dated [date] identified as _____ [add legislation].

NOW, THEREFORE, know all persons by these presents, that the UNITED STATES OF AMERICA, acting by and through the Department of the Interior, within the provisions of the [cite Disposal Authority] and authority delegated thereunder, for and in consideration of the exchange of land interests, receipt of which is hereby acknowledged, does hereby remise, release, and forever quitclaim unto Grantee with an address of 700 Universe Boulevard, Juno Beach, Florida 33408, its successors and assigns, forever, all of its right, title, and interest in and to the property situated in the County of Miami-Dade, State of Florida as set for the in the attached **Exhibit A, ("Property")** SUBJECT TO the Permitted Exceptions acceptable to Grantee and set forth on the attached **Exhibit "B"**.

NOTICE IS HEREBY GIVEN that:

(a) Acting pursuant to the requirements of 40 CFR 373, on [date of approved survey], Grantor performed a hazardous waste survey on the Property. The Property is being quitclaimed to Grantee in the same condition as existed on the date of said survey and which is more particularly described in the survey. No remediation by Grantor on behalf of Grantee has been made or will be made because none is necessary.

THE INFORMATION CONTAINED IN THIS NOTICE IS REQUIRED UNDER AUTHORITY OF REGULATIONS PROMULGATED UNDER SECTION 120(h) OF

THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA OR "SUPERFUND"), 42 U.S.C. SECTION 9620(h).

Grantor has conducted a search of files at the National Park Service [add name of office having control of the property, and City/State], to identify available information with respect to hazardous substances that were stored for one year or more, known to have been released, or disposed of at the Property. That search of available information produced no information on hazardous substances so stored, released or disposed.

(b) Grantee accepts the premises and appurtenances "as is."

(c) CERCLA Environmental Covenants and Stipulations:

1. To the extent Grantor is determined responsible, Grantor warrants that any response action or corrective action found to be necessary after the date of the transfer shall be conducted by Grantor.

2. Grantee grants the Grantor access to the Property in any case in which a response action or corrective action is found to be necessary by Grantor after such date at the Property, or such access is necessary to carry out a response action or corrective action on adjoining property.

IN WITNESS WHEREOF, Grantor has executed this document this _____ day of _____, 200__.

Grantor:
UNITED STATES OF AMERICA
Department of the Interior

By _____
Name: _____
Title: _____

Address:

_____
_____

ACKNOWLEDGEMENT

STATE OF

COUNTY OF

The foregoing instrument was acknowledged before me this ____day of _____, 2008 by

_____
____of the United States of America, on behalf of said entity, being duly authorized to do so, and who is personally known to me.

_____
Notary Public

_____
Print
My Commission Expires: _____

Exhibit "A"

Legal Description of Property Conveyed to FPL

[To be provided following completion of Survey]

Exhibit "B"

Permitted Encumbrances

[To be provided by FPL]

Appendix 2-B
Non-Native Vegetation Management Easement from the United States Acting through the NPS to FPL

Prepared by and Following Recording Return to:

Florida Power& Light Company
700 Universe Boulevard
Juno Beach, FL 33463

NON-NATIVE VEGETATION AND FIRE MANAGEMENT EASEMENT

Sec._____, Twp___, Rge___
Parcel I.D. _____

The UNITED STATES OF AMERICA, acting by and through the National Park Service, (**"Grantor"**) in consideration of the payment of $1.00 and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, grants and gives to FLORIDA POWER & LIGHT COMPANY, a Florida corporation with an address of 700 Universe Boulevard, Juno Beach, Florida 33408, its employees, contractors, sub-contractors, licensees, agents, successors, and assigns (collectively, **"Grantee"**), an easement forever for the purpose of removing fire prone exotics which pose a fire risk to Grantee's facilities, including but not limited to melaleuca and Australian pine, in accordance with Grantee's Vegetation Management Program and as mutually agreed upon with the National Park Service, within the following easements or parcels of land, each being ninety (90) feet in width, and more particularly described on the attached **Exhibit "A"** which is incorporated herein by reference (**"Easement Area"**).

Grantee understands that herbicides applied within the Easement Area shall only be those registered by the U.S. Environmental Protection Agency and which have state approval. Herbicide application rates and concentrations will be in accordance with label directions and will be carried out by a licensed applicator, meeting all federal, state and local regulations. Herbicide applications shall be selectively applied to targeted vegetation. Broadcast application of herbicide shall not be used within the Easement Area unless the effects on non-targeted vegetation are minimized. Grantee understands and agrees that an Integrated Pest Management Plan must be submitted for each herbicide application. Grantee and Grantor agree to coordinate the Integrated Pest Management Plan within the Easement Area. Grantee and Grantor agree to coordinate fire management within the Easement Area and adjacent lands of the United States.

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument on,

Executed in the presence of:

Grantor:
UNITED STATES OF AMERICA,
by and through the National Park Service

_____
Signature:
Print Name: _____

_____
Signature:
Print Name: _____

By:: _____
Print Name: _____
Address: _____

ACKNOWLEDGMENT

STATE OF)
)ss:
COUNTY OF)

On this _____ day of _____, 20___ before me, the undersigned notary public, personally appeared _____, _____ of the National Park Service, personally known to me to be the person who subscribed to the foregoing instrument or who has produced _____, as identification, and acknowledged that he/she executed the same on behalf of the UNITED STATES OF AMERICA being duly authorized to do so

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
NOTARY PUBLIC, STATE OF _____
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument on,

Executed in the presence of:

Grantee:
FLORIDA POWER AND LIGHT COMPANY

_____
Print Name:_____

BY:_____
Terry L. Hicks
Vice President of Corporate Real Estate

_____
Print Name:_____

ACKNOWLEDGEMENT

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this _____day of _____, 20___, by Terry L. Hicks, Vice President of Corporate Real Estate of Florida Power & Light Company, a Florida corporation, on behalf of the corporation, being duly authorized to do so, and who is personally known to me.

_____
Notary Public

_____
Print

Exhibit "A"

Legal Description of
NON-NATIVE VEGETATION AND FIRE MANAGEMENT EASEMENT

[Legal descriptions to be provided following completion of survey]

PREPARED BY AND RETURN TO:

Patricia Lakhia, Esquire
Florida Power & Light Company
700 Universe Blvd. (LAW/JB)
Juno Beach, FL 33408-0420

Tract No.: 113-3 (Portion of)
Modified Water Deliveries to Everglades National Park Project Miami-Dade County, Florida

Folio No. 30-4810-000-0020 (Portion of)

TEMPORARY CONSTRUCTION EASEMENT

FLORIDA POWER & LIGHT COMPANY, A FLORIDA CORPORATION (***"Grantor"***) with an address of 700 Universe Boulevard, Juno Beach, FL 33408, hereby grants to **THE UNITED STATES OF AMERICA, and it assigns, by and through the Department of Army, U.S. Army Corps of Engineers**, Jacksonville District, P.O. Box 4970, Jacksonville, FL 32232-0019 (the "***Grantee***"), a temporary, non-exclusive easement over the **South 50 feet of the North 100 feet of the West 370 feet of Section 10, Township 54 South, Range 38 East, Tallahassee Meridian, Miami-Dade County, Florida containing** 0.425 acres, more or less (the "***Temporary Easement Area***"), for a temporary easement and right-of-way in, on, over and across the land described above, for a period not to exceed **FIVE (5) YEARS**, beginning upon the date of Grantor's execution of this easement, and including the right to borrow and/or temporarily deposit fill, spoil and waste material thereon move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work reasonably necessary and incident to the construction of the Modified Water Deliveries to Everglades National Park Project, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the Temporary Easement Area; reserving, however, to the Grantor, its successors and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby granted; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines. Such easement is to be used in connection with the construction of a bridge and certain channel works on adjacent lands.

In exercising the rights herein granted upon the Temporary Easement Area, Grantee shall abide by all applicable federal, state and local rules, regulations, ordinances and laws. Any dredged or spoil material placed on the above described lands shall be material that is not a regulated substance under federal environmental laws or if the material placed contains regulated substances, such substances will not be above actionable levels. The grant of these easement interests in the Easement Area are in connection with the construction, operation and maintenance of the project authorized by the Act of Congress approved December 13, 1989 as the Everglades National Park Protection And Expansion Act of 1989, Public Law 101-229 and by Act of Congress approved February 20, 2003 as the Consolidated Appropriations Resolution FY 2003, Public Law 108-7, with their subsequent amendments.

Grantee's rights to use the Temporary Easement Area, and this Temporary Construction Easement grant, shall commence on August 22, 2008 and shall terminate at midnight on August 21, 2013 unless extended, in writing, by Grantor and Grantee. Prior to the termination of this Temporary Construction Easement grant, Grantee shall restore the Temporary Easement Area to the condition existing on August 22, 2008.

Grantee shall direct all Grantee's contractors and sub-contractors who will perform work upon or otherwise access the Temporary Easement Area to secure and maintain in force, from financially sound and reputable companies authorized to conduct business in the State of Florida policies of insurance with the following minimum limits: Worker's Compensation and Employer's Liability as required by law; General Liability Insurance in the amount of Two Million Dollars ($2,000,000.00) per occurrence; Business Automobile Liability insurance covering owned, non-owned, leased and hired automobiles and vehicles in the amount of One Million Dollars ($1,000,000.00) combined single policy limit for bodily injury and property damage for each accident. All such policies of insurance (except for Worker's Compensation and Employer's Liability and Business Automobile Liability Insurance) shall name Grantor, its parent, affiliates, subsidiaries and their respective officers, directors, agents, employees, successors and assigns (collectively the "***FPL Entities***") as additional insureds under the policy. All Grantee contractors and subcontractors using, working upon or otherwise accessing the Temporary Easement Area shall provide Grantor with ACORD certificates evidencing such insurance and identifying the FPL Entities as additional insured before accessing the Temporary Easement Area for any reason. All such policies of insurance shall be endorsed to be primary to any insurance that may be maintained by or on behalf of Grantor.

IN WITNESS WHEREOF, the parties hereto have executed this Easement as of the date first set forth above.

Signed, sealed and delivered
presence of:

Print Name: Brandy Sifella

Print Name: Robert Simm

FLORIDA POWER & LIGHT COMPANY, in the
a Florida corporation

By:

Printed Name: Dina Guenther
Title: Director of Corporate Real Estate

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss.
COUNTY OF PALM BEACH)

Sworn to and subscribed before me this 22nd day of August, 2008 by Dina Guenther, Director of Corporate Real Estate of FLORIDA POWER & LIGHT COMPANY a Florida corporation, who is personally known to me and who did take an oath and acknowledged that she executed the same on behalf of said corporation and that she was duly authorized to do so.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Notary Public, State of Florida
Name (Print): DEBORAH C. PATTERSON
Commission No.: DD681221
My Commission Expires: June 3, 2011

DEBORAH C. PATTERSON
MY COMMISSION # DD681221
EXPIRES: June 03, 2011
NOTARY SERVICE Fl. Notary Discount Assoc. Co.

TEMPORARY CONSTRUCTION EASEMENT
[Signature Page]

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument on the 5th day of September, 2008.

Signed, sealed and delivered in the presence of:

Bertha A. Miller
Signature
Print Name: Bertha A. Miller

Rebecca A. Bearce
Signature
Print Name: Rebecca A. Bearce

THE UNITED STATES OF AMERICA

By: Sharon W. Conklin
Sharon W. Conklin
Chief, Real Estate Division

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF DUVAL)

On this the 5th day of September, 2008 before me, the undersigned notary public, personally appeared Sharon W. Conklin, Chief, Real Estate Division of the United States Army Corps of Engineers, personally known to me to be the person who subscribed to the foregoing instrument or who have produced as identification, and acknowledged that she executed the same on behalf of THE UNITED STATES OF AMERICA and acknowledged that she was duly authorized so to do.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Lynn Hichborn Zediak
Notary Public, State of Florida
Name (Print): LYNN HICHBORN ZEDIAK
Commission No.: DD794586
My Commission Expires: 6/23/2012

LYNN HICHBORN ZEDIAK
MY COMMISSION # DD794586
EXPIRES June 23, 2012
(407) 398-0153 FloridaNotary@Hotmail.com

FLORIDA POWER & LIGHT COMPANY, P.O. BOX 14000, JUNO BEACH, FL 33408-0420

Law Department

Florida Authorized House Counsel
Licensed Pennsylvania & the District of Columbia
561-304-5261

September 18, 2008

RECEIVED
SEP 19 2008
LAND ACQUISITION

VIA UPS

Ms. Ruth Clements
Director, Land Acquisition
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406

RE: ENP - SFWMD and FPL Bilateral Agreement

Dear Ruth:

Enclosed is a fully executed original of the South Florida Water Management District/Florida Power & Light Company Bilateral Agreement.

Thank you once again for facilitating this process.

Sincerely,

Patricia Lakhia
Senior Attorney

Cc: Abe
Dewey
Ken
Tommy -

Cc w/out enclosure: Attorney Abe Cooper
Ms. Florette Braun

Scanned & Sent 10/10/08

COOPERATION AGREEMENT BY AND BETWEEN FLORIDA POWER & LIGHT COMPANY AND SOUTH FLORIDA WATER MANAGEMENT DISTRICT REGARDING FPL'S UTILITY CORRIDOR WITHIN THE EVERGLADES NATIONAL PARK EXPANSION AREA.

The SOUTH FLORIDA WATER MANAGEMENT DISTRICT ("***SFWMD***") AND FLORIDA POWER & LIGHT COMPANY ("***FPL***") enter into this Cooperation Agreement ("***Agreement***") as of this 21st day of August, 2008, for the purpose of facilitating the Modified Waters Delivery Project, the Comprehensive Everglades Restoration Program ("***CERP***") and other water delivery projects of SFWMD, including the related grant of easements to the United States Army Corps of Engineers ("***ACOE***") for the Tamiami Trail bridge and channel, and grant of easements to FPL for the purpose of relocating a portion of FPL's existing utility corridor presently within the Everglades National Park Expansion Area to areas on and adjacent to SFWMD's L29/30 and L-31N canal rights-of way. FPL and SFWMD are sometimes collectively referred to herein as the "***parties***" and individually as a "***party***".

I. Recitals

1.1 The Everglades National Park Protection and Expansion Act of 1989, 16 U.S.C. Section 410r-5 *et seq.* expanded the boundaries of the Everglades National Park to include approximately 109,600 acres south of the Tamiami Trail, and through that Act and additional legislation authorized the Department of Interior, National Park Service ("***NPS***") and ACOE to acquire lands within the designated area ("***ENP Expansion Area***"). The purposes of the expansion of Everglades National Park include the preservation of the outstanding natural features of the park, enhancement and restoration of the ecological values, natural hydrologic conditions, and public enjoyment of such area by adding the area commonly known as the Northeast Shark River Slough and the East Everglades, assurance that the park can maintain the natural abundance, diversity, and ecological integrity of the ecosystem. NPS and ACOE are further authorized by 16 U.S.C. Section 410r-8 to acquire lands in addition to the designated 109,600 acres for the purposes of the construction of Modified Water Deliveries to the Everglades National Park.

1.2 SFWMD is a public corporation of the State of Florida, created by the Florida Legislature and given those powers and responsibilities set forth in Chapter 373, Florida Statutes.

1.3 FPL is a utility in the State of Florida and responsible for supplying safe, reliable electrical power to the citizens of Florida.

1.4 FPL owns, and has owned since the 1960's and early 1970's, a 330 feet to 370 feet wide corridor of property through what has become the ENP Expansion Area, (collectively, the "***FPL Property***").

1.5 FPL asserts that the FPL Property is a vital portion of a contiguous forty (40) mile corridor essential for the placement of critical infrastructure necessary for the supply of electrical power for the benefit of the citizens of South Florida.

1.6 NPS asserts that utilization of the FPL Property for a utility corridor, which would bisect a portion of the ENP Expansion Area, is contrary to the intended purposes of the ENP Expansion Area.

1.7 SFWMD, NPS, ACOE, the Trustees of the Internal Improvement Trust Fund of the State of Florida ("***TIITF***") and FPL have identified property at the eastern and southern edges of the ENP Expansion Area, and on and adjacent to the SFWMD L-29/30 and L-31N canal rights-of-way (all as more particularly described in **Appendix 2** to this Agreement) for the relocation of FPL's utility corridor, where use as a utility corridor may have substantially less impact on the Everglades National Park, including the ENP Expansion Area, the Modified Waters Delivery Project and CERP.

1.8 FPL asserts that it is not opposed to such a relocation of its property interests, and is willing to work with SFWMD, ACOE, TIITF and NPS towards this end, and to engineer its utility facilities to fit within this proposed replacement corridor. It is intended that, in addition to this Agreement, FPL will enter into separate agreements with ACOE, TIITF and NPS regarding the relocation of FPL's utility corridor and that these complimentary transactions, when coupled with this transaction, will maintain the viability of FPL's property as a contiguous corridor. **Time is, however, of the essence to FPL so that it may confirm the viability of this proposed relocation and begin state and federal approval processes**.

II. Undertakings of the Parties

1.9 SFWMD, ACOE, NPS, TIITF and FPL propose to effectuate the relocation of the FPL Property interests to the properties more particularly described in **Appendix 2** to this Agreement by the following instruments: with only the exchanges between SFWMD and FPL identified in subparagraphs 1.9 (a),(c), (d),(e), (f), (g), (h), (i), (j) and (m) (the latter being as to SFWMD only under this Agreement) being addressed by virtue of this Agreement and SFWMD makes no representation as to the acceptability of the remaining subparagraphs in this Paragraph 1.9, which do not apply to SFWMD:

a. That the **United States, through the NPS,** convey in fee simple to FPL, property located in the ENP Expansion Area in a corridor being a minimum 330 feet in width as shown in **Appendix 2**, made a part hereof, free and clear of all liens, encumbrances and restrictions, other than those agreed to in writing by FPL, including but not limited to restrictions on use, and SFWMD will consent to the grant. SFWMD has declared this land as surplus to the needs of the SFWMD, including conservation purposes. The SFWMD consent will be in substantially the form of the subordination and

non-disturbance agreement attached hereto as **Exhibit E,** made a part hereof.

b. That the **United States, through the NPS,** convey to FPL a perpetual easement for the management of non-native vegetation that has the potential to be a fire hazard to transmission facilities that is approximately 90 feet in width as shown in **Appendix 2**, made a part hereof.

c. That the **United States, through the ACOE** , convey to FPL, and SFWMD will consent to the grant of, a perpetual easement for the construction, placement, operation and maintenance of utility facilities, including transmission lines, appurtenant facilities, communications facilities and pipelines over properties acquired by the ACOE as more particularly shown in **Appendix 2**, together with the right of ingress and egress for personnel and equipment of FPL, its employees, contractors, agents, successors or assigns over these lands, for the purpose of exercising and enjoying the rights granted by this easement and any or all of the rights granted thereunder, free and clear of all liens, encumbrances and restrictions, other than those agreed to in writing by FPL, including but not limited to restrictions on use. Upon conveyance of the lands underlying these easements from the United States through the ACOE to SFWMD, **SFWMD** shall convey, at no additional cost to FPL, a perpetual easement(s) to FPL for the purposes described in the United States/ACOE easement grants to FPL. The easement(s) granted by SFWMD to FPL over such lands shall be in substantially the form of the attached **Exhibit A** made a part hereof. SFWMD has declared the easement as surplus to the needs of the SFWMD, including conservation purposes. FPL acknowledges and agrees that SFWMD is not and will not be bound to acquire any land to provide such easements. The SFWMD consent will be in substantially the form of the subordination and non-disturbance agreement attached hereto as **Exhibit E.**

d. That the **United States**, through the **ACOE**, convey to FPL a perpetual easement for the management of non-native vegetation that has the potential to be a fire hazard to transmission facilities that is approximately 90 feet in width as shown in **Appendix 2.** Upon conveyance of the lands underlying these easements from the United States through the ACOE to SFWMD, **SFWMD** shall convey, at no additional cost to FPL, a perpetual easement(s) to FPL for the purposes described herein. The easement(s) granted by SFWMD to FPL over such lands shall be in substantially the form of the attached **Exhibit C** made a part hereof. FPL acknowledges and agrees that SFWMD is not and will not be bound to acquire any land to provide such easements.

e. That **SFWMD** convey to FPL north of SW 8th Street (Tamiami Trail) a perpetual easement being a minimum 330 feet in width, but no greater than 450 feet in width (in the area of corners and turns), for the construction, placement, operation and maintenance of transmission lines and appurtenant facilities together with communication facilities for FPL's sole use, on and adjacent to the L-29/30 canal right-of-way, as shown in **Appendix 2**, together with the right of ingress and egress for personnel and equipment of FPL, its employees, contractors, agents, successors or assigns over the easement area, for the purpose of exercising and enjoying the rights granted by this easement. FPL acknowledges and agrees that SFWMD is not and will not be bound to acquire any land to provide such easements. The easement will be in substantially the form of attached **Exhibit A,** made a part hereof. SFWMD has declared the easement as surplus to the needs of the SFWMD, including conservation purposes.

f. That **SFWMD** convey to FPL south of SW 8th Street (Tamiami Trail), and north of NW 41st Street, a perpetual easement for access to and from FPL's facilities on foot and by motor vehicle including but not limited to trucks, trailers, cranes and other heavy equipment and with materials, that is located adjacent to the L-31N canal right-of-way, said access easement being over the western side of the L-31N canal right-of-way, for finger roads to be installed off the levee and across the right of way connecting to structure pads, and north of NW 41st Street over the western side of the L-30 canal Right of Way to the first bridge over the L-30 canal Right of Way located at Section 36 Township 52 South Range 38 East, all as shown in **Appendix 2**. SFWMD has declared the easement as surplus to the needs of the SFWMD, including conservation purposes. FPL acknowledges and agrees that SFWMD is not and will not be bound to acquire any land to provide such easements. The easement will be in substantially the form of attached **Exhibit D,** made a part hereof.

g. That **SFWMD** convey to FPL a perpetual easement being a minimum 330 feet in width, but no greater than 450 feet in width (in the area of corner and turns), for the construction, placement, operation and maintenance of utility facilities, including transmission lines and appurtenant facilities, pipelines and communication facilities in the vicinity of SW 120th Street, or SW 112th Street, Miami, Florida, depending upon the FPL route selected, as shown in **Appendix 2**, together with the right of ingress and egress for personnel and equipment of FPL, its employees, contractors, agents, successors or assigns over the easement area, for the purpose of exercising and enjoying the rights granted by this easement. FPL acknowledges and agrees that SFWMD is not and will not be bound to acquire any land to provide

such easements. The easement shall be in substantially the same form as **Exhibit A.** SFWMD has declared the easement as surplus to the needs of the SFWMD, including conservation purposes.

h. That **SFWMD,** convey to FPL north of SW 8th Street (Tamiami Trail) a perpetual easement for the management of non-native vegetation that has the potential to be a fire hazard to transmission facilities that is approximately 90 feet in width as shown in **Appendix 2**. The easement will be in substantially the form of attached **Exhibit C,** made a part hereof. SFWMD has declared the easement as surplus to the needs of the SFWMD, including conservation purposes.

i. That SFWMD will consent to the grant of easements to FPL over private land located within the replacement corridor identified on **Appendix 2** to this Agreement. SFWMD has declared the easements as surplus to the needs of the SFWMD including conservation purposes. The SFWMD consent will be in substantially the form of the subordination and non-disturbance agreement attached hereto as **Exhibit E** made a part hereof.

j. That **TIITF** grant to FPL, and SFWMD will consent to the grant to FPL of, a perpetual easement for the construction, placement, operation and maintenance of transmission lines and appurtenant facilities and communications facilities, at the location of the L-29/30 N canal right of way being a minimum 330 feet in width between SW 8th Street , Miami, Florida and NW 41st Street, Miami, Florida, as shown in **Appendix 2**, together the right of ingress and egress for personnel and equipment of FPL, its employees, contractors, agents, successors or assigns over these lands, for the purpose of exercising and enjoying the rights granted by this easement and any or all of the rights granted thereunder. The granting of the easement by TIITF is subject to the review by the Acquisition and Restoration Council and approval by the Board of Trustees of the Internal Improvement Trust Fund.
SFWMD has declared the easement as surplus to the needs of the SFWMD, including conservation purposes. The SFWMD consent will be in substantially the form of the subordination and non-disturbance agreement attached hereto as **Exhibit E,** made a part hereof.

k. That **TIITF** grant to FPL a perpetual easement for the management of non-native vegetation that has the potential to be a fire hazard to transmission facilities that is approximately 90 feet in width as shown in **Appendix 2**. The granting of the easement by TIITF is subject to the review by the Acquisition and Restoration Council

and approval by the Board of Trustees of the Internal Improvement Trust Fund.

l. That **FPL**, in keeping with the terms and conditions of the Contingent Agreement by and between FPL and the United States, convey to the United States all of its right, title and interest in the lands described in **Appendix 1**, made a part hereof (except as otherwise noted therein).

m. That **FPL** will release to SFWMD and TIITF all of its right, title and interest in the right of way described in **Appendix 3**, made a part hereof. See **Appendix 2-B** for an approximation of the underlying fee ownerships. The release will be in substantially the form of the Partial Release of Permit Agreement attached hereto as **Exhibit B**, made a part hereof.

n. That, upon FPL's receipt of: i) a fully executed FPL/NPS Contingent Agreement relating to the exchange of the FPL Property for a replacement corridor identified in the attached **Appendix 2**; ii) this Cooperation Agreement executed by the SFWMD; iii) a fully executed Bilateral Agreement with TIITF/DEP and evidence of formal approval of that agreement by the TIITF Board; iv) fully executed Bilateral Agreement with the ACOE, FPL will deliver to the ACOE an executed, perpetual bridge/road and channel easement, a five (5) year flowage easement and an executed temporary construction easement over the FPL Property in the vicinity of the Tamiami Trail as negotiated with the ACOE.

o. That **TIITF** grant to FPL north of NW 41st Street, Miami, Florida a perpetual easement for access to and from FPL's facilities located adjacent to the L-30 and L-31 canal Right of Way, on foot and by motor vehicle including but not limited to trucks, trailers, cranes and other heavy equipment and materials, said access easement being over the western side of the L-30 canal Right-of-Way to the first bridge over the L-30 canal Right of Way located at Section 36 Township 52 South Range 38 East, all as shown in **Appendix 2**.

p. That **FPL** enters into an agreement with SFWMD under which FPL will pay the cost of the design and construction by ACOE of a betterment to the proposed bridge necessary to provide for relocation of FPL's existing, east-west utility line once said bridge is constructed. The betterment will incorporate improvements during bridge design and construction to accommodate relocation of FPL's existing east-west utility line along the L-29 right of way onto the bridge. FPL understands that the cost of design and construction is roughly estimated at $160,000. FPL further understands that the permission of or a utility easement from the Florida Department of Transportation will be required to relocate the line.

For the purpose of this Agreement, FPL is agreeable to paying the final cost of such betterment provided, however, that FPL has the ability to review such costs and determine, in FPL's sole opinion, that the costs are not excessive, prior to entering into the Agreement with SFWMD.

The parties recognize and agree that the documents attached to **Appendix 2** to this Agreement are preliminary documents that, subject to the approval of the parties, will be replaced with a final **Appendix 2-1** following completion of title searches, surveys and engineering design.

1.10 SFWMD and FPL further agree to move forward with due diligence and in good faith to draft and execute a mutually acceptable Global Agreement regarding the following SFWMD/FPL projects:

a. EAA STA Compartment B
b. EAA STA Compartment C
c. Lakeside Ranch STA
d. C-111 Spreader Canal
e. EAA Reservoir
f. Picayune Strand
g. C-43 Water Quality and Testing Facility
h. Biscayne Bay Costal Wetlands
i. C-43 Reservoir
j. C-44 Reservoir/STA
k. Fran Reich Preserve (Site 1)
l. Broward County WPA
m. C-23/24 STA
n. C-23/24 Reservoir

1.11 The use of the terms "corridor", "utility corridor" and "replacement corridor" in this Agreement is not an admission or acknowledgment by SFWMD, that the use of the FPL Property as a utility corridor is permissible or suitable as FPL has not begun the permitting process.

2.0 The parties to this Agreement have determined that the public interest would be served by the exchanges identified herein.

2.1 Additional tasks to be undertaken related to this Agreement are as follows:

a. FPL will provide funding for all appraisals and survey work necessary to effectuate the FPL/SFWMD land exchange contemplated by Paragraph 1.9 of this Agreement.

b. FPL will ensure the timely completion of appraisals, surveys and engineering planning required to effectuate the FPL/SFWMD land exchange contemplated by Paragraph 1.9 of this Agreement.

2.2 Following the enactment of federal legislation ratifying the Contingent Agreement between NPS and FPL and simultaneously with the NPS-FPL land exchange closing identified in Paragraph 1.9 (a) and (b) of this Agreement, the parties agree to effectuate the exchanges described in Paragraph 1.9 of this Agreement, including executing all the necessary instruments to effectuate the SFWMD-FPL exchanges identified in Paragraphs 1.9 (g), (h), (i), (j), (k) and (n) (as to the SFWMD Permit only) and (d) if the conveyance from the United States to SFWMD has occurred.

2.3 The parties recognize that this Agreement, upon execution by SFWMD and FPL, is a legally binding agreement.

2.4 This Agreement may be executed by the parties on separate counterpart signature pages (including by telecopy) and all such counterpart signature pages taken together with the body of this Agreement shall be deemed to constitute one and the same instrument.

2.5 If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other governmental authority: (1) such portion or provision shall be deemed separate and independent, (2) the parties shall negotiate in good faith to restore insofar as practicable the benefits to each party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

2.6 This Agreement shall be governed by the law of the State of Florida.

2.7 Each party represents and warrants that the execution of this Agreement has been duly authorized by it and that this Agreement, upon execution by the other party, is binding on and enforceable against such party in accordance with the terms of this Agreement. No consent to such execution is required from any person, judicial or administrative body, governmental authority or any other person other than any such consent which already has been unconditionally given. Each party hereto represents and warrants that there is no pending litigation, or to the best of their knowledge, threatened litigation that would affect its obligations to perform hereunder.

2.8 Notwithstanding any other provision of this Agreement, if the Congress enacts authorizing, ratifying or confirming legislation which amends or alters any of the terms of the FPL/NPS Contingent Agreement in the absence of specific written concurrence of FPL to such amendment or alteration, FPL shall have the right, within ninety (90) days of the enactment of such legislation, to terminate this Agreement without any further obligation hereunder by written notice delivered to SFWMD, and neither Party shall have any further obligations to the other under this Agreement.

2.9 In the event that federal legislation approving, ratifying and confirming the FPL/NPS Contingent Agreement is not enacted into law, this Agreement shall be null and void in all respects and the Parties shall return to their status and rights prior to the execution of this Agreement.

IN WITNESS WHEREOF, and intending to be legally bound hereby, this Agreement has been executed by the parties on the dates shown below:

[Counterpart signature pages to follow.]

Date:_____

FLORIDA POWER & LIGHT COMPANY,
a Florida Corporation

By:_____
Terry L. Hicks
Vice President of Corporate Real Estate

Date:_____

SOUTH FLORIDA WATER
MANAGEMENT DISTRICT BY ITS
GOVERNING BOARD, a political
subdivision of the State of Florida

By:_____
Eric Buerrman, Chair

LEGAL FORM APPROVED
SFWMD OFFICE OF COUNSEL
BY _____ DATE 8/21/2008

Appendix 1
FPL Property which is authorized for acquisition by the United States and affected by this Agreement in Concept

Property owned by Florida Power and Light Company located in the East Everglades Acquisition Area, between SW 8th Street and SW 120th Street, Miami, FL:

The West 1/2 of the West 1/2 of the East ½ of the West 1/2 of Section 3, Township. 55 South, Range 38 East.
And
The West ½ of the West ½ of the East ½ of the West 1/2 of Section 10, Township 55 South, Range 38 East, less and except the South 660 feet thereof which is owned by Florida Power and Light Company; subject to a reserved easement for non-native vegetation management in favor of Florida Power and Light Company over the North 82.45 feet of the South 742.45 feet of said Section 10; and over which the U. S. Army Corps of Engineers has an easement, as described in a Declaration of Taking as recorded in Official Records Book ORB 18927, page 2948 of the Public Records of Miami-Dade County, Florida.
And
The West 370 feet of Sections 10, 15, 22, 27 and 34, in Township 54 South, Range 38 East. All of the above in Miami-Dade County, Florida.

Subject to the exceptions noted in title commitments dated 3/15/07 and 3/12/07;

And

FPL easements over Government Lot 3:

i) As recorded in ORB 7237 Page 947 and more particularly described as follows:

Commence at the Northwest corner of Government Lot 3 which lies between Township 54 South and Township 55 South, Range 38 East, of Dade County, Florida; thence run North 89 degrees, 39 minutes, 28 seconds East, along the north line of said Government Lot 3 for a distance of 40.22 feet to the point of beginning of the parcel of land to be hereinafter described: ***From said point of beginning***, run South 4 degrees 22 minutes 17 seconds East for a distance of 75.19 feet; thence run North 89 degrees, 39 minutes, 28 seconds East, along a line 75 feet south of and parallel to the north line of said Government Lot 3 for a distance of 330.19 feet; thence run North 4 degrees, 22 minutes 03 seconds West for a distance of 75.19 feet; thence run South 89 degrees, 39 minutes 28 seconds West, along the north line of said Government Lot 3, for a distance of 330.19 feet to the point of beginning.

ii) As described in that certain Order Taking filed to No. 72-14266 in the Circuit Court of the 11th Judicial Circuit in and for Dade County, Florida dated September 25, 1972, as Parcel 92, containing approximately **19.60 acres, more or less:**

Commence at the Southwest corner of Government Lot 3 between Township 54 South and Township 55 South of Range 38 East of Dade County, Florida; thence run N89 degrees 31 minutes 10 seconds East, along the south line of said Government Lot 3, for a distance of 1319.79 feet to the Northeast corner of the West 2 of the NW1/4 of Section 3, Township 55 South, Range 38 East, ***being the Point of Beginning of the parcel hereinafter described***: From said Point of Beginning, thence run North 4 degrees 22 minutes 17 seconds West for a distance of 2666.81 feet to a point of intersection with the North line of said Government Lot 3, point of Intersection being 40.02 feet East of the NW corner of said Government Lot 3 as measured along the North line of said Lot 3; thence run N 89 degrees 39 minutes 28 seconds East, along the North line of said Lot 3, for a distance of 330.19 feet; thence run South 4 degrees 22 minutes 03 seconds East for a distance of 2665.99 feet to a point of intersection with the South line of said Lot 3; thence run South 89 degrees 31 minutes 10 seconds West along the South line of said Lot 3, for a distance of 329.95 feet to the Point of Beginning; ***LESS*** the North 75 feet thereof. Containing 19.60 acres of land, more or less.

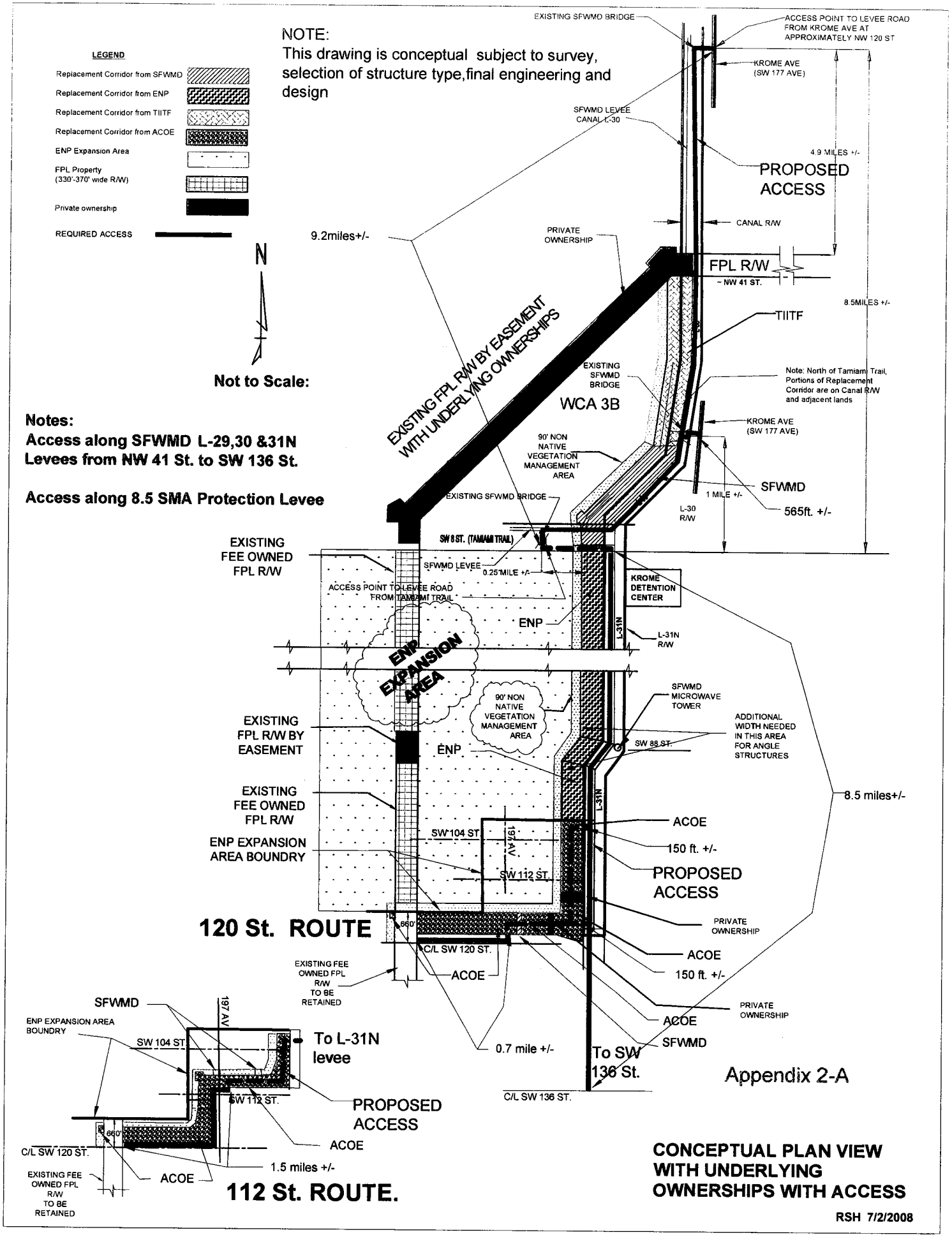
Appendix 1-A is the location map showing the existing FPL property interests.

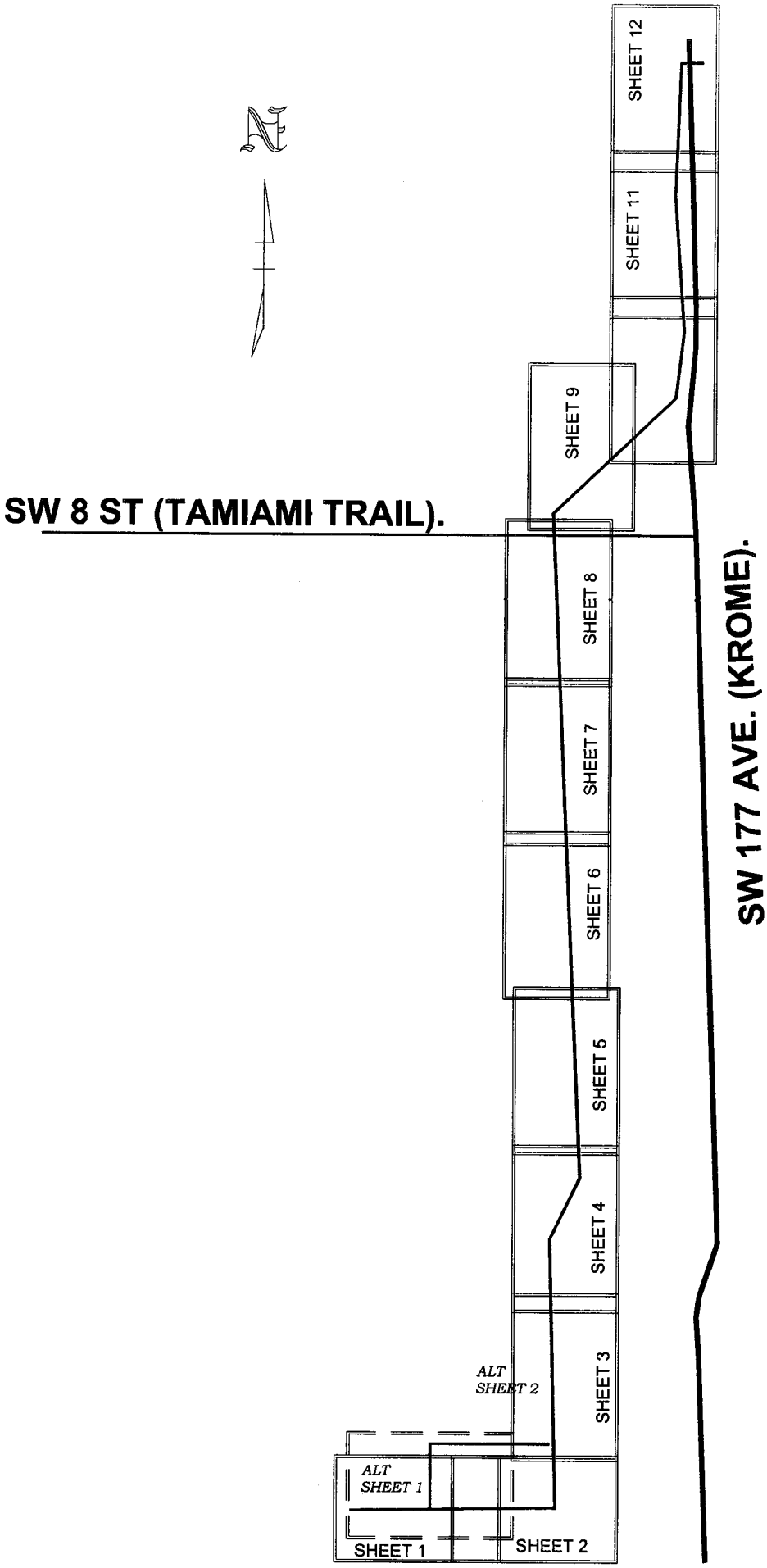
Appendix 2

Proposed Relocation of FPL Utility Corridor on Lands proposed to be conveyed in Fee Simple from the US (ENP/National Park Service) and Easements from the SFWMD, ACOE and TIITF

See attached:

1) Conceptual Plan View with Underlying Ownerships with Access, dated July 2, 2008, 1 sheet, (Not to Scale) (Appendix 2-A)
2) Key Map for Route Alignments, 1 sheet dated July 2, 2008, (Appendix 2-B)
3) Turkey Point Levee 500 kV Lines, 120th Street Alignment, Conceptual Right of Way, Sheets 1 through 12, dated July 2, 2008, (Appendix 2-C); and
4) Turkey Point Levee 500 kV Lines, 112th Street Alignment, Conceptual Right of Way, Sheets 1 and 2 dated July 2, 2008, (Appendix 2-D);
5) Right of Way Relocation, Anticipated Access Rights to Relocated Right of Way, dated July 2, 2008 (Appendix 2-E)
6) Conceptual Configuration of Proposed Relocated FPL R/W Along ENP, dated July 20, 2007, (Appendix 2-F)

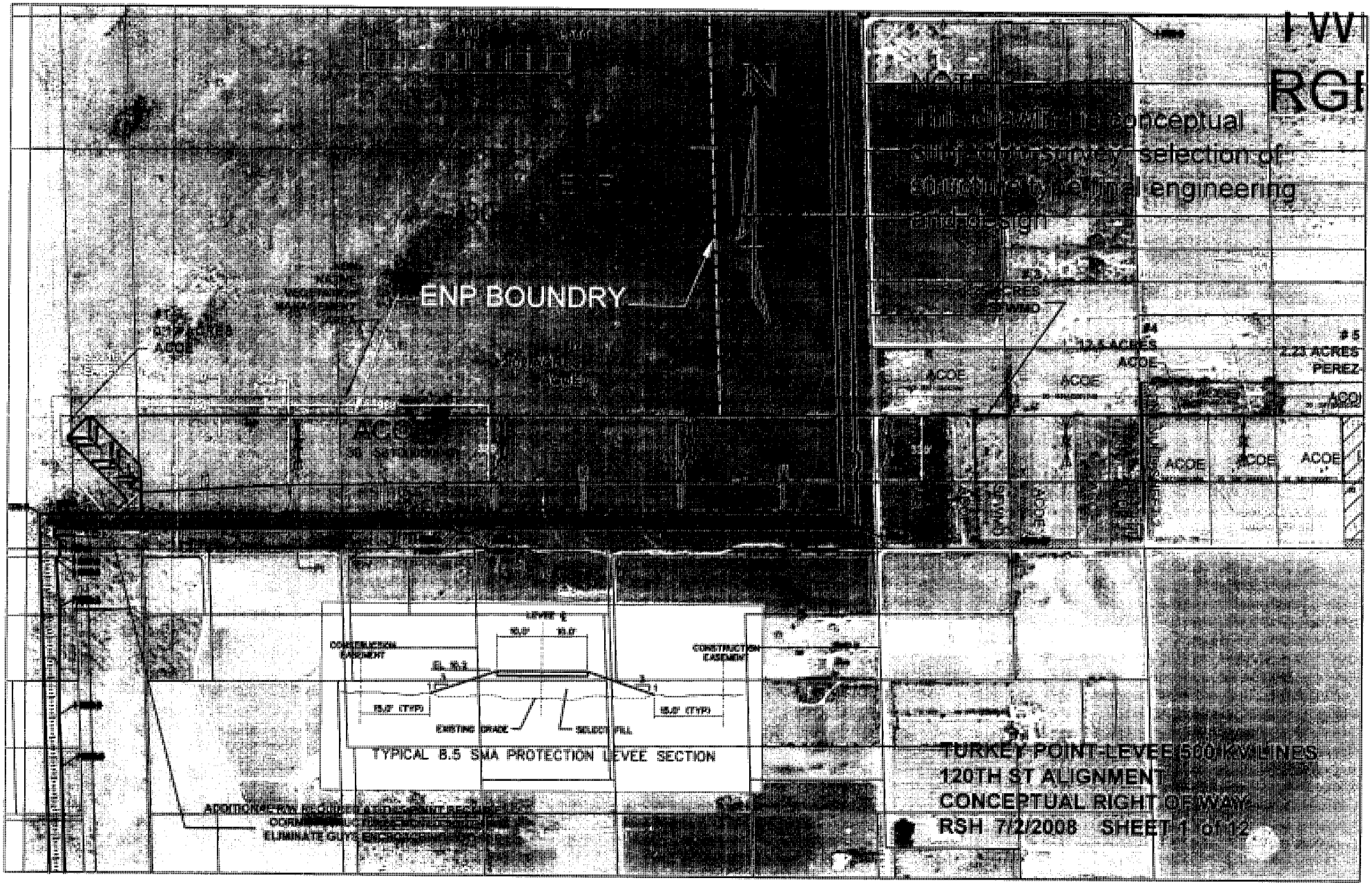

NOTE:
This drawing is conceptual subject to survey, selection of structure type,final engineering and design
LEGEND
Replacement Corridor from SFWMD
Replacement Corridor from ENP
Replacement Corridor from TIITF
Replacement Corridor from ACOE
ENP Expansion Area
FPL Property (330'-370' wide R/W)
Private ownership
REQUIRED ACCESS
N
Not to Scale:
Notes:
Access along SFWMD L-29,30 &31N Levees from NW 41 St. to SW 136 St.
Access along 8.5 SMA Protection Levee
EXISTING SFWMD BRIDGE
ACCESS POINT TO LEVEE ROAD FROM KROME AVE AT APPROXIMATELY NW 120 ST
KROME AVE (SW 177 AVE)
SFWMD LEVEE CANAL L-30
4.9 MILES +/-
PROPOSED ACCESS
CANAL R/W
9.2miles+/-
PRIVATE OWNERSHIP
FPL R/W
~ NW 41 ST.
8.5MILES +/-
TIITF
EXISTING FPL R/W BY EASEMENT WITH UNDERLYING OWNERSHIPS
EXISTING SFWMD BRIDGE
WCA 3B
Note: North of Tamiami Trail, Portions of Replacement Corridor are on Canal R/W and adjacent lands
KROME AVE (SW 177 AVE)
90' NON NATIVE VEGETATION MANAGEMENT AREA
SFWMD
1 MILE +/-
565ft. +/-
L-30 R/W
EXISTING SFWMD BRIDGE
SW 8 ST. (TAMIAMI TRAIL)
EXISTING FEE OWNED FPL R/W
SFWMD LEVEE
0.25 MILE +/-
ACCESS POINT TO LEVEE ROAD FROM TAMIAMI TRAIL
KROME DETENTION CENTER
ENP
L-31N
L-31N R/W
ENP EXPANSION AREA
90' NON NATIVE VEGETATION MANAGEMENT AREA
SFWMD MICROWAVE TOWER
ADDITIONAL WIDTH NEEDED IN THIS AREA FOR ANGLE STRUCTURES
EXISTING FPL R/W BY EASEMENT
ENP
SW 88 ST.
8.5 miles+/-
EXISTING FEE OWNED FPL R/W
ACOE
SW 104 ST.
197 AV
150 ft. +/-
ENP EXPANSION AREA BOUNDRY
SW 112 ST.
PROPOSED ACCESS
120 St. ROUTE
660'
PRIVATE OWNERSHIP
C/L SW 120 ST.
ACOE
150 ft. +/-
EXISTING FEE OWNED FPL R/W TO BE RETAINED
ACOE
PRIVATE OWNERSHIP
SFWMD
197 AV
ENP EXPANSION AREA BOUNDRY
SW 104 ST.
To L-31N levee
0.7 mile +/-
To SW 136 St.
SFWMD
Appendix 2-A
SW 112 ST.
PROPOSED ACCESS
C/L SW 136 ST.
660'
ACOE
C/L SW 120 ST.
1.5 miles +/-
EXISTING FEE OWNED FPL R/W TO BE RETAINED
ACOE
112 St. ROUTE.
CONCEPTUAL PLAN VIEW WITH UNDERLYING OWNERSHIPS WITH ACCESS
RSH 7/2/2008



KEY MAP
FOR ROUTE
ALIGNMENTS

RSH 7/2/08

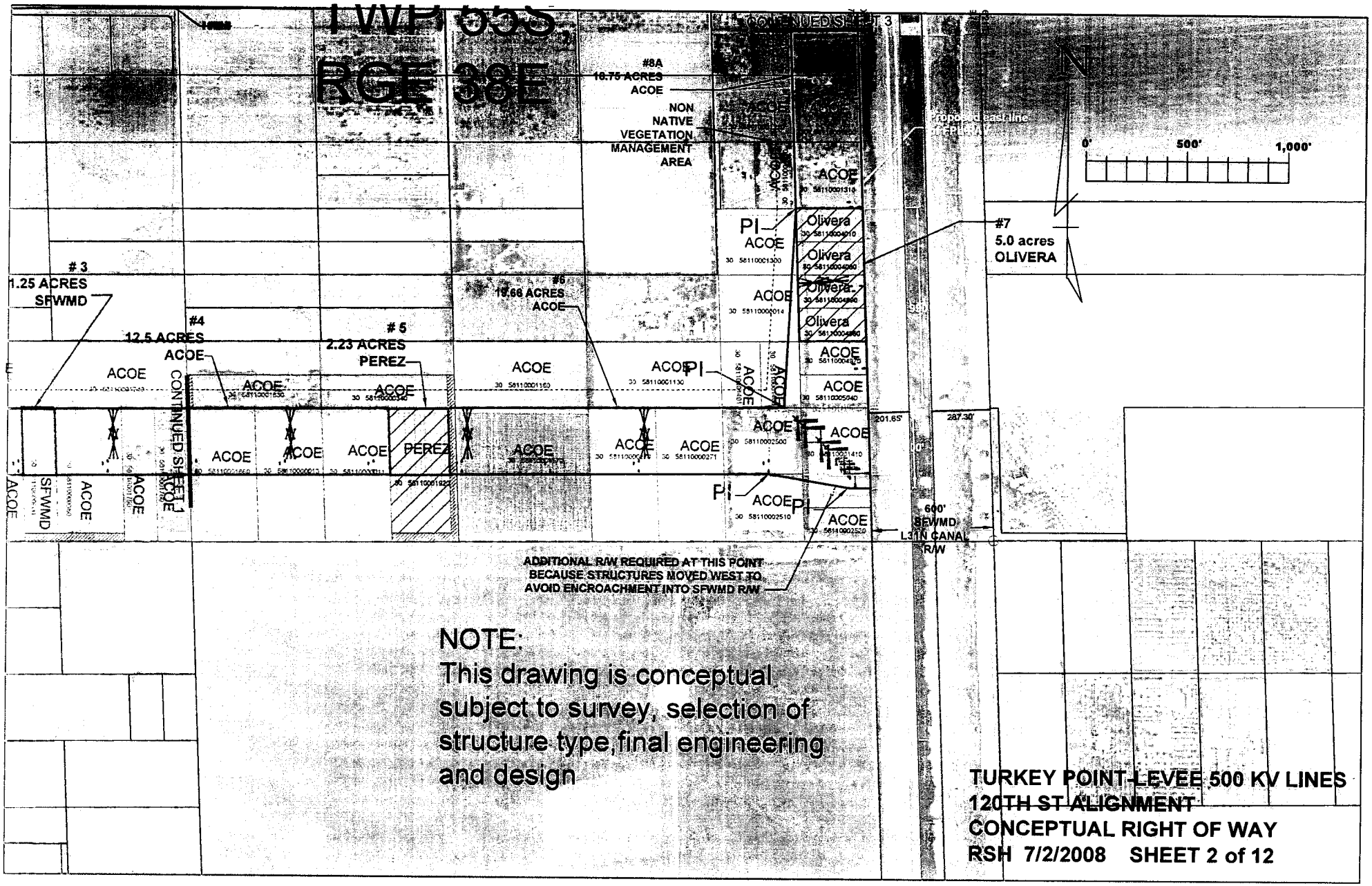
Appendix 2-C



NOTE: This drawing is conceptual ... survey, selection of structure type, final engineering and design

TYPICAL 8.5 SMA PROTECTION LEVEE SECTION

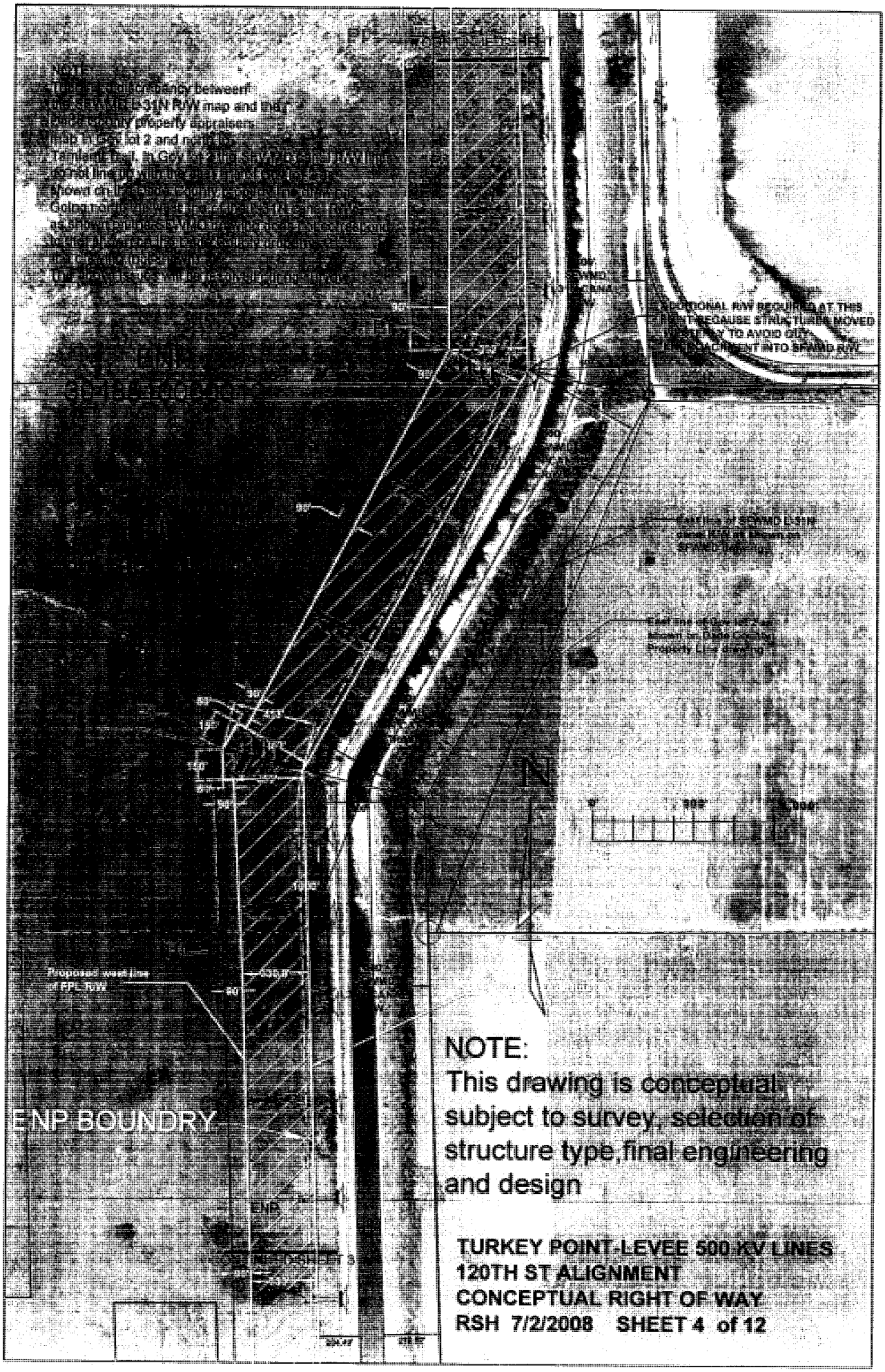
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 1 of 12

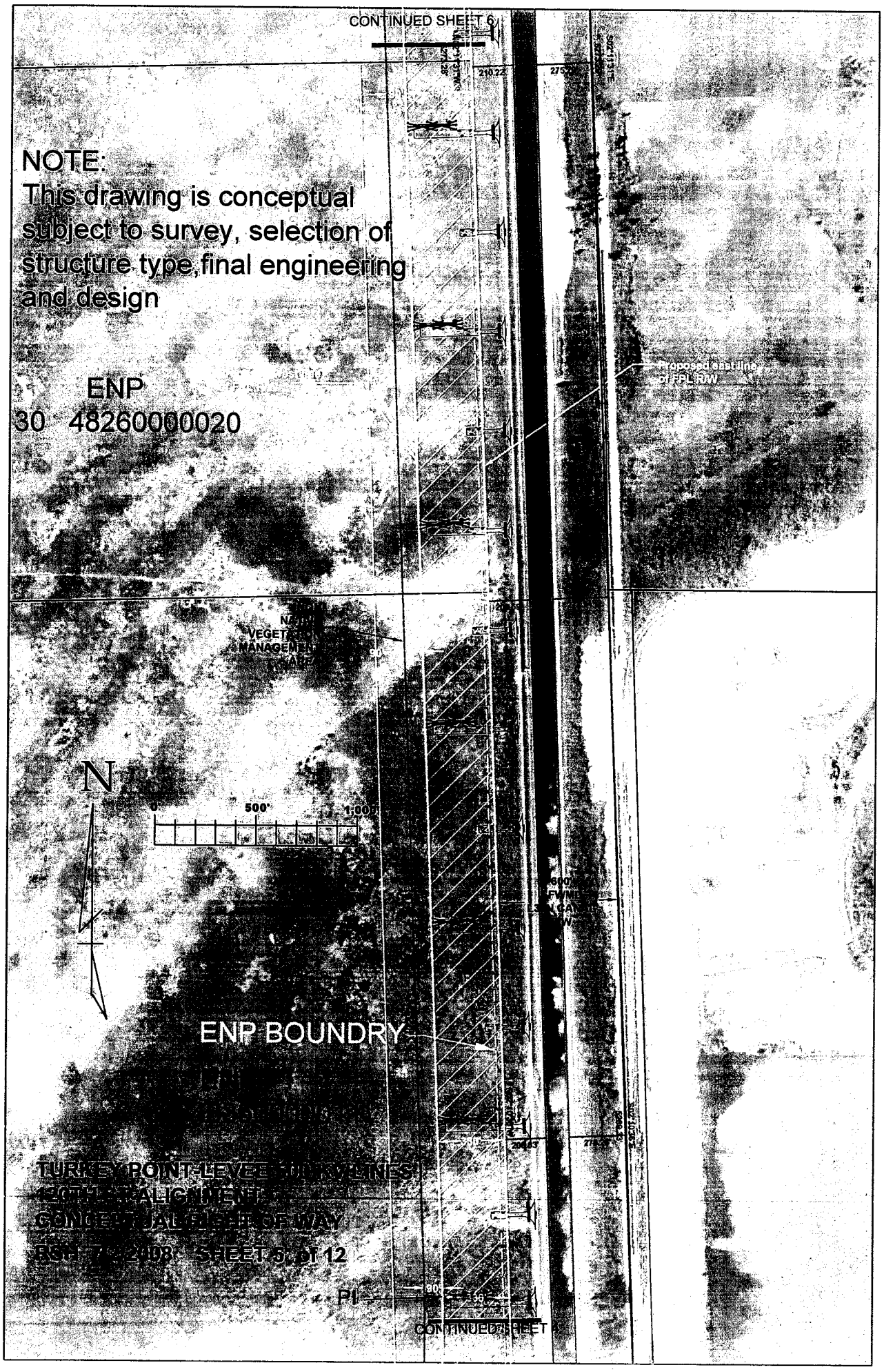


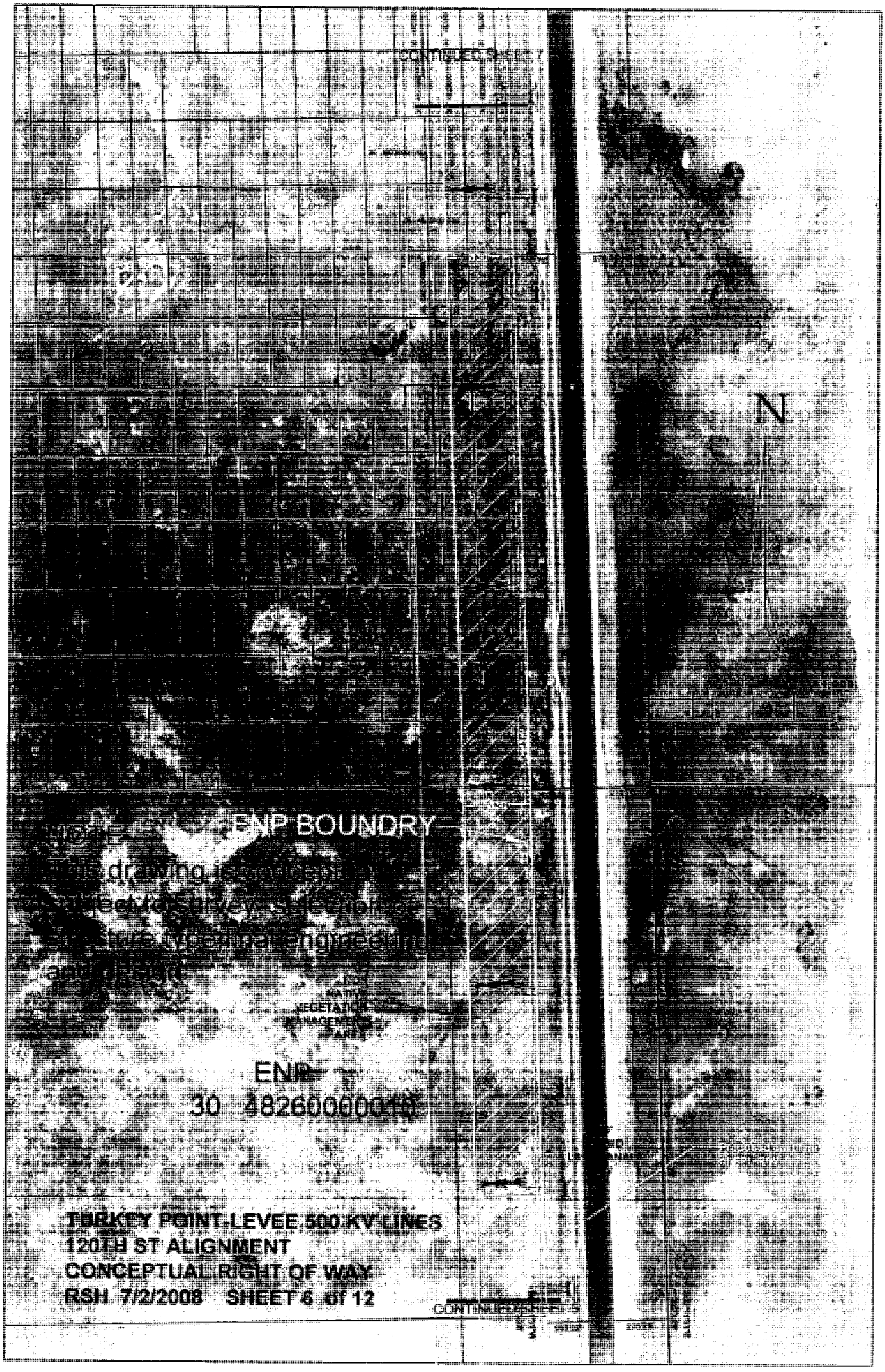
NOTE:
This drawing is conceptual subject to survey, selection of structure type, final engineering and design

TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 2 of 12

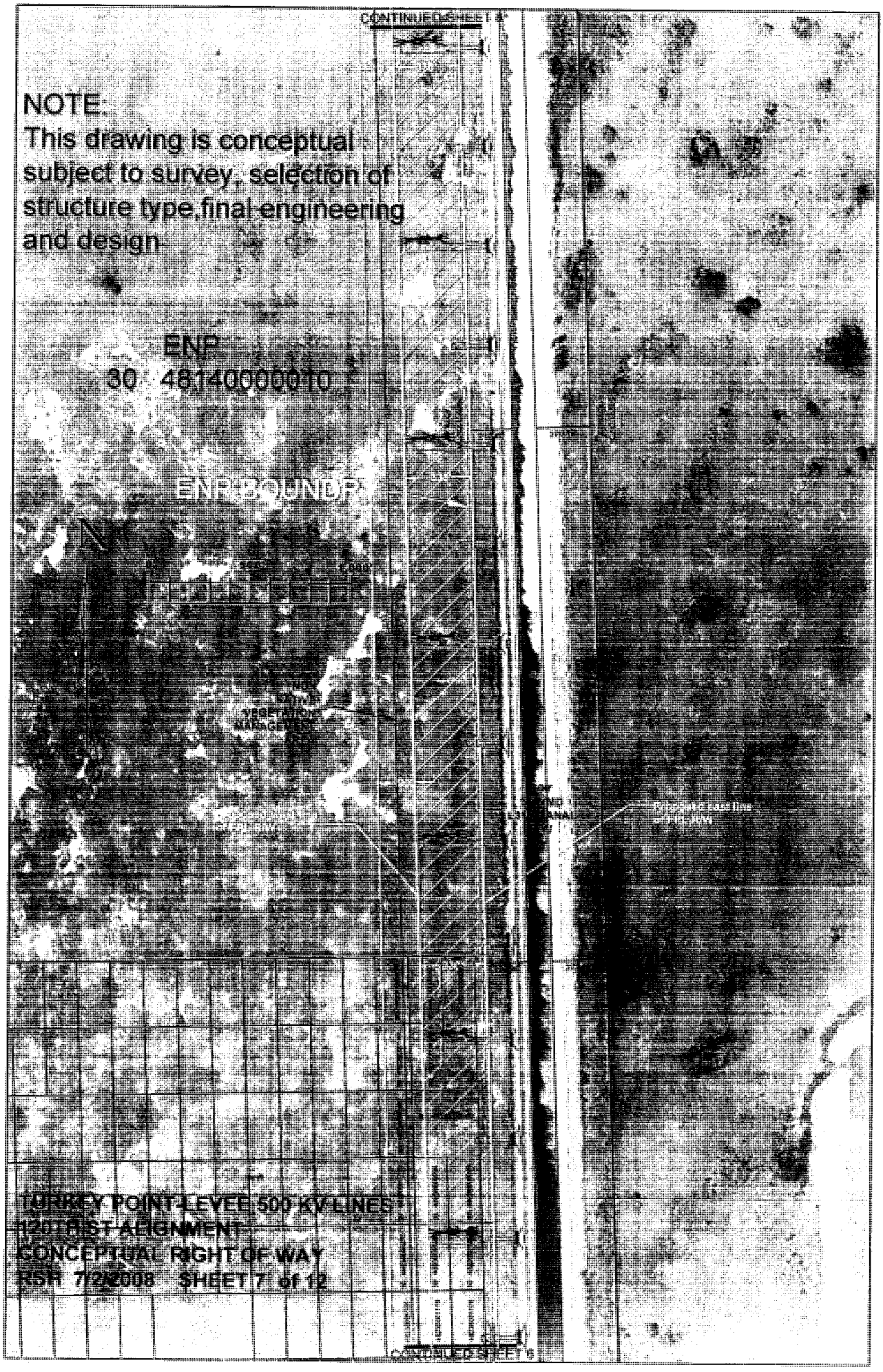

N
0'
400'
1,000'
ENP BOUNDRY
ACOE
NOTE:
This drawing is conceptual, subject to survey, selection of structure type, final engineering and design
TURKEY POINT-LEVEE 500 KV LINES
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 3 of 12

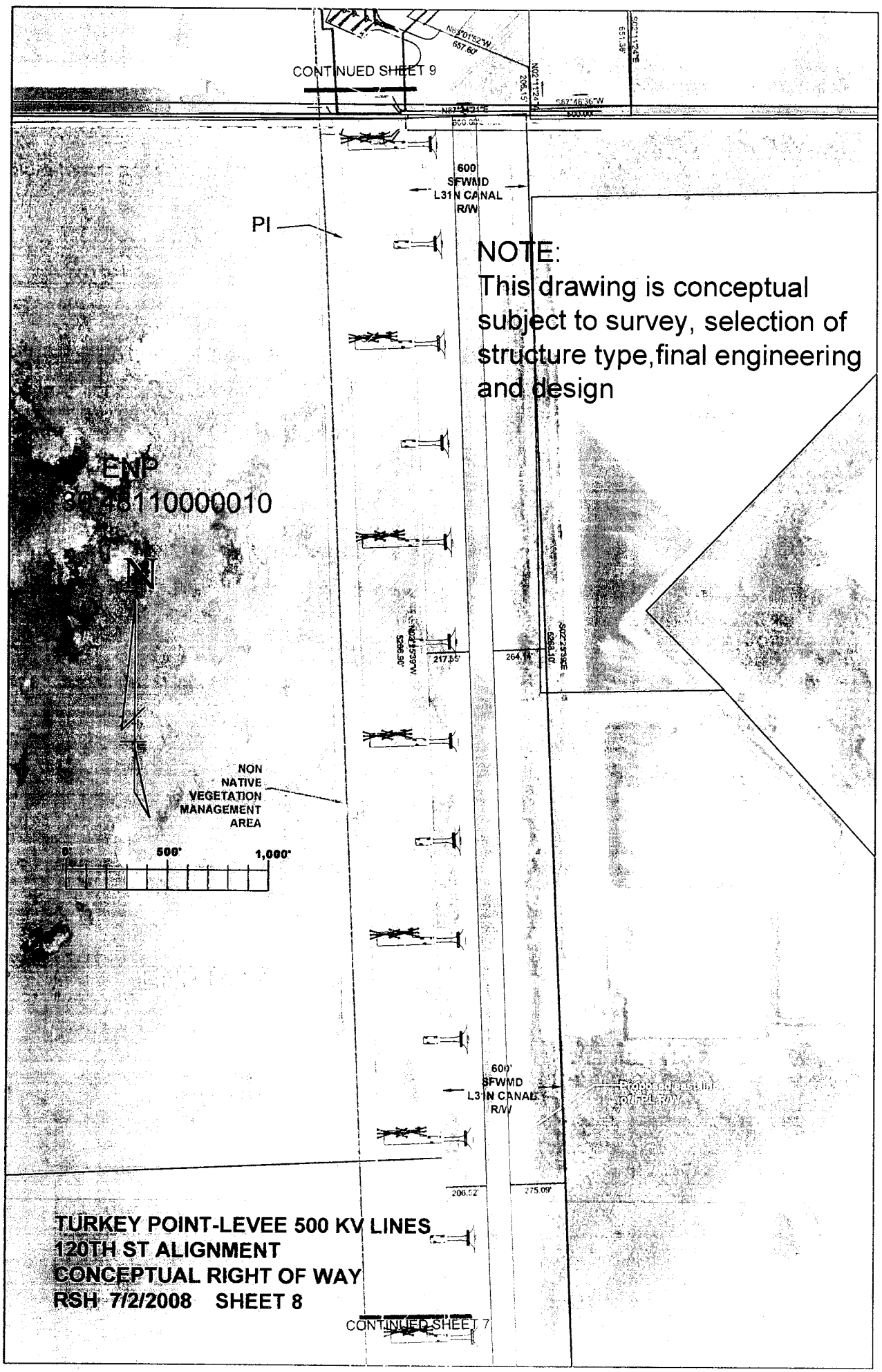

NOTE:
This drawing is conceptual, subject to survey, selection of structure type, final engineering and design
ENP BOUNDRY
Proposed west line of FPL R/W
ADDITIONAL R/W REQUIRED AT THIS POINT BECAUSE STRUCTURE MOVED SOUTHWARD TO AVOID GIS ENCROACHMENT INTO SFWMD R/W
N
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 4 of 12


CONTINUED SHEET 6
NOTE:
This drawing is conceptual subject to survey, selection of structure type, final engineering and design
ENP
30 48260000020
Proposed centerline of FPL R/W
N
0
500'
1,000
ENP BOUNDRY
TURKEY POINT LEVEE 500 KV LINES
ALTERNATIVE ALIGNMENT
CONCEPTUAL RIGHT OF WAY
SHEET 5 OF 12
PI
CONTINUED SHEET 4

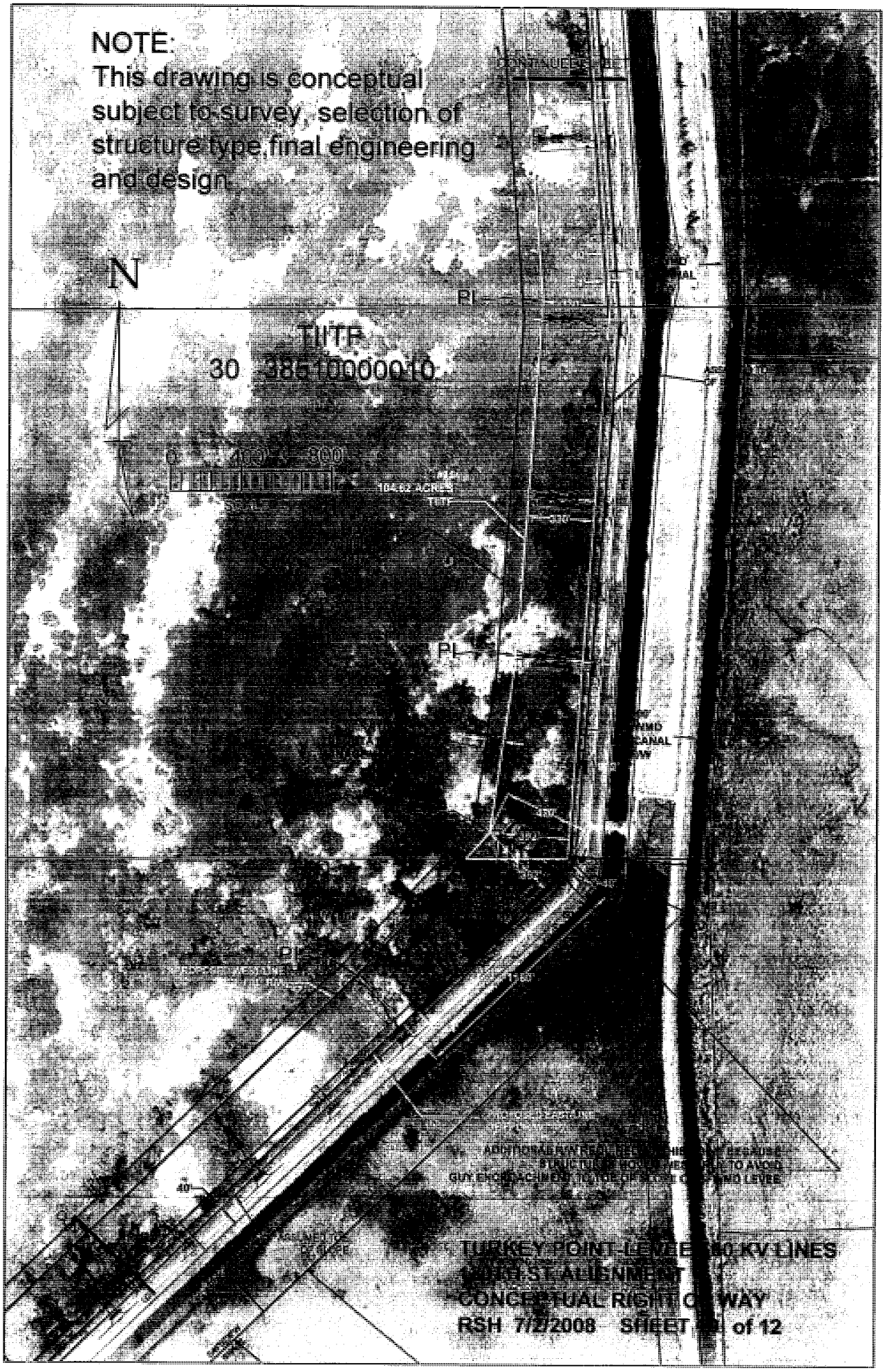


TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 6 of 12

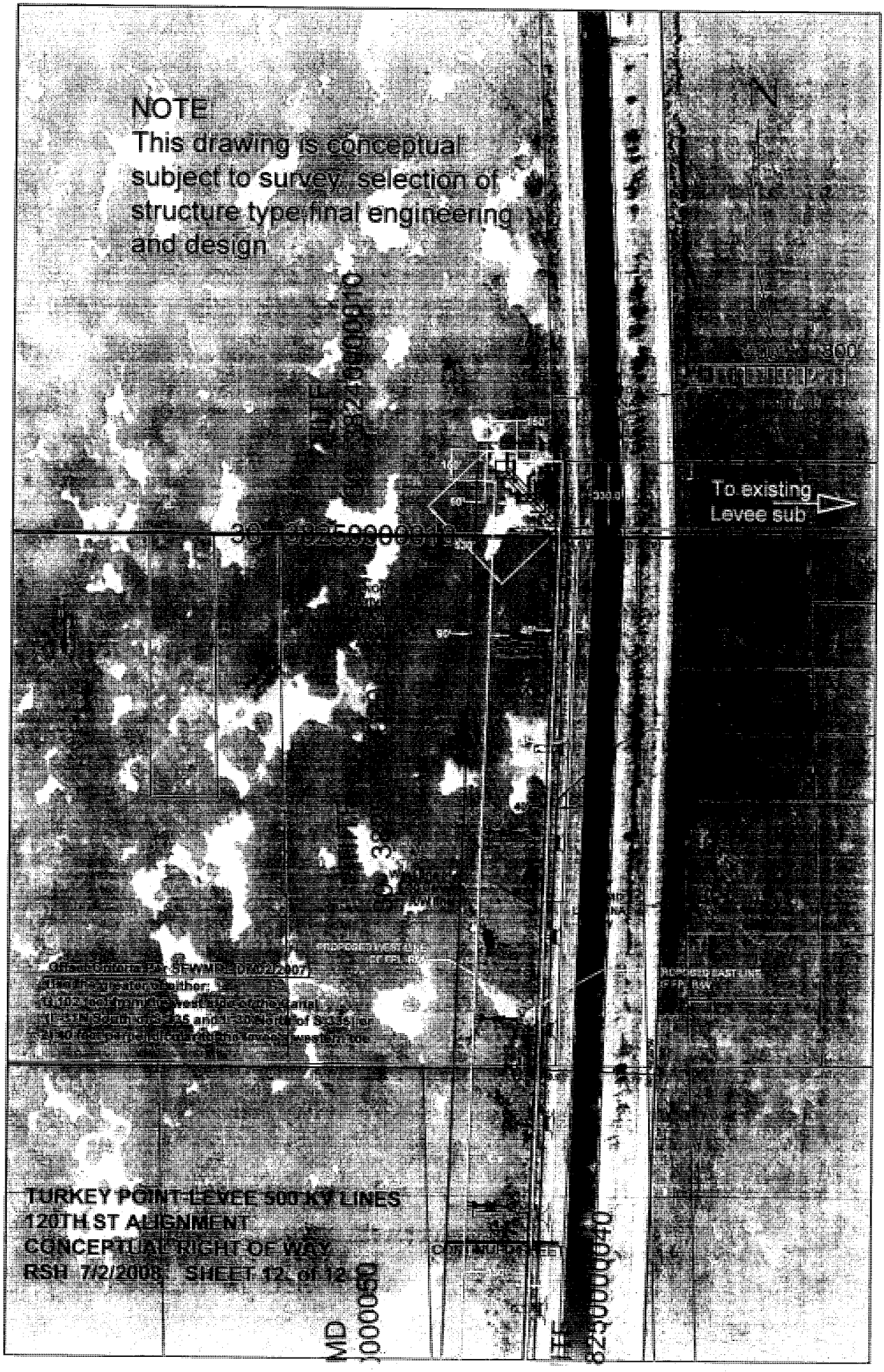

CONTINUED SHEET 6
NOTE:
This drawing is conceptual subject to survey, selection of structure type,final engineering and design.
ENP
30 481400000010
ENP BOUNDRY
N
VEGETATION MANAGEMENT
Proposed transmission line
R/W
TURKEY POINT-LEVEE 500 KV LINES
1201 FIST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 7 of 12
CONTINUED SHEET 8

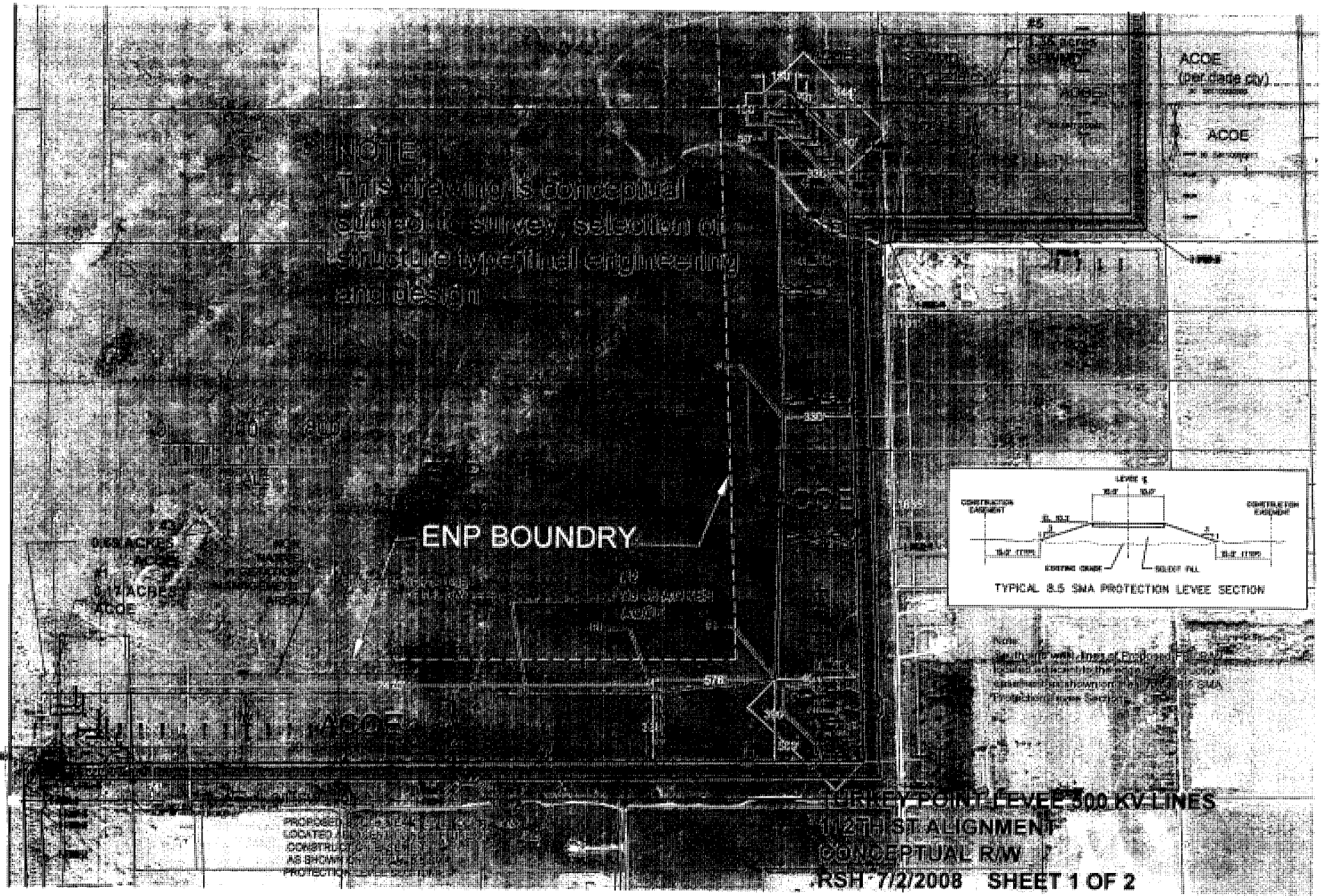

CONTINUED SHEET 9
600
SFWMD
L31N CANAL
R/W
PI
NOTE:
This drawing is conceptual subject to survey, selection of structure type,final engineering and design
ENP
30481110000010
N
NON
NATIVE
VEGETATION
MANAGEMENT
AREA
0'
500'
1,000'
600'
SFWMD
L31N CANAL
R/W
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 8
CONTINUED SHEET 7


Offset Criteria Per SFWMD (07/02/2007)
Use the greater of either:
1) 102 feet from the west side of the Canal (L-31N South of S-335 and L-30 North of S-335) or
2) 40 feet perpendicular to the levee's western toe
N
NOTE
This drawing is conceptual subject to survey, selection of structure type final engineering and design
SFWMD
30 48010000010
0' 400' 800'
SCALE
West line of L-30 Canal R/W line
NON NATIVE VEGETATION MANAGEMENT AREA
#14
14.76 ACRES
SFWMD
PROPOSED WEST LINE OF FPL R/W
#10
67.1 ACRES
SFWMD
PROPOSED EAST LINE OF FPL R/W
CANAL R/W
SFWMD
30 48020000010
ASSUMED TOE OF SLOPE
TURKEY POINT LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 9 of 12
CONTINUED SHEET 8
N87°34'21"E
S87°48'36"W
580.00


NOTE:
This drawing is conceptual subject to survey, selection of structure type, final engineering and design.
N
TIITP
30 385100000010
0 400 800
PI
PI
PI
40
TURKEY POINT-LEVEE 500 KV LINES
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET of 12

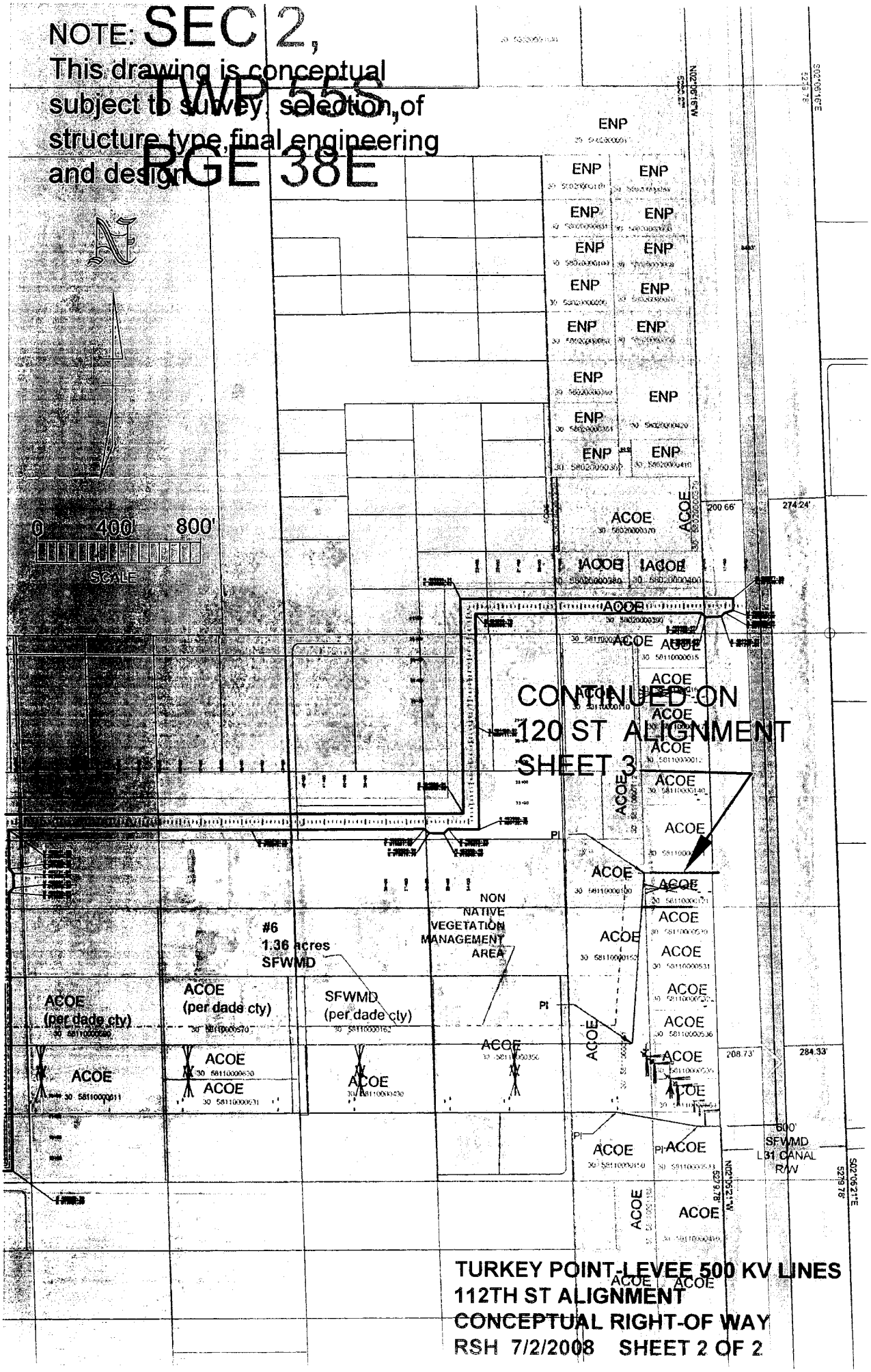

CONT. SHEET
SFWMD
30
TILT
NOTE:
PROPOSED EAST LINE
TILT
West line of
L-30 Canal
R/W line
Offset Criteria Per SFWMD (07/02/2007)
Use the greater of either:
1) 102 feet from the west side of the Canal (L-31N South of S-335 and L-30 North of S-335) or
2) 40 feet perpendicular to the levee's western toe
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 11 of 12
CONTINUED SHEET


NOTE
This drawing is conceptual subject to survey, selection of structure type, final engineering and design
To existing Levee sub
N
TURKEY POINT-LEVEE 500 KV LINES
120TH ST ALIGNMENT
CONCEPTUAL RIGHT OF WAY
RSH 7/2/2008 SHEET 12 of 12


NOTE
This drawing is conceptual
subject to survey, selection of
structure type/final engineering
and design
ENP BOUNDRY
ACOE
(per state div)
ACOE
TYPICAL 8.5 SMA PROTECTION LEVEE SECTION
TURKEYPOINT LEVEE 500 KV LINES
112TH ST ALIGNMENT
CONCEPTUAL R/W
RSH 7/2/2008 SHEET 1 OF 2

NOTE: This drawing is conceptual subject to survey, selection, of structure type, final engineering and design.

SEC 2,
TWP 55S
RGE 38E



TURKEY POINT-LEVEE 500 KV LINES
112TH ST ALIGNMENT
CONCEPTUAL RIGHT-OF WAY
RSH 7/2/2008 SHEET 2 OF 2

Right of Way Relocation
Anticipated Access Rights to Relocated Right of Way

Access rights necessary for constructing, operating and maintaining transmission lines and other facilities on the Levee-Turkey Point relocated right of way from SW 120 St. to NW 41 St.

All Sections:
Right of ingress and egress (on, over and across) for personnel, material and equipment of FPL, its contractors, agents, successors or assigns over the lands. Rights to install, maintain, improve, modify or tie-into existing access roads to allow for safe access for personnel, vehicles, material and equipment. Rights for temporary storage of materials or equipment during the construction/maintenance period. Rights to install, maintain, improve or modify fencing/gates.

ACOE
From FPL R/W just north of SW 120th Street East to exit from inside 8.5 SMA Protection Levee
Use SFWMD 8.5 SMA Protection Levee for access to facilities. The access to the relocated right of way will be from the levee along and outside of the relocated right of way (except for those sections of the levee that cross the relocated right of way).

- Access and use of the levee (8.5 SMA Protection Levee) between FPL right of way and SW 197th Ave
- Ability to construct access roads and ramps onto the levee for access from FPL R/W and other public access, if required.
- Ability to construct finger roads, ramps and pads for access to the facilities from the levee.

For alternate route along 112th Street.

- Access and use of the levee (8.5 SMA Protection Levee) going east from FPL right of way to SW 197th Ave, then north slightly past SW 112th Street, than east to SW 194th Ave
- Ability to construct access roads and ramps onto the levee for access from FPL R/W and other public access, if required
- Ability to construct finger roads, ramps and pads for access to the facilities from the levee

From 8.5 SMA Protection Levee East to L-31N, then north to ENP Boundary (near SW 100th Street)
A patrol road will be used within the transmission right of way along this section. Depending on surface and soil conditions, the patrol road may require simple clearing up to installation of compacted fill. Access to the R/W will be from the 8.5 SMA Protection Levee (or other public access) on south end and L-31N on east/north end. Access to the 8.5 SMA Protection Levee will be from FPL R/W or SW 197th Ave. Access to L-31N will be from SW 8th Street, 8.5 SMA Protection Levee near SW100th Street, from relocated right of way near SW 120th Street (new access ramp to L-31N to be installed if needed) or SW 136th Street.

SFWMD and TIITF
From ENP Boundary (near SW 100th Street) to SW 8th Street.
Use SFWMD L-31N right of way on the west side of the canal for access to the relocated right of way. Entry onto the L-31N right of way will be from SW 8th Street, 8.5 SMA Protection Levee near SW100th Street(new access ramp to L-31N to be installed if needed), from relocated right of way near SW 120th Street (new access ramp to L-31N to be installed if needed) or SW 136th Street. (Note: Other public roads may be used, but it appears that they are being vacated to the government owners of adjacent lots)

From SW 8th Street to NW 41st Street
Use SFWMD L-29/30 levee/right of way on the north and west side of the canals for access to the relocated right of way. Entry onto the L-29/30 right of way will be from SW 8th Street approximately 1.3 miles west of Krome Ave (SFWMD S356), from Krome Avenue approximately 1.1 mile north of SW 8th Street (SFWMD S335) and from Krome Avenue approximately 8.5 miles north of 8th Street (SFWMD bridge).

For these segments, easement must also grant rights to

- Construct access roads and ramps onto the levee for access from FPL R/W and other public access, if required.
- Construct finger roads, ramps and pads for access to the facilities from the levee.

Right of Way Relocation
Anticipated Access Rights to Relocated Right of Way

Access rights necessary for constructing, operating and maintaining transmission lines and other facilities on the Levee-Turkey Point relocated right of way from SW 120 St. to NW 41 St.

All Sections:
Right of ingress and egress (on, over and across) for personnel, material and equipment of FPL, its contractors, agents, successors or assigns over the lands. Rights to install, maintain, improve, modify or tie-into existing access roads to allow for safe access for personnel, vehicles, material and equipment. Rights for temporary storage of materials or equipment during the construction/maintenance period. Rights to install, maintain, improve or modify fencing/gates.

ACOE
From FPL R/W just north of SW 120th Street East to exit from inside 8.5 SMA Protection Levee
Use SFWMD 8.5 SMA Protection Levee for access to facilities. The access to the relocated right of way will be from the levee along and outside of the relocated right of way (except for those sections of the levee that cross the relocated right of way).

- Access and use of the levee (8.5 SMA Protection Levee) between FPL right of way and SW 197th Ave
- Ability to construct access roads and ramps onto the levee for access from FPL R/W and other public access, if required.
- Ability to construct finger roads, ramps and pads for access to the facilities from the levee.

For alternate route along 112th Street.

- Access and use of the levee (8.5 SMA Protection Levee) going east from FPL right of way to SW 197th Ave, then north slightly past SW 112th Street, than east to SW 194th Ave
- Ability to construct access roads and ramps onto the levee for access from FPL R/W and other public access, if required
- Ability to construct finger roads, ramps and pads for access to the facilities from the levee

From 8.5 SMA Protection Levee East to L-31N, then north to ENP Boundary (near SW 100th Street)
A patrol road will be used within the transmission right of way along this section. Depending on surface and soil conditions, the patrol road may require simple clearing up to installation of compacted fill. Access to the R/W will be from the 8.5 SMA Protection Levee (or other public access) on south end and L-31N on east/north end. Access to the 8.5 SMA Protection Levee will be from FPL R/W or SW 197th Ave. Access to L-31N will be from SW 8th Street, 8.5 SMA Protection Levee near SW100th Street, from relocated right of way near SW 120th Street (new access ramp to L-31N to be installed if needed) or SW 136th Street.

SFWMD and TIITF
From ENP Boundary (near SW 100th Street) to SW 8th Street.
Use SFWMD L-31N right of way on the west side of the canal for access to the relocated right of way. Entry onto the L-31N right of way will be from SW 8th Street, 8.5 SMA Protection Levee near SW100th Street(new access ramp to L-31N to be installed if needed), from relocated right of way near SW 120th Street (new access ramp to L-31N to be installed if needed) or SW 136th Street. (Note: Other public roads may be used, but it appears that they are being vacated to the government owners of adjacent lots)

From SW 8th Street to NW 41st Street
Use SFWMD L-29/30 levee/right of way on the north and west side of the canals for access to the relocated right of way. Entry onto the L-29/30 right of way will be from SW 8th Street approximately 1.3 miles west of Krome Ave (SFWMD S356), from Krome Avenue approximately 1.1 mile north of SW 8th Street (SFWMD S335) and from Krome Avenue approximately 8.5 miles north of 8th Street (SFWMD bridge).

For these segments, easement must also grant rights to

- Construct access roads and ramps onto the levee for access from FPL R/W and other public access, if required.
- Construct finger roads, ramps and pads for access to the facilities from the levee.

CONCEPTUAL CONFIGURATION OF PROPOSED RELOCATED FPL R/W ALONG ENP

2-SINGLE POLE SINGLE CIRCUIT 500 KV LINES

1-SINGLE POLE DOUBLE CIRCUIT AND 1 SINGLE POLE SINGLE CIRCUIT 230 KV LINES

500 KV LINES
- 3 BUNDLED 1272 ACSR/AW CONDUCTORS
- 2-7 #8 AW OHGW's
- 1050' +/- SPANS, OR DISTANCE BETWEEN POLES

230 KV LINES
- 1431 ACSR/AW & 7#8 AW OHGW's
- 500' +/- SPANS

The east edge of the relocated FPL R/W was determined utilizing the following criteria provided by the SFWMD:

1) No closer than 102' to the western edge of the SFWMD L-31 canal.

2) The lesser of the distances to the western edge of the SFWMD L-31 canal from the following:

a. A point 14' west of the west toe of slope of the existing levee.
OR
b. 110' to the west edge of the canal.

In some cases in order to eliminate angles in the transmission line, the R/W line is located between points a and b or further west.

NOTES:

1) Cross sections are based on Georeferenced aerials and drawings supplied by SFWMD, no survey work has been performed to verify this data at this time.

2) Cross sections depict tangent design only. Areas requiring angle structures will require wider Right of Way

3) All dimensions are approximate pending survey and design

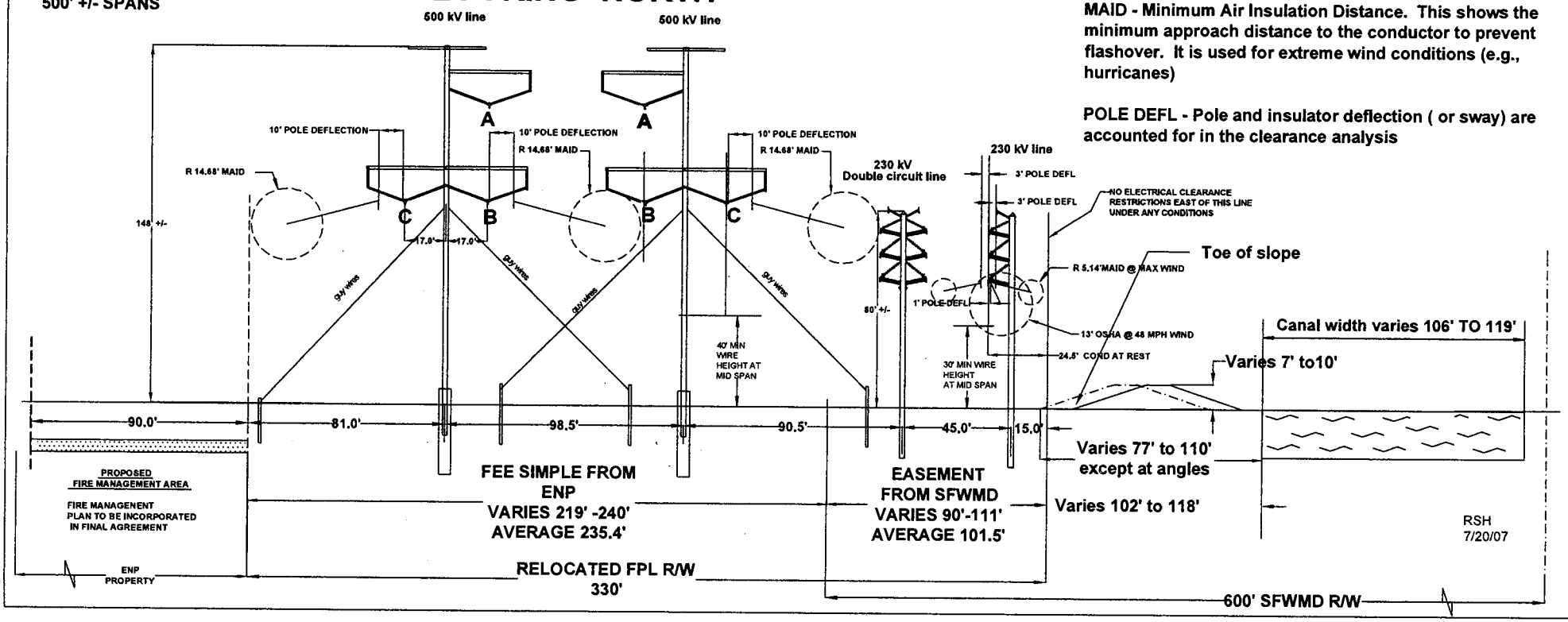
DEFINITIONS:

OSHA - Occupational Safety and Health Administration. This circle shows the minimum approach distance to be maintained. It is developed for a 6psf wind (~48 mph). Normal work is stopped at 35 mph winds.

MAID - Minimum Air Insulation Distance. This shows the minimum approach distance to the conductor to prevent flashover. It is used for extreme wind conditions (e.g., hurricanes)

POLE DEFL - Pole and insulator deflection (or sway) are accounted for in the clearance analysis

LOOKING NORTH



Appendix 3

LANDS NORTH OF TAMIAMI TRAIL TO BE RELEASED BY FPL TO SFWMD AND TIITF

A strip of land 330 feet in width, being 165 feet on each side of a centerline, running through Section 3, Township 54 South, Range 38 East, Excess Government Lots 3 and 2 between Townships 53 and 54 South, Range 38 East and Sections 35, 36, 25 and 24, Township 53 South, Range 38 East, all of Dade County, Florida, said centerline being described as follows:

Begin at a point on the South line of said Section 3, 205.13 feet East of the Southwest corner of said Section 3; thence run North 2 degrees 16 seconds 30 minutes W, along a line 205 feet East of and parallel to the Northerly extension of the West line of Section 10,. Township 54 South, Range 38 East, for a distance of 790.00 feet to a point, this point to be known as Point "A" and having coordinates of X-655,043.47 and Y-519,777.40; thence run N 38 degrees 58 minutes 55 seconds E for a distance of 23,070.42 feet to a point, this point to be known as Point "B" and having coordinates of X-699,556.51 and Y-537,711.06; thence run S 89 degrees 48 minutes 43 seconds E for a distance of 772.49 feet to the East line of said Section 24, this point being 205 feet North of the Southeast corner of said Section 24 and being the end of said centerline.

Together with the following described parcels: Parcel "A": Commence at above described Point "A", thence run N71 degrees 38 minutes 48 seconds W for a distance of 176.30 feet to Point of Beginning: From said P.O.B., thence run N38 degrees 58 minutes 55 seconds E for 131.18 feet; thence run N 51 degrees 01 minutes 05 seconds W for 50.00 feet; S 38 degrees 58 minutes 55 seconds W for 150.00 feet; thence run S 2 degrees 16 minutes 30 seconds E for 150.00 feet; thence run N 87 degrees 43 minutes 30 seconds E for 50 feet; thence run N 2 degrees 16 minutes 30 seconds W for 131.18 feet to P.O.B. Parcel "B": Commence at above described Point "B", thence run N 25 degrees 24 minutes 54 seconds W for a distance of 182.97 feet to Point of beginning: From said P.O.B., thence run S 89 degrees 48 minutes 43 seconds E for 126.04 feet; thence run N 0degrees 11 minutes 17 seconds E for 50.00 feet; thence run N 89 degrees 48 minutes 43 seconds W for 150.00 feet; thence run S 38 degrees 58 minutes 55 seconds W for 150.00 feet; thence run S 51 degrees 01 minutes 05 seconds E for 50.00 feet; thence run N 38 degrees 58 minutes 55 seconds E for 126.04 feet to P.O.B.

Subject to the common right-of-ways of Levees L-29 and L-30, and Krome Avenue (S.R. 27) which line within the above described boundary limits.

EXHIBIT A

Utility Easement
by and between FPL and SFWMD

Prepared by and Return to Following Recording:
Patricia Lakhia, Esq (Law/JB)
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420

UTILITY EASEMENT

KNOW ALL MEN BY THESE PRESENTS that the SOUTH FLORIDA WATER MANAGEMENT DISTRICT, a public corporation of the State of Florida ("**Grantor**") with an address of 3301 Gun Club Road, West Palm Beach, Florida 33406 in consideration of the sum of Ten Dollars ($10.00) and other valuable considerations, receipt and sufficiency of which is hereby acknowledged, does hereby grant to the FLORIDA POWER & LIGHT COMPANY, a corporation organized and existing under the laws of the State of Florida ("**Grantee**"), whose address is P.O. Box 14000, Juno Beach, Florida 33408-0420, and to its successors and assigns, an easement forever for a utility corridor being a minimum 330 feet in width, but no greater than 450 feet in width (in the area of corners and turns), to be used for the construction, operation and maintenance of overhead and underground electric transmission and distribution lines, including but not limited to, wires, poles, transmission structures, towers, cables, conduits, anchors, guys, roads, pads, trails and equipment associated therewith, attachments and appurtenant equipment for communication facilities for Grantee's sole use, (all of the foregoing hereinafter referred to collectively as "**facilities**") over, under, in, on, upon, through and across the lands of the Grantor situated in the Miami-Dade, County, Florida and being more particularly described on **Exhibit "A-1"**, attached hereto and made a part hereof, and for those lands acquired by Grantor from the United States Army Corps of Engineers and for lands owned by Grantor in the vicinity of SW 120th Street, Miami, Florida Grantor hereby grants Grantee the right to an easement forever for a utility corridor being a minimum 330 feet in width, but no greater than 584 feet in width (in the area of corners and turns), to be used for the construction, operation and maintenance of overhead and underground electric transmission and distribution lines, including but not limited to, wires, poles, transmission structures, towers, cables, conduits, anchors, guys, roads, pads, trails and equipment associated therewith, attachments and appurtenant equipment for communication facilities, and the right to construct, operate and maintain one or more pipelines and appurtenant equipment for the transmission of substances (all of the foregoing hereinafter referred to collectively as "**facilities**") over, under, in, on, upon, through and across the lands of the Grantor situated in the Miami-Dade, County, Florida and being more particularly described on **Exhibit "A-2"**, attached hereto and made

a part hereof, (the lands described in Exhibit "A-1" and Exhibit "A-2" collectively being the "**Easement Area**") together with the right and privilege from time to time to reconstruct, inspect, alter, improve, replace and remove such facilities, upon, across, over, under and or through the Easement Area with all rights and privileges necessary or convenient for the full enjoyment or the use thereof for the herein described purposes, including, but not limited to, the right to cut and keep clear all trees, undergrowth and other obstructions within the Easement Area that may interfere with the proper construction, operation and maintenance of such facilities or any part of them, the right to mark the location of any underground facilities by above ground and other suitable markers, and the right of ingress and egress for personnel and equipment of Grantee, its contractors, agents, successors or assigns for the purpose of exercising and enjoying the rights granted by this easement and any or all of the rights granted hereunder, but not the right to add additional circuits beyond that shown in **Appendix 2-3**, or increase the voltage of such facilities or change the nature of such facilities without Grantor's prior written approval which approval shall not be unreasonably withheld, conditioned or delayed.

Grantor, however, reserves the right and privilege to use the Easement Area for such other purposes, except as herein granted, or as might interfere or be inconsistent with the use, occupation, maintenance or enjoyment thereof by Grantee or its successors or assigns, or as might cause a hazardous condition; provided, however, and by the execution and delivery hereof Grantor so expressly agrees, that no portion of the Easement Area shall be excavated, altered, obstructed, improved, or surfaced. Grantor and Grantee agree that the Easement Area may be flooded by Grantor provided that no portion of Grantee's facilities is flooded above 10.5 feet NGVD 1929 elevation. Grantor further agrees that no portion of the Easement Area shall be paved and no building, well, irrigation system, structure, obstruction or improvement (including any improvements for flood control purposes) shall be located, constructed, maintained or operated over, under, upon, through or across the Easement Area by the Grantor, or the successors or, assigns of Grantor without the prior written approval of the Grantee, or its successors or assigns, which may not be unreasonably withheld, conditioned or delayed. Grantor and Grantee also agree that the Easement Area may be flooded by Grantor provided that no portion of Grantee's facilities constructed adjacent to the L-31 levee shall be flooded above 10.5 feet NGVD 1929 elevation. The above-limitations on water elevations undertaken by Grantor does not create a contractual obligation for Grantor to otherwise provide flood control or protection to FPL as a result of rainfall or weather events.

Grantee must repair any damage to the Easement Area resulting from Grantee's use thereof under this Easement. If Grantee fails to repair the Easement Area resulting from Grantee's use within thirty (30) days following Grantor's written notice to Grantee of such damage (or within such time as agreed upon in writing by Grantor and Grantee), Grantor may, at Grantor's sole option, repair the Easement Area at Grantee's sole cost and expense. In the event Grantor exercises its rights of repair, Grantor shall submit a written demand for such costs and expenses to Grantee, and Grantee shall pay the indicated cost of any such repair or maintenance within forty-five (45) days of the date of demand of the same from Grantor. If Grantee fails to pay such costs in the time frame provided in this Paragraph, then any such unpaid amounts shall bear interest at the highest rate permitted by applicable law (the "**Default Rate**").

All notices which are required or permitted hereunder must be in writing and shall be deemed to have been given, delivered or made, as the case may be (notwithstanding lack of actual receipt by the addressee) (i) three (3) business days after having been deposited in the United States mail, certified or registered, return receipt requested, sufficient postage affixed and prepaid, (ii) one (1) business day after having been deposited with an expedited, overnight courier service addressed to the party to whom notice is intended to be given at the address set forth below :

To Grantor:

Director, Land Acquisition
South Florida Water Management
3301 Gun Club Road
West Palm Beach, Florida 33406
Telephone: (561) ___-____

To Grantee:

Vice President of Corporate Real Estate
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
Telephone: (561) 691-2123

with a copy to:
Law Department
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
Telephone: 561-304-5261

As a condition precedent to entry within the Easement Area by any Grantee contactor, subcontractor, agent, representative, licensee, or invitee, Grantee shall require such contactor, subcontractor, agent, representative, licensee, and invitee to provide to the Grantor insurance with the same protection and insurance coverages required by and afforded to the Grantee. Grantee shall also require that the Grantor be named as an additional insured on all such insurance and said liability insurance shall be primary to any liability or property insurance carried by the Grantor.

Grantee agrees to secure any and all applicable federal, state, and local permits required in connection with Grantee's use of the Easement Area; and at all times, to comply with all requirements of all federal, state, and local laws, ordinances, rules and regulations applicable or pertaining to the use of the Easement Area by Grantee.

Grantee agrees that no hazardous substance, as the term is defined in Section 101 (14) of the Comprehensive Environmental Response Compensation and Liability Act ("**CERCLA**") (42 USC Section 9601 [14]), petroleum products, liquids or flammables shall be stored on the Easement Area. Grantee agrees further that in the event it should create a hazardous condition on the Easement Area, then upon notification by Grantor, Grantee shall, within seventy-two (72) hours, at its sole cost and expense, correct such condition or situation.

Grantor makes no representation or warranty with respect to the title to or the condition of the Easement Area and that Grantee hereby accepts the Easement Area in its "AS-IS", "WHERE-IS" and "WITH ALL FAULTS" condition, including with respect to the environmental condition of the property and possible disposal of hazardous waste, substances, or pollutants as defined or regulated under applicable law.

IN WITNESS WHEREOF, the Grantor has executed this Agreement this _____ day of _____, 2008.

Signed, sealed and delivered
presence of:

_____
Signature
Print Name: _____

_____
Signature:
Print Name: _____

SOUTH FLORIDA WATER
MANAGEMENT DISTRICT

By: _____
Its: _____
Print Name: _____

Signed, sealed and delivered
presence of:

_____
Signature
Print Name: _____

_____
Signature:
Print Name: _____

FLORIDA POWER & LIGHT
COMPANY

By: _____
Terry L. Hicks
Vice President of Corporate Real Estate

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF _____)

On this _____ day of _____, 2008 before me, the undersigned notary public, personally appeared _____, _____(title) of the SOUTH FLORIDA WATER MANAGEMENT DISTRICT, a public corporation of the State of Florida, personally known to me to be the persons who subscribed to the foregoing instrument or who produced _____ as identification, and acknowledged that ____executed the same on behalf of SOUTH FLORIDA WATER MANAGEMENT DISTRICT and acknowledged that ___he was duly authorized so to do.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____

NOTARY PUBLIC

Print name: _____

Commission No.: _____

My Commission Expires: _____

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF PALM BEACH)

On this _____ day of _____, 2008 before me, the undersigned notary public, personally appeared Terry L. Hicks, Vice President of Corporate Real Estate of the FLORIDA POWER & LIGHT COMPANY, a Florida corporation, personally known to me to be the person who subscribed to the foregoing instrument and acknowledged that he executed the same on behalf of FLORIDA POWER & LIGHT COMPANY and acknowledged that he was duly authorized so to do.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____

NOTARY PUBLIC

Print name: _____

Commission No.: _____

My Commission Expires: _____

Exhibit "A-1"

[Legal description to be provided following survey and is subject to approval of the parties]

Exhibit "A-2"

[Legal description to be provided following survey and is subject to approval of the parties]

EXHIBIT B

Prepared By and Return to Following Recording:
Patricia Lakhia, Esquire
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, Florida 33408-0420
Folio No._____

PARTIAL RELEASE OF PERMIT AGREEMENT

FLORIDA POWER AND LIGHT COMPANY, a Florida corporation, whose mailing address is P.O. Box 14000, 700 Universe Boulevard, Juno Beach, FL 33408-0420 (the "***FPL***"), the owner and holder of that certain Permit Agreement recorded in the public records of Miami-Dade County Florida recorded in Official Record Book 7343 at page 940 (the "***Permit***"), for and in consideration of certain benefits accruing to it, does hereby release unto the SOUTH FLORIDA WATER MANAGEMENT DISTRICT ("***SFWMD***") so much of said Permit and any other right, title, or interest as lies within the property described on the attached Exhibit "A" which is incorporated herein by reference ("***Property***"), but excluding FPL's easements over private land and land owned by the Trustees of the Internal Improvement Trust Fund of the State of Florida except to the extent that SFWMD has an easement or reserved rights over the Property, including the right to flow water or construct certain flood and water control related improvements, in which case FPL releases SFWMD's easement from such Permit rights and any other right, title, or interest of FPL.

And hereby agrees that from and after the date hereof the Property shall be freed of said Permit and the rights and privileges granted therein and any other right, title or interest of FPL in the Property, excluding FPL's easements over private land and land owned by the Trustees of the Internal Improvement Trust Fund of the State of Florida, which easements and rights thereunder are expressly retained as provided above. **This release applies only to the Property and in no way affects other lands covered by the Permit.**

IN WITNESS WHEREOF, the said FLORIDA POWER & LIGHT COMPANY has caused this Partial Release of Permit to be signed in its name by its proper officers and its corporate seal to be affixed, this _____ day of _____, 2008.

Signed, Sealed & Delivered in
The Presence of:

_____
Print Name:_____

_____
Print Name:_____

FPL:
FLORIDA POWER AND LIGHT
COMPANY

BY:_____
Terry L. Hicks
Vice President of Corporate Real Estate

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss.
COUNTY OF PALM BEACH)

The foregoing instrument was acknowledged before me this ___day of _____, 2008, by Terry L. Hicks, Vice President of Corporate Real Estate of Florida Power & Light Company, a Florida corporation, on behalf of the corporation, being duly authorized to do so, and who is personally known to me.

_____
Notary Public

_____
Print
My Commission Expires: _____

Exhibit "A"

[Legal Description to be provided]

EXHIBIT C

Non-Native Vegetation Management Easement from the South Florida Water Management District to FPL

Prepared by and Following Recording Return to:

Patricia Lakhia, Esquire
Florida Power& Light Company
700 Universe Boulevard
Juno Beach, FL 33404-0420

NON-NATIVE VEGETATION AND FIRE MANAGEMENT EASEMENT

Sec._____, Twp___, Rge___
Parcel I.D. _____

The SOUTH FLORIDA WATER MANAGEMENT DISTRICT, a public corporation of the State of Florida with an address of 3301 Gun Club Road, West Palm Beach, Florida 33406 ("**SFWMD**") , in consideration of the payment of Ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, grants and gives to FLORIDA POWER & LIGHT COMPANY, a Florida corporation with an address of 700 Universe Boulevard, Juno Beach, Florida 33408, its employees, licensees, contractors, sub-contractors, agents, successors, and assigns (collectively, "**FPL**"), an easement forever for the purpose of removing fire prone exotics including but not limited to Melaleuca and Australian pine, within the following easements or parcels of land, each being ninety (90) feet in width, and more particularly described on the attached Exhibit "A" which is incorporated herein by reference ("**Easement Area**").

FPL understands that herbicides applied within the Easement Area shall only be those registered by the U.S. Environmental Protection Agency and which have state approval. Herbicide application rates and concentrations will be in accordance with label directions and will be carried out by a licensed applicator, meeting all federal, state and local regulations. Herbicide applications shall be selectively applied to targeted vegetation. Broadcast application of herbicide shall not be used within the Easement Area unless the effects on non-targeted vegetation are minimized.

FPL agrees to secure any and all applicable federal, state, and local permits required in connection with FPL's use of the Easement Area; and at all times, to comply with all requirements of all federal, state, and local laws, ordinances, rules and regulations applicable or pertaining to the use of the Easement Area by FPL.

SFWMD reserves the right to maintain, construct or alter roads which are located on the Easement Area and are necessary to SFWMD's operations, and in doing so, agrees that it shall not temporarily or permanently impede FPL's access over the Easement Area.

FPL agrees that it will not use the Easement Area in any manner which will interfere with SFWMD's use of the Easement Area or cause a hazardous condition to exist. FPL agrees that no hazardous substance, as the term is defined in Section 101 (14) of the Comprehensive Environmental Response Compensation and Liability Act ("**CERCLA**") (42 USC Section 9601 [14]), petroleum products, liquids or flammables shall be stored on the Easement Area. FPL agrees further that in the event it should create a hazardous condition on the Lands, then upon notification by SFWMD, FPL shall, within seventy-two (72) hours, at its sole cost and expense, correct such condition or situation.

FPL must repair any damage to the Easement Area resulting from FPL's use thereof under this Easement. If FPL fails to repair the Easement Area resulting from FPL's use within thirty (30) days from the date of SFWMD's written notice to FPL of such damage (or within such time as agreed upon in writing by SFWMD and FPL), SFWMD may, at its sole option, repair the Easement at FPL's sole cost and expense. In the event that SFWMD exercises its rights of repair, SFWMD shall submit a written demand for such costs and expenses to FPL, and FPL shall pay the indicated cost of any such repair or maintenance within forty-five (45) days of the date of demand of the same from SFWMD. If FPL fails to pay such costs in the time frame provided in this Section 3, then any such unpaid amounts shall bear interest at the highest rate permitted by applicable law (the "**Default Rate**").

All notices which are required or permitted hereunder must be in writing and shall be deemed to have been given, delivered or made, as the case may be (notwithstanding lack of actual receipt by the addressee) (i) three (3) business days after having been deposited in the United States mail, certified or registered, return receipt requested, sufficient postage affixed and prepaid, (ii) one (1) business day after having been deposited with an expedited, overnight courier service addressed to the party to whom notice is intended to be given at the address set forth below:

To SFWMD:

Director, Land Acquisition
South Florida Water Management
3301 Gun Club Road
West Palm Beach, Florida
Telephone: (561) ___-____

To FPL:

Vice President of Corporate Real Estate
Florida Power & Light Company

700 Universe Boulevard
Juno Beach, FL 33408-0420
Telephone: (561) 691-2123

with a copy to:
Law Department
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 334084-0420
Telephone: 561-304-5261

As a condition precedent to entry within the Easement Area by FPL or its contactor, subcontractor, agent, representative, licensee, or invitee, FPL shall require such FPL contactor, subcontractor, agent, representative, licensee, and invitee to provide to the SFWMD insurance with the same protection and insurance coverages required by and afforded to the FPL. FPL shall also require that the SFWMD be named as an additional insured on all such insurance and said liability insurance shall be primary to any liability or property insurance carried by SFWMD.

SFWMD makes no representation or warranty with respect to the title to or the condition of the Easement Area and that FPL hereby accepts the Easement Area in its "AS-IS", "WHERE-IS" and "WITH ALL FAULTS" condition, including with respect to the environmental condition of the property and possible disposal of hazardous waste, substances, or pollutants as defined or regulated under applicable law.

[Remainder of page intentionally blank; Signature pages follow]

IN WITNESS WHEREOF, the undersigned has caused this Easement to be executed as of the date first set forth above.

Signed, Sealed & Delivered in
The Presence of:

SOUTH FLORIDA WATER
MANAGEMENT DISTRICT,

A public corporation of the State of Florida

_____
Signature:
Print Name: _____

_____
Signature:
Print Name: _____

by:_____
Print Name: _____
Address: _____

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF _____)

On this _____ day of _____, 2008 before me, the undersigned notary public, personally appeared _____, _____of the SOUTH FLORIDA WATER MANAGEMENT DISTRICT, personally known to me to be the person who subscribed to the foregoing instrument or who has produced _____ as identification, and acknowledged that he/she/they executed the same on behalf of said entity and was duly authorized to do so.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____

NOTARY PUBLIC, STATE OF FLORIDA
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

IN WITNESS WHEREOF, the undersigned has caused this Easement to be executed as of the date first set forth above.

Executed in the presence of:

GRANTEE:
FLORIDA POWER & LIGHT COMPANY

_____
Print Name:_____

By: _____
Terry L. Hicks
Vice President of Corporate Real Estate

_____
Print Name:_____

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF PALM BEACH)

On this _____ day of _____, 2008, before me, the undersigned notary public, personally appeared, Terry L. Hicks, Vice President of Corporate Real Estate of Florida Power & Light Company, a Florida corporation, personally known to me to be the person who subscribed to the foregoing instrument and acknowledged that he executed the same on behalf of said corporation and that he was duly authorized so to do.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____
NOTARY PUBLIC, STATE OF FLORIDA
Name (Print):_____
Commission No.: _____
My Commission Expires:_____

Exhibit "A"

Legal Description of
NON-NATIVE VEGETATION AND FIRE MANAGEMENT EASEMENT

[Legal Descriptions will be provided following completion of surveys and are subject to the approval of the parties]

EXHIBIT D

Access Easement
from South Florida Water Management District to FPL

This Instrument Prepared by and Return to:
Patricia Lakhia, Esq.
Florida Power & Light Company
700 Universe Blvd – Law Dept.
Juno Beach, Florida 33408

ACCESS EASEMENT

THIS ACCESS EASEMENT ("Easement") is made and entered into as of this _____ day of _____, 2008, by and between the **SOUTH FLORIDA WATER MANAGEMENT DISTTRICT,** an public corporation of the State of Florida, with an address of 3301 Gun Club Road, West Palm Beach, Florida 33406 ("**Grantor**") and **FLORIDA POWER & LIGHT COMPANY**, a Florida corporation, having its principal office and place of business at 700 Universe Boulevard, Juno Beach, Florida 33408, ("**FPL**", also referred to herein as "**Grantee**").

1. Grant of Easement. Grantor, for and in consideration of $10.00 and other valuable consideration, receipt of which is hereby acknowledged, does hereby grant to FPL, its agents, employees, contractors, sub-contractors, invitees, successors and assigns, a non-exclusive access easement in favor of FPL, in, on, over, under and across the property more particularly identified on the attached **Exhibit "A"** to this Easement (the "**Easement Property**"), which Exhibit is made a part hereof, for ingress and egress by FPL and its agents, employees, contractors, sub-contractors, invitees, successors and assigns, on foot and by motor vehicle, including trucks and heavy equipment and with materials, to and from FPL's facilities located on adjacent lands and more particularly described in the attached **Exhibit "B"** attached hereto and made a part hereof, and for the construction and maintenance of finger roads and pads to serve such FPL facilities. This easement is granted with all rights necessary and convenient for the full use and enjoyment of the Easement Property for the purposes described herein, including without limitation the right of FPL to use any existing or future road on the Easement Property, and the right of FPL to install, maintain, improve or modify fences/gates (with FPL promptly providing Grantor with keys to all such fences/gates), ramps, roads and bridges to allow for safe access for personnel, vehicles, materials and equipment, subject to SFWMD's advance review and written approval, which may not be unreasonably withheld, conditioned or delayed, of any FPL proposal to install, improve, or modify fences/gates, ramps, roads, or bridges.

2. Term of Easement. This Easement shall be perpetual.

3. Compliance With Laws. FPL shall at all times observe in its use of the Easement Property all applicable municipal, county, state and federal laws, ordinances, codes, statutes, rules and regulations.

4. Successors and Assigns. This Easement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

5. Miscellaneous.

(a) All of the Exhibits attached to this Easement are incorporated in, and made a part of, this Easement.

(b) Grantor hereby reserves the right to use the Easement Property for all uses not interfering or inconsistent with the Easement permitted herein in any material respect. At no time will the Easement Property be obstructed by Grantor or Grantee or by any object which would prohibit or impair access, ingress or egress to and from the Easement Property or any lands owned, controlled or used by Grantor or Grantee. Grantee shall also keep the Easement Property free of rubbish or other hazards as a result of Grantee's use.

(c) Grantee has the right but not the obligation to maintain the Easement Property but must repair any damage to the Easement Property resulting from Grantee's use thereof under this Easement. If Grantee fails to repair the Easement Property resulting from Grantee's use within thirty (30) days following Grantor's written notice to Grantee of such damage (or within such time as agreed upon in writing by Grantor and Grantee), Grantor may, at Grantor's sole option, repair the damage to the Easement Property at Grantee's sole cost and expense. In the event Grantor exercises its rights of repair, Grantor shall submit a written demand for such costs and expenses to Grantee, and Grantee shall pay the indicated cost of any such repair or maintenance within forty-five (45) days of the date of demand of the same from Grantor. If Grantee fails to pay such costs in the time frame provided, then any such unpaid amounts shall bear interest at the highest rate permitted by applicable law (the **"Default Rate"**).

(d) All notices which are required or permitted hereunder must be in writing and shall be deemed to have been given, delivered or made, as the case may be (notwithstanding lack of actual receipt by the addressee) (i) three (3) business days after having been deposited in the United States mail, certified or registered, return receipt requested, sufficient postage affixed and prepaid, (ii) one (1) business day after having been deposited with an expedited, overnight courier service addressed to the party to whom notice is intended to be given at the address set forth below:

To Grantor:

Director, Land Acquisition
South Florida Water Management
3301 Gun Club Road
West Palm Beach, Florida 33406
Telephone: (561) ___-____

To Grantee:

Vice President of Corporate Real Estate

Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
Telephone: (561) 691-2123

with a copy to:
Law Department
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
Telephone: 561-304-5261

(e) As a condition precedent to entry within the Easement Property by Grantee or its contactor, subcontractor, agent, representative, licensee, or invitee, Grantee shall require such contactor, subcontractor, agent, representative, licensee, and invitee to provide to the Grantor insurance with the same protection and insurance coverages required by and afforded to the Grantee. Grantee shall also require that the Grantor be named as an additional insured on all such insurance and said liability insurance shall be primary to any liability or property insurance carried by the Grantor.

(f) Grantee shall secure any and all applicable federal, state, and local permits required in connection with Grantee's use of the Easement Area; and at all times, to comply with all requirements of all federal, state, and local laws, ordinances, rules and regulations applicable or pertaining to the use of the Easement Area by FPL.

(g) Grantee agrees that no hazardous substance, as the term is defined in Section 101 (14) of the Comprehensive Environmental Response Compensation and Liability Act (**"CERCLA"**) (42 USC Section 9601 [14]), petroleum products, liquids or flammables shall be stored on the Easement Property. Grantee agrees further that in the event Grantee should create a hazardous condition on the Easement Property, then upon notification by Grantor, Grantee shall, within seventy-two (72) hours, at its sole cost and expense, correct such condition or situation.

(h) Grantor makes no representation or warranty with respect to the title to or the condition of the Easement Property and that Grantee hereby accepts the Easement Property in its "AS-IS", "WHERE-IS" and "WITH ALL FAULTS" condition, including with respect to the environmental condition of the property and possible disposal of hazardous waste, substances, or pollutants as defined or regulated under applicable law.

6. Amendments. This Easement may not be amended, modified or terminated except by written agreement executed by the parties hereto, or their successors and/or assigns. Further, no modification or amendment shall be effective unless in writing and recorded in the Public Records of Miami-Dade County, Florida.

EXECUTED as of the date and year first above written.

[Remainder of page intentionally blank; Signature pages follow]

ACCESS EASEMENT
[Signature page]

SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF:

SOUTH FLORIDA
WATER MANAGEMENT DISTICT,
A public corporation of the State of Florida

_____
Name:_____

By:_____
Print
Name_____
Title:_____

_____
Name:_____

STATE OF FLORIDA)
)ss.
COUNTY OF_____)

THE FOREGOING instrument was acknowledged before me this _____ day _____, 2008, by _____, _____of South Florida Water Management District, a public corporation of the State of Florida, personally known to me or who has produced _____ as identification and acknowledged that ___he executed same on behalf of said entity and was duly authorized to do so.

_____
Notary Public, State of Florida

My Commission No:
My Commission Expires

ACCESS EASEMENT
[Signature page]

SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF:

FLORIDA POWER & LIGHT COMPANY,
a Florida corporation

_____
Name: _____

By:_____
Terry L. Hicks
Vice President of Corporate Real Estate

_____
Name:_____

STATE OF FLORIDA)
)ss.
COUNTY OF PALM BEACH)

THE FOREGOING instrument was acknowledged before me this _____ day _____, 2008, by Terry L. Hicks, Vice President of Corporate Real Estate of Florida Power & Light Company, a Florida corporation, personally known to me and acknowledged that he executed same on behalf of said corporation and was duly authorized to do so.

_____
Notary Public, State of Florida

My Commission No:
My Commission Expires

EXHIBIT A

THE EASEMENT PROPERTY

[*Legal descriptions to be provided following completion of surveys and are subject to the approval of the parties*]

EXHIBIT B

FPL Adjacent Facilities Property

[Legal Descriptions to be provided following completion of surveys and are subject to the approval of the parties]

Exhibit E

Prepared By and Return To:

Patricia Lakhia, Esq.
Florida Power & Light Company
700 Universe Blvd. (LAW/JB)
Juno Beach, FL 33408-0420

(This space reserved for recording information)

SUBORDINATION AND NON-DISTURBANCE AGREEMENT

THIS SUBORDINATION AND NON-DISTURBANCE AGREEMENT ("***Agreement***") is executed this ___ day of _____, 2008 by and between the SOUTH FLORIDA WATER MANAGEMENT DISTRICT, a public corporation of the State of Florida, 3301 Gun Club Road, West Palm Beach, FL 33406 ("***SFWMD***") and FLORIDA POWER & LIGHT COMPANY, a Florida corporation, 700 Universe Boulevard, Juno Beach, FL 33408 ("***FPL***"). SFWMD and FPL are sometimes individually referred to herein as a "party" and collectively as the "parties".

RECITALS:

WHEREAS, FPL has acquired certain land interests encumbering real property located in Miami-Dade County, Florida and more particularly described on **Exhibit A** attached hereto and made a part hereof ("***Property***");

WHEREAS, SFWMD (or SFWMD through its predecessor entity, the Central and Southern Florida Flood Control District or Everglades Drainage District) is the beneficiary of certain easements and reserved rights over the Property including but not limited to those described in the Public Records of Miami-Dade County, Florida in Official Records Book ("ORB") 3344 at page 22, ORB 8066 at page 814, ORB 3236 at page 582, ORB 3364 at page 248, ORB 2633 at page 850 , ORB 3296 at page 459, ORB 3292 at page 385 and ORB 3356 at page 394, which include the right to construct certain flood and water control related improvements on the Property, which easement rights burden all or a portion of the Property (the "***SFWMD Easements***"); and

WHEREAS, FPL's land interests on the Property include but are not limited to the right to construct transmission lines and appurtenant facilities on the Property, and access to and from such facilities, all of which burden the Property or a portion thereof (collectively, the "***FPL Easements***"); and

WHEREAS, the parties desire to enter into this Agreement to assure FPL and SFWMD of the benefits of their respective Easements.

AGREEMENTS:

In consideration of the foregoing recitals and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. **Subordination.** SFWMD agrees, if the FPL transmission pads are constructed upon a minimum 10.5 feet NGVD elevation, that SFWMD's rights under the SFWMD Easements to construct improvements within the area encumbered by the FPL Easements, shall be and are hereby declared to be, and at all times hereafter shall be and remain, subject and subordinate in all respects to the FPL Easements and to all modifications and restatements thereof, with the same force and effect as if the FPL Easements had been executed and delivered prior to the execution and delivery of the SFWMD Easements, and without regard to the priority of recording of the SFWMD Easements and FPL Easements. SFWMD and FPL agree that such subordination does not include a subordination of SFWMD's rights to flood or flow the land as set forth in the SFWMD Easements, however, that SFWMD agrees that neither temporary nor permanent flood elevations on the FPL Easements will exceed 10.5 feet NGVD 1929 elevation. The above-limitation on water elevations undertaken by Grantor does not create a contractual obligation for Grantor to otherwise provide flood control or protection to FPL as a result of rainfall or weather events.

2. **Non-Disturbance.** SFWMD agrees, if the FPL transmission pads are constructed upon a minimum 10 feet NGVD elevation, that in the exercise of SFWMD's rights under the SFWMD Easements, as the same may be amended from time to time, SFWMD shall not interfere with, interrupt or impair, in any way: (i) FPL's use and enjoyment of the FPL Easements, in accordance with the terms and provisions of this Agreement and/or the FPL Easements or (ii) FPL's exercise of any other rights under the FPL Easements.

3. **Binding Effect.** This Agreement shall be binding upon and inure to the benefit of the undersigned and their respective successors and assigns.

4. **Counterparts.** This Agreement may be executed and delivered in counterparts, each of which shall be deemed an original document, but all of which shall constitute a single document.

5. **Amendment.** This Agreement may only be amended by an instrument in writing executed by all parties hereto.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth above.

SFWMD:
SOUTH FLORIDA WATER
MANAGEMENT DISTRICT,
a public corporation of the State of Florida

LEGAL FORM APPROVED
SFWMD OFFICE OF COUNSEL
BY _____ DATE 8/18/2008

By:_____
Print Name:_____
Title:_____

FPL:
FLORIDA POWER & LIGHT COMPANY,
A Florida corporation

By:_____
Terry L. Hicks
Vice President of Corporate Real Estate

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss.
COUNTY OF PALM BEACH)

The foregoing instrument was duly acknowledged before me this _____ day of _____, 2008, by _____, _____ of SOUTH FLORIDA WATER MANAGEMENT DISTICT a public corporation of the State of Florida, who subscribed to the foregoing instrument and acknowledged that he executed the same on behalf of said limited liability company and that he was duly authorized to do so.

_____
Notary Public, State of Florida

_____
Notary Printed Name

_____
My Commission Expires:

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss.
COUNTY OF PALM BEACH)

The foregoing instrument was duly acknowledged before me this _____ day of _____, 2008, by Terry L. Hicks, Vice President of Corporate Real Estate of FLORIDA POWER & LIGHT COMPANY, a Florida corporation, who subscribed to the foregoing instrument and acknowledged that he executed the same on behalf of said limited liability company and that he was duly authorized to do so.

_____
Notary Public, State of Florida

_____
Notary Printed Name

_____
My Commission Expires:

EXHIBIT A

Legal Description

[Legal descriptions to be provided following completion of surveys and are subject to the approval of the parties]

MEMORANDUM OF AGREEMENT BETWEEN BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA AND FLORIDA POWER & LIGHT COMPANY FOR RELOCATION OF FLORIDA POWER & LIGHT COMPANY'S ELECTRICAL TRANSMISSION RIGHT-OF-WAY CORRIDOR LOCATED IN OR ADJACENT TO THE EVERGLADES NATIONAL PARK EXPANSION AREA

This Memorandum of Agreement ("**Agreement**") is entered into by and between Board of Trustees of the Internal Improvement Trust Fund of the State of Florida ("**TIITF**"), an agency of the State of Florida, acting through the State of Florida Department of Environmental Protection ("**DEP**") and Florida Power & Light Company, a Florida corporation (hereinafter **"FPL"**), to relocate a portion of an existing FPL electrical transmission right-of-way corridor for the benefit of Everglades National Park ("**ENP**") and the Comprehensive Everglades Restoration Program ("**CERP**") and Modified Waters Delivery Project. TIITF and FPL are sometimes individually referred to herein as a "**Party**", and collectively as the "**Parties**".

I. Recitals

1.1 The Everglades National Park Protection and Expansion Act of 1989, 16 U.S.C. § 410r-5 *et seq.* expanded the boundaries of the ENP to include approximately 109,600 acres south of the Tamiami Trail, and through that Act and additional legislation authorized the United States (i.e., National Park Service, the **"NPS"**) to acquire lands within the designated area (**"ENP Expansion Area"**). The purposes of the expansion of ENP include the preservation of the outstanding natural features of ENP, enhancement and restoration of the ecological values, natural hydrologic conditions, and public enjoyment of such area by adding the area commonly known as the Northeast Shark River Slough and the East Everglades, and assurance that the park can maintain the natural abundance, diversity, and ecological integrity of the ecosystem. NPS and the United States Army Corps of Engineers ("**ACOE**") are further authorized by 16 U.S.C. § 410r-8 to acquire lands in addition to the designated 109,600 acres for the purposes of the construction of Modified Water Deliveries to ENP.

1.2 FPL is a utility in the State of Florida and responsible for supplying safe, reliable electrical power to the citizens of Florida. It owns, and has owned since the 1960's and early 1970's, a 330' to 370' wide right-of-way corridor of property through what has become the ENP Expansion Area, and in additional areas authorized for acquisition by NPS and ACOE (collectively, the **"FPL Property"**). The FPL Property is approximately 7.4 miles in length approximating 320 acres.

1.3 FPL asserts that the FPL Property is a vital portion of a contiguous forty (40) mile corridor essential for the placement of critical infrastructure necessary for the transmission of high voltage electrical power for the benefit of the citizens of South Florida ("**FPL Corridor**").

1.4 NPS asserts that utilization of the present FPL Property for an electrical transmission corridor which would bisect a portion of the ENP Expansion Area may be contrary to the intended purposes of the ENP Expansion Area.

1.5 NPS, FPL,TIITF and the South Florida Water Management District ("**SFWMD**") have identified lands at the eastern edge of the ENP Expansion Area and on and adjacent to the SFWMD L-30/31N levee and levee right-of-way [collectively the **"Proposed Replacement Corridor**"], more suitable for a portion of the FPL Corridor from the perspective of avoidance, minimization and mitigation where the impacts of prospective construction, and operation of an electrical transmission corridor will be substantially less on ENP, including the ENP Expansion Area, and better facilitate ENP's restoration as shown on the attached **Exhibit "A"** which is made a part hereof. This identification of lands suitable for the relocation of a portion of the FPL Corridor will include an assessment of relative environmental impacts associated with expected use of said lands for construction, operation and maintenance of an electrical transmission corridor.

1.6 In order to facilitate the implementation of the Modified Water Delivery Project, CERP and to assist ENP, TIITF and FPL have agreed to amend the legal description of FPL's existing easement from TIITF north of Tamiami Trail that is recorded in Official Records Book 7600, Page 850, Public Records of Miami-Dade County, Florida (the "**FPL Easement**"), in order to relocate that portion of FPL Corridor north of Tamiami Trail to the area on and adjacent to the lands more commonly known as the L-30/31N levee right-of–way as shown on the attached **Exhibit "A"**. TIITF and FPL have also agreed to amend the FPL Easement to include additional TIITF lands in the FPL Easement that FPL requires for non-native vegetation and fire management that is a maximum of ninety (90) feet in width, and for FPL to access its new corridor as also shown on the attached **Exhibit "A"**. The TIITF lands that will be subject to the realigned electrical transmission right-of-way easement over, upon, across and adjacent to the L-30/31N levee right-of-way, the non-native vegetation and fire management easement and access easement are collectively referred to herein as the "**Replacement Lands**." As part of an amendment to the FPL Easement, FPL will agree to release the TIITF lands currently subject to the FPL Easement from the encumbrance of the FPL Easement ("**Existing Lands**").

1.7 Following DEP's approval of the legal descriptions and surveys of the Replacement Lands , enactment of federal legislation ratifying the Contingent Agreement between FPL and the United States Department of the Interior and simultaneously with the NPS-FPL land exchange closing (unless such time is extended, in writing, by the Parties), TIITF will grant FPL the easement interests in the Replacement Lands that will become part of the FPL Easement subject to the terms and conditions of this Agreement and the Parties will execute an amendment to FPL Easement to add the Replacement Lands to the FPL Easement and to release the Existing Lands from the FPL Easement

(**"Amendment to FPL Easement"**). The Amendment to FPL Easement will be in substantially the form of the attached **Exhibit "B"** which is made a part hereof. FPL shall pay all costs associated with the recording of the Amendment to FPL Easement in the public records of Miami-Dade County, Florida. In addition, subject to TIITF's approval at a regularly scheduled meeting, TIITF will release all exiting TIITF reservations, use restrictions, reverters and rights to construct improvements within the Proposed Replacement Corridor and other TIITF encumbrances that would prevent FPL from using the Replacement Lands for an electrical transmission corridor. Although subsection 18-2.020(5), Florida Administrative Code, provides that there shall be no consideration for the release of reserved interests for road rights-of-way or canal rights-of-way, it provides that consideration for the release of all other deed restrictions or reverters shall be based upon negotiation. As a result, FPL shall compensate TIITF for TIITF's release of use restrictions and reverters as negotiated and mutually agreed upon by the Parties. In no event shall the compensation paid by FPL to TIITF for release of deed restrictions or reverters exceed the market value of the rights released by TIITF (which will be a percentage of the current market value of the underlying fee-owned property as determined by the appraisal). TIITF also agrees to work with FPL to secure a release or subordination of other governmental and private rights encumbering the Proposed Replacement Corridor.

1.8 The Parties recognize and intend that in addition to this Agreement and the FPL/NPS Contingent Agreement, a separate but complementary agreement may be negotiated and executed involving SFWMD, a state agency and ACOE.

II. Undertakings of the Parties

2.1 Subject to the provisions of Section 1.7 of this Agreement, and upon TIITF's approval and the Parties' execution of this Agreement, the Parties agree to execute the Amendment to FPL Easement.

2.2 Prior to the execution of the Amendment to FPL Easement (or termination of this Agreement by its terms), the Parties agree not to alienate, encumber, or otherwise effect a material change in the management of the Replacement Lands.

2.3 FPL and TIITF agree to support the terms of this Agreement. The Parties mutually agree that they will not seek to alter the terms of this Agreement, or pursue legislation which will have the effect of altering the terms of this Agreement, without first obtaining the concurrence of the other Party to this Agreement to any such alteration, and will keep the other Party to this Agreement fully and timely informed of any efforts in which they are involved or of which they are aware, individually or collectively, to make or obtain such alteration.

2.4 Notwithstanding any other provision of this Agreement, if the Congress enacts authorizing, ratifying or confirming legislation which amends or alters any of the terms of the FPL/NPS Contingent Agreement in the absence of specific written concurrence of FPL to such amendment or alteration, FPL shall have the right, within ninety (90) days of the enactment of such legislation, to terminate this Agreement without any further obligation hereunder by written notice delivered to TIITF, and neither Party shall have any further obligations to the other under this Agreement.

2.5 The obligations and rights of the Parties under this Agreement shall be effective and binding upon the Parties upon execution of this Agreement.

2.6 The Parties agree that appraisals will be secured in order to determine the appraised values of both the Existing Lands and the Replacement Lands. Appraiser selection for these appraisal services will be in accordance with Chapter 18-1, Florida Administrative Code. FPL shall pay the costs of the appraisal services. If the DEP approved appraised value of the Replacement Lands exceeds the DEP approved appraised value of the Existing Lands, it is understood and agreed that immediately upon the Parties' execution of the Amendment to the FPL Easement TIITF shall be compensated for the difference by FPL or its designee in a form of consideration that is acceptable to TIITF.

2.7 In the event that the Amendment to FPL Easement is set aside because of a final and non-appealable order of a court of competent jurisdiction, the Parties shall return to their status and rights prior to the execution of this Agreement and the Parties agree to take whatever actions and execute whatever documents are necessary to restore the status quo ante the exchange.

2.8 In the event that federal legislation approving, ratifying and confirming the FPL/NPS Contingent Agreement is not enacted into law, this Agreement shall be null and void in all respects and the Parties shall return to their status and rights prior to the execution of this Agreement.

2.9 Any failure by any Party to this Agreement to object to or to seek a remedy of any violation by another Party of any provision of this Agreement shall not be deemed a waiver of or estop any future right to object to or to seek a remedy of a subsequent violation, whether the later violation is of the same or another provision of this Agreement.

2.10 Nothing in this Agreement shall be construed as creating any rights of enforcement by any person or entity that is not a party to this Agreement.

2.11 For the purposes of expediting execution of this Agreement, it may be signed in separate counterparts, which, when all have so signed, shall be deemed a single agreement.

2.12 The Parties agree that this Agreement may be amended by mutual consent of all the Parties hereto.

2.13 The Parties agree that clerical and typographical errors contained herein may be corrected upon notice to the other Party. Unless an error is deemed substantive or a proposed correction is otherwise objected to by any Party within sixty (60) days by written notice, correction may be made without formal ratification by the Parties.

The Parties have caused this Agreement to be executed on the day and year last written below.

TIITF:
BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

By:_____
Deborah Poppell, Director,
Division of State Lands,
State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida

Date: 8/28/08

FPL:
FLORIDA POWER & LIGHT COMPANY, a Florida corporation

By:_____
Terry L. Hicks
V.P. Corporate Real Estate

(Corporate Seal)

Date: 8-22-08

Approved as to Form and Legality:

By: _____
DEP Attorney

EXHIBIT "A"

NOTE:
This drawing is conceptual subject to survey, selection of structure type,final engineering and design

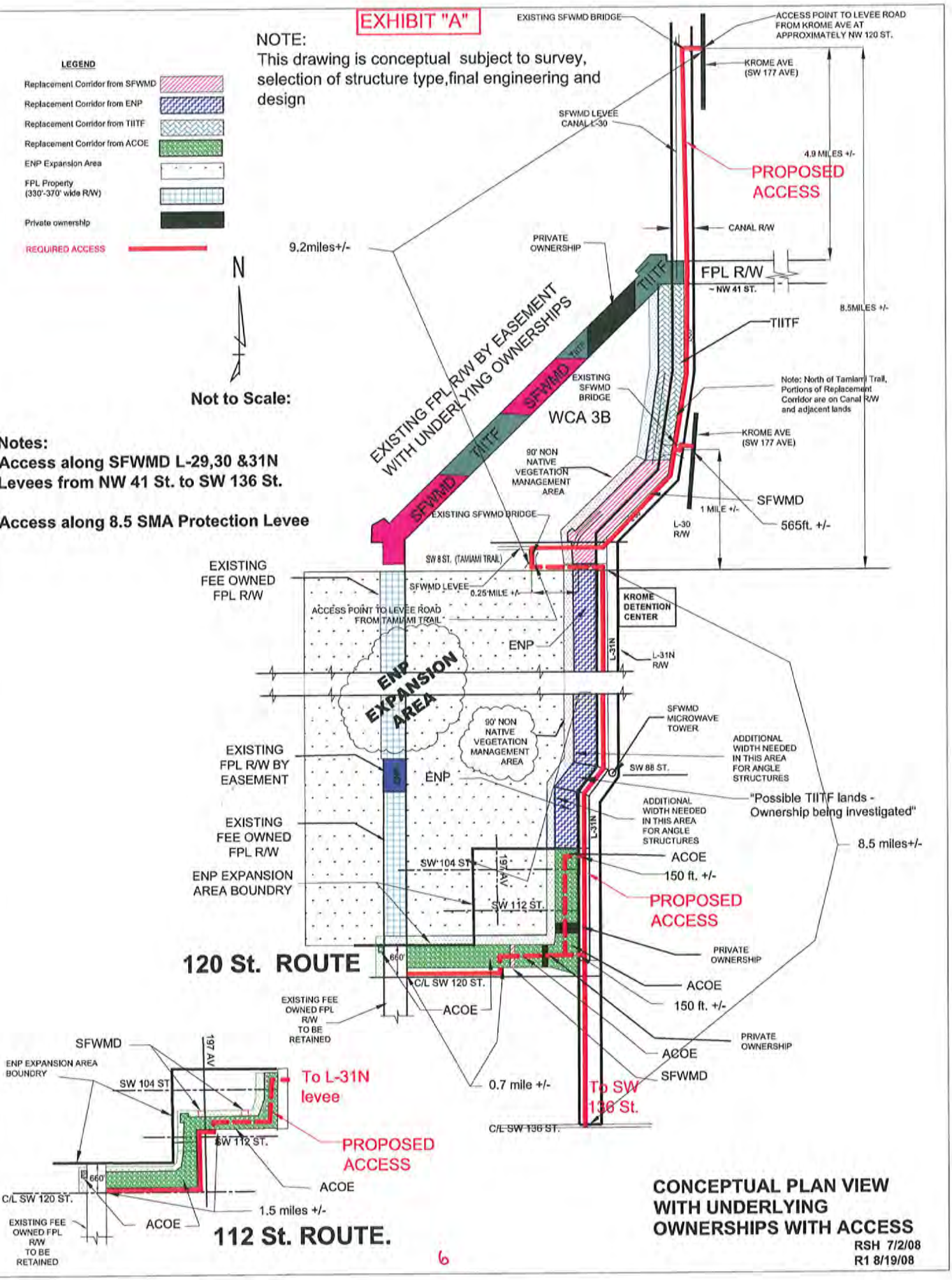
LEGEND
- Replacement Corridor from SFWMD
- Replacement Corridor from ENP
- Replacement Corridor from TIITF
- Replacement Corridor from ACOE
- ENP Expansion Area
- FPL Property (330'-370' wide R/W)
- Private ownership
- REQUIRED ACCESS

N

Not to Scale:

Notes:
Access along SFWMD L-29,30 &31N Levees from NW 41 St. to SW 136 St.

Access along 8.5 SMA Protection Levee



CONCEPTUAL PLAN VIEW WITH UNDERLYING OWNERSHIPS WITH ACCESS

RSH 7/2/08
R1 8/19/08

Exhibit "B"

Amendment to Easement

Prepared by, and Return to Following Recording:

AMENDMENT TO EASEMENT AGREEMENT

This Amendment to Easement Agreement ("**Amendment**") is made, dated and effective the _____day of _____, 2008 by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA ("**Grantor**") and FLORIDA POWER & LIGHT COMPANY, a Florida corporation ("**Grantee**").

WHEREAS, Grantor and Grantee entered into that certain Easement Agreement No. 25278 dated February 9, 1972, and recorded in Official Records Book 7600, Page 850, Public Records of Miami-Dade County, Florida (the "**Easement**"), wherein Grantor granted to Grantee, its successors and assigns, a nonexclusive easement for a right of way to be used for the construction, operation and maintenance of one or more overhead electric transmission and distribution lines (including wires, poles, "H" frame structures, tower, cables, conduits, anchors, guys, telephone and telegraph lines and appurtenant equipment) for the transmission of electricity, over, upon and across the lands described therein; and

WHEREAS, the parties wish to replace that portion of the lands described in the Easement which is more particularly described in **Exhibit "A"** to this Amendment with the lands described in **Exhibit "B"** to this Amendment, and to release the lands described in **Exhibit "A"** to this Amendment from the encumbrance of the Easement; and

WHEREAS, the parties also wish to modify the Easement to include a non-native vegetation management easement over, upon and across the lands more particularly described in **Exhibit "C"** to this Amendment, and an access easement over, upon and across the lands more particularly described in **Exhibit "D"** to this Amendment.

NOW THEREFORE, for One Dollar ($1.00) in hand paid by Grantee to Grantor and other consideration the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the parties agree as follows:

1. **Electrical Transmission Right-of-Way Easement.** The legal description set forth on **Exhibit "A"** to this Amendment is hereby deleted and replaced with the legal description set forth in **Exhibit "B"** to this Amendment, which exhibit is incorporated herein by reference and made a part hereof ("**Electrical Transmission Right of Way Easement Area**").

2. **Vegetation Management Easement.** The Easement is hereby amended to include the following Section II, immediately before the beginning of the only new paragraph found on page 2 (recorded page 851) of the Easement:

"**Section II. Vegetation Management**. Grantor hereby also grants and gives to Grantee, its employees, licensees, contractors, subcontractors, agents, successors, and assigns a nonexclusive easement for the purpose of removing fire prone exotics including but not limited to Melaleuca and Australian pine, over, upon and across parcels of land, each being ninety (90) feet in width, and more particularly described on the attached **Exhibit "C"** to this Amendment, which **Exhibit "C"** is incorporated herein by reference and made a part hereof ("**Vegetation Management Easement Area**").

Grantee understands that herbicides applied within the Vegetation Management Easement Area shall only be those registered by the U.S. Environmental Protection Agency and which have state approval. Herbicide application rates and concentrations will be in accordance with label directions and will be carried out by a licensed applicator, meeting all federal, state and local regulations. Herbicide applications shall be selectively applied to targeted vegetation. Broadcast application of herbicide shall not be used within the Vegetation Management Easement Area unless the effects on non-targeted vegetation are minimized.

Grantee agrees to secure any and all applicable federal, state, and local permits required in connection with FPL's use of the Vegetation Management Easement Area; and at all times, to comply with all requirements of all federal, state, and local laws, ordinances, rules and regulations applicable or pertaining to the use of the Vegetation Management Easement Area by FPL.

Grantor reserves the right to maintain, construct or alter roads which are located on the Vegetation Management Easement Area and are necessary to Grantor's operations, and in doing so, agrees that it shall not temporarily or permanently impede Grantee's access over the Vegetation Management Easement Area.

Grantee agrees that it will not use the Vegetation Management Easement Area in any manner which will interfere with Grantor's use of the Vegetation Management Easement Area or cause a hazardous condition to exist. Grantee agrees that no hazardous substance, as the term is defined in Section 101 (14) of the Comprehensive Environmental Response Compensation and Liability Act ("**CERCLA**") (42 USC Section 9601 [14]), petroleum products, liquids or flammables shall be stored on the Vegetation Management Easement Area. Grantee agrees further that in the event it should create a hazardous condition on the Vegetation Management Easement Area, then upon notification by Grantor, Grantee shall, within seventy-two (72) hours, at its sole cost and expense, correct such condition or situation.

Grantee must repair any damage to the Vegetation Management Easement Area resulting from Grantee's use thereof under this Easement as amended. If Grantee fails to repair the Vegetation Management Easement Area resulting from Grantee's use within thirty (30) days from the date of Grantor's written notice to Grantee of such damage (or within such time as agreed upon in writing by Grantor and Grantee), Grantor may, at its sole option, repair the

Vegetation Management Easement Area caused by Grantee's activities at Grantee's sole cost and expense. In the event that Grantor exercises its rights of repair, Grantor shall submit a written demand for such costs and expenses to Grantee, and Grantee shall pay the indicated cost of any such repair or maintenance within forty-five (45) days of the date of demand of the same from Grantor. If Grantee fails to pay such costs in the timeframe provided in this paragraph, then any such unpaid amounts shall bear interest at the highest rate permitted by applicable law (the **"Default Rate"**)."

3. **Access Easement**. The Easement is hereby amended to include the following new Section III which will immediately follow Section II as set forth in Paragraph 2 of this Amendment:

"**Section III. Access**. Grantor, does hereby grant and give to Grantee, its agents, employees, contractors, subcontractors, invitees, successors and assigns, a nonexclusive access easement over, upon and across the Grantor's property more particularly identified on the attached **Exhibit "D"** to this Amendment (the "**Access Easement Area**"), which **Exhibit "D"** is incorporated herein by reference and made a part hereof, for ingress and egress by Grantee and its agents, employees, contractors, subcontractors, invitees, successors and assigns, on foot and by motor vehicle, including trucks and heavy equipment and with materials, to and from Grantee's facilities within the Electrical Transmission Right-of-Way Easement Area. This Easement is granted with all rights necessary and convenient for the full use and enjoyment of the Access Easement Area for the purposes described herein, including without limitation the right of Grantee to use any existing or future road on the Access Easement Area, and the right of Grantee to install, maintain, improve or modify fences/gates (with Grantee promptly providing Grantor with keys to all such fences/gates), ramps, roads and bridges to allow for safe access for personnel, vehicles, materials and equipment, subject to Grantor's advance review and written approval, which may not be unreasonably withheld, conditioned or delayed, of any Grantee proposal to install, improve, or modify fences/gates, ramps, roads, or bridges."

4. The Easement is hereby amended to include the following paragraph after the 3rd full paragraph found on page 3 (recorded page 852):

"All notices which are required or permitted hereunder must be in writing and shall be deemed to have been given, delivered or made, as the case may be (notwithstanding lack of actual receipt by the addressee) (i) three (3) business days after having been deposited in the United States mail, certified or registered, return receipt requested, sufficient postage affixed and prepaid, (ii) one (1) business day after having been deposited with an expedited, overnight courier service addressed to the party to whom notice is intended to be given at the address set forth below:

To TIITF:
Board of Trustees of the Internal Improvement Trust Fund of the State of Florida
State of Florida Department of Environmental Protection
Division of State Lands
Bureau of Public Land Administration
3900 Commonwealth Blvd.

Mail Station 130
Tallahassee, Florida 32399-3000
Attention: Bureau Chief
Telephone: (850) 245-2720

To FPL:

V.P. Corporate Real Estate
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
Telephone: (561) 691-2123

with a copy to:
Law Department
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 334084-0420
Telephone: 561-304-5261"

5. The Easement is hereby amended to include the following paragraph which will immediately follow the paragraph as set forth in Paragraph 4 of this Amendment:

"As a condition precedent to entry on, over, upon or across any of the easement areas described herein by Grantee or its contactors, subcontractors, agents, representatives, licensees, or invitees, Grantee shall require such Grantee contactors, subcontractors, agents, representatives, licensees, and invitees to provide to the Grantor with the same protection and insurance coverages required by and afforded to the Grantee. Grantee shall also require that the Grantor be named as an additional insured on all such insurance and said liability insurance shall be primary to any liability or property insurance carried by Grantor."

6. **Partial Release of Easement.** The Easement is hereby amended to include the following new Section IV which will immediately follow the paragraph set forth in Paragraph 5 of this Amendment:

"**Section IV. Partial Release**. Grantee, the owner and holder of the Easement, for and in consideration of certain benefits accruing to it, does hereby release unto the Grantor any right, title, or interest of Grantee under the Easement as lies within the property described on the attached **Exhibit "A"** to this Amendment which is incorporated herein by reference and made a part hereof ("**Property**"), and hereby agrees that from and after the date hereof the Property shall be freed of said Easement and the rights and privileges granted therein and any other right, title or interest of FPL in the Property. **This release applies only to the Property and in no way affects other lands now or hereafter covered by the Easement."**

7. **Continuing Effect.** All other terms and conditions of the Easement not expressly modified by the terms of this Amendment shall remain in full force and effect.

IN WITNESS WHEREOF, the Grantor and Grantee have executed this Amendment on the day and year first above written.

Signed, sealed and delivered
presence of:

Grantor:
BOARD OF
TRUSTEES OF THE INTERNAL
IMPROVEMENT TRUST FUND
OF THE STATE OF FLORIDA

_____
Signature
Print Name: _____

By:_____

Print/Type Name:_____

Print/Type Title:_____
Division of State Lands, State of Florida
Department of Environmental Protection,
as agent for and on behalf of the Board of
Trustees of the Internal Improvement
Trust Fund of the State of Florida

_____
Signature
Print Name: _____

ACKNOWLEDGMENT

STATE OF FLORIDA)
) ss:
COUNTY OF LEON)

The foregoing instrument was acknowledged before me this _____ day of _____, 2008, by _____, _____, Division of State Lands, State of Florida Department of Environmental Protection, acting as an agent for on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. He is personally known to me.

_____
Notary Public, State of Florida

_____
Print/Type Notary Name

Commission Number:
Commission Expires:

Signed, sealed and delivered
presence of:

_____
Signature
Print Name: _____

_____
Signature:
Print Name: _____

Grantee:
FLORIDA POWER & LIGHT
COMPANY, a Florida corporation

By: _____
Terry L. Hicks
V.P. Corporate Real Estate

(Corporate Seal)

ACKNOWLEDGMENT

STATE OF FLORIDA)
)ss:
COUNTY OF PALM BEACH)

On this _____ day of _____, 2008, before me, the undersigned notary public, personally appeared Terry L. Hicks, Vice President of Corporate Real Estate of FLORIDA POWER & LIGHT COMPANY, a Florida corporation, on behalf of the corporation. He is personally known to me or produced a driver's license as identification.

_____
Notary Public, State of Florida

_____
Print/Type Notary Name

Commission Number:
Commission Expires:

Exhibit "A"
Existing Easement Area

A 330 foot wide strip of land running through Conservation Area 3B in Section 24, East 3/8 of the North ½ of Section 25, West 1/2 of Section 35, NW ¼ of the NW¼ of Section 36, situate in Township 53 South, Range 38 East, and Government Lot 2 and Government Lot 3 lying between Township 53 South and Township 54 South in Range 38 East, comprising 70.7 acres more or less; said lands situate, lying and being in Miami-Dade County, Florida and particularly shown and illustrated on FPL Co. drawing E-57533.

Exhibit "B"
Replacement Easement Area

[Legal description to be provided following survey]

Exhibit "C"
Vegetation Management Easement Area

[Legal description to be provided following survey]

Exhibit "D"
Access Easement

[Legal description to be provided following survey]

APPENDIX D: ALTERNATE WESTERN TRANSMISSION CORRIDORS UNDER CONSIDERATION FOR THE STATE OF FLORIDA SITE CERTIFICATION APPLICATION PROCESS

PRIVILEGED AND CONFIDENTIAL DOCUMENT – PREPARED FOR SETTLEMENT PURPOSES

AGREEMENT BETWEEN THE MIAMI-DADE LIMESTONE PRODUCTS ASSOCIATION AND FLORIDA POWER & LIGHT COMPANY REGARDING THE WESTERN TRANSMISSION CORRIDOR PORTION OF FPL'S TURKEY POINT 6&7 POWER PLANT SITE CERTIFICATION APPLICATION

THIS AGREEMENT ("Agreement") is entered into this 30th day of August, 2013, by and between the MIAMI-DADE LIMESTONE PRODUCTS ASSOCIATION ("**MDLPA**"), a Florida non-profit corporation, c/o Greenberg Traurig, with an address of 333 Avenue of the Americas, 40th Floor, Miami, Florida 33131, and FLORIDA POWER & LIGHT COMPANY, a Florida corporation with an address of 700 Universe Boulevard, Juno Beach, Florida 33408 ("**FPL**"). MDLPA and FPL are sometimes collectively referred to herein as the "Parties" and individually as a "Party."

RECITALS

1. WHEREAS, on June 30, 2009, FPL filed its Site Certification Application ("SCA"), for the Turkey Point Units 6&7 Project pursuant to the Florida Electrical Power Plant Siting Act, Sections 403.501, et seq., Florida Statutes.

2. WHEREAS, as part of the SCA, FPL proposed two corridors for the construction of two new 500-kV transmission lines and one 230-kV transmission line in western Miami-Dade County, FPL's West Preferred Corridor, and FPL's West Secondary Corridor.

3. WHEREAS, FPL currently owns land within the boundaries of the Everglades National Park. This land is included in FPL's West Secondary Corridor. FPL has negotiated with the U.S. Department of the Interior ("DOI") and several other state and federal agencies for the transfer of FPL's inholding within the Park for land along the eastern boundary of the Park, referred to as the "Land Exchange".

4. WHEREAS, the MDLPA, acting on behalf of its member limestone mining companies, is engaged in the evaluation, planning, and construction of seepage management projects adjacent to existing and proposed Western Transmission Line Corridors on the boundary of Everglades National Park and the Pennsuco Wetland.

5. WHEREAS, FPL and the MDLPA have discussed potential options to collocate various facilities to reduce wetland impacts associated with the construction and maintenance of the western transmission lines.

6. WHEREAS, on May 2, 2012, MDLPA filed a Petition to Intervene in the Proceeding, and a Notice of Proposed Alternate Corridor for FPL's proposed western transmission lines. On May 9, 2012, MDLPA was granted intervention in the Proceeding. On December 10, 2012, MDLPA

filed a Notice of Proposed Alternate Corridors to propose two additional alternate transmission line corridors for FPL's proposed western transmission lines.

7. WHEREAS, the Parties have negotiated in good faith to identify a mutually agreeable alternative corridor (the "West Consensus Corridor") for the western transmission lines associated with the Project that the Parties can support for certification in the Proceeding.

NOW, THEREFORE, the Parties, in consideration of the mutual benefits contained in this Agreement, do hereby agree as follows:

1. DEFINITIONS

a. "Proceeding" refers to the FPL Turkey Point Units 6 and 7 Site Certification Application, NO. PA 03-45A3, Division of Administrative Hearings CASE NO. 09-3575-EPP.

b. "Project" means the FPL Turkey Point Units 6 and 7 project including associated facilities.

c. "Reasonable Cost" means total costs that are no greater than the total projected costs (including costs for land acquisition, construction and mitigation) of FPL's West Preferred Corridor, plus ten (10) percent.

d. "Timely Manner" for the purposes of this Agreement means within thirty-six (36) months from the date of the final non-appealable Site Certification.

e. "West Consensus Corridor" means a combination of FPL's West Preferred Corridor from Clear Sky substation to approximately SW 100th Street, joined to the corridor provided in MDLPA's December 10, 2012, Notice of Proposed Alternate Corridor identified as the "AC-A" Corridor, (which is also sometimes referred in the site certification proceeding to as the "MDLPA2 Corridor") and continuing along the MDLPA2 Corridor, and then at the end of the MDLPA2 Corridor rejoining and continuing along the FPL West Preferred Corridor to the Levee and Pennsuco substations.

f. "Western Transmission Lines" means the two 500 kV lines and the single 230 kV line proposed by FPL in the Proceeding between the Clear Sky substation and the Levee and Pennsuco substations, respectively.

2. RECITALS

The Parties acknowledge that the foregoing recitals are true and correct and incorporated into this Agreement.

3. TERMS OF AGREEMENT

a. West Consensus Corridor as Primary. FPL agrees to seek certification of the West Consensus Corridor as the intended location of its Western Transmission Lines and associated facilities of the Project. Upon certification, FPL will make all reasonable efforts to secure the necessary authorizations, approvals, and property rights required to support the timely siting, construction, operation, and maintenance of the Western Transmission Lines within the West Consensus Corridor, subject to the terms of this Agreement. MDLPA will support FPL's efforts in these activities.

b. FPL's West Preferred Corridor as Backup. FPL will continue to seek certification of FPL's West Preferred Corridor and will use the West Preferred Corridor as the backup location of its Western Transmission Lines solely in the event that the West Consensus Corridor cannot meet the required Conditions Precedent in a Timely Manner or at a Reasonable Cost, as described in this Agreement. MDLPA will not oppose FPL's efforts in this regard.

c. Expected Sequence of Events. The following provides a delineation of key events necessary to execute the intentions of the Agreement.

i. Land Acquisition Due Diligence. FPL will research, assess, and identify legal encumbrances, authorizations, approvals, and recommended land rights (e.g., easements, fee ownership) necessary to implement the West Consensus Corridor.

ii. Preferred Alignment. FPL, working with the MDLPA and agencies controlling government owned land in the West Consensus Corridor, will develop a preferred alignment within the West Consensus Corridor to serve as the basis for specific land acquisition and engineering design activities.

iii. Cost Estimate. To evaluate Reasonable Cost, with input from the MDLPA, FPL will develop a cost estimate for construction, land acquisition, and mitigation of the West Consensus Corridor using the same methodology, assumptions and process as used in developing the cost estimate for FPL's West Preferred Corridor.

iv. Estimated Schedule. FPL will develop a schedule for all land acquisition activities required to execute the West Consensus Corridor.

v. Initial Assessment. FPL will aggregate the above information to provide an

initial assessment of the potential for utilizing the Western Consensus Corridor, including the ability to meet each Condition Precedent in a Timely Manner and at a Reasonable Cost.

d. Post Certification Submittals. To document compliance with the final Site Certification, including this Agreement, FPL will provide the following written submittals. Submittals will be subject to Section A(XIX) of the General Conditions of the Site Certification regarding post certification submittal review.

i. Estimated Schedule and Initial Assessment. Within six (6) months of the date of the final non-appealable Site Certification, FPL will provide a preliminary Estimated Schedule described above in Section 3.c.iv, and within twelve (12) months after the date of the final non-appealable Site Certification, FPL will provide the Initial Assessment described in Section 3.c.v., above.

ii. Periodic Reports. FPL will provide an update to the Initial Assessment no less than annually.

iii. Situational Reports. Within sixty days of the discovery of an issue that could prevent acquisition of the West Consensus Corridor, FPL will provide a situational report outlining the issue and identifying the actions that are required to remove the issue.

iv. Selection of Final Corridor. The final update of the Initial Assessment will provide the basis for the selection of the final corridor for the Western Transmission Lines. In the event that the West Consensus Corridor cannot be used, the report will identify all issue(s) preventing that selection<, Specifically the report will include evidence of the inability to meet the Conditions Precedent, or the assessment of inability to satisfy the requirements of Timely Manner or Reasonable Cost, or all of the above.

v. All reports mentioned above in Sections 3.d.i through 3.d.iv will be submitted to the Florida Department of Environmental Protection (the "FDEP") with copies to the Parties to this Agreement.

4. CONDITIONS PRECEDENT

a. The proposed Land Exchange under consideration by DOI must be consummated in a Timely Manner.

b. Government land owners of parcels required by the West Consensus Corridor (or final alignment within that Corridor) must provide FPL with the necessary perpetual

[permanent] easements or fee ownership rights, through donation or exchange of lands, in a Timely Manner and at a Reasonable Cost.

c. Except as provided in Section 5.c below, private landowners of parcels required within the West Consensus Corridor (or final alignment within that corridor) must provide the necessary perpetual [permanent] easements or fee ownership rights to FPL, in form and substance reasonably acceptable to FPL, in a Timely Manner and at a Reasonable Cost for the acquisition of the West Consensus Corridor. FPL shall not be obligated to complete voluntary acquisitions under this paragraph, or initiate eminent domain proceedings under Section 5.c below, until the Conditions Precedent in Sections 4.a and 4.b are met.

5. ROLES AND RESPONSIBILITIES OF THE PARTIES

a. FPL agrees that, as part of the West Consensus Corridor, in the area north from the approximately SW 56 Street (North of the Northern boundary of the South East ¼ of Township 54 South, Range 38 East, section 26), no transmission lines will be sited west of the L-31N Right of Way unless FPL is prevented from utilizing this area by regulatory impediments.

b. To avoid and minimize impacts to property west of the L-31N Canal Right of Way and minimize any impact to the facilities associated with existing or future mining of the property east of the L-31N Canal Right-of-Way, FPL will diligently pursue approvals and perpetual easements from the South Florida Water Management District for the placement of structures within the L-31N Canal Right of Way.

c. The Parties agree that, upon the date of the final non-appealable Site Certification, the Parties will make a diligent effort to ensure that the Conditions Precedent are satisfied in a Timely Manner and at a Reasonable Cost. FPL acknowledges that the MDLPA is not expected to bear a significant financial burden in contributing to this diligent effort to satisfy the Conditions Precedent in a Timely Manner and that expenditures beyond a de minimis amount will need the future approval of the MDLPA.

d. If eminent domain proceedings are necessary to acquire any lands within the West Consensus Corridor, FPL will timely initiate appropriate proceedings and diligently pursue the takings to completion, including expiration of applicable appeal periods.

e. The affected MDLPA member companies, wherever practical and to the extent that there are no adverse impacts to the existing mining reserves, rail facilities, or rock processing and staging areas, will make adjustments to their mining operations to accommodate the

construction and future operation and maintenance of transmission lines within the West Consensus Corridor by FPL.

f. The affected MDLPA member companies will make available to FPL, at a reasonable cost, the perpetual rights necessary to locate the transmission lines within the West Consensus Corridor.

6. **EFFECTIVE DATE AND TERM.** Except as otherwise specified herein, this Agreement will become effective upon execution by MDLPA and FPL, and will remain in full force and effect for the timeframe provided in the definition of "Timely Manner" in Section 1.d of this Agreement. The requirements in Sections 6 through 11 shall remain in full force and effect beyond the expiration date of the other portions of this Agreement.

7. **INTEGRATION.** This Agreement states the entire understanding and agreement among the Parties with respect to the subject matter of this Agreement and supersedes any and all written or oral representations, statements, negotiations or agreements previously existing among the Parties with respect to the subject matter of this Agreement. This Agreement shall inure to the benefit of and shall be binding upon the Parties, their respective assigns and successors in interest.

8. **RULES OF CONSTRUCTION.** The Parties and their respective counsel have read, negotiated and participated in the drafting of the language and terms used in this Agreement. Accordingly, no rule of construction shall apply to this Agreement which construes any language, whether ambiguous, unclear or otherwise, in favor of, or against either Party by reason of that Party's role in drafting this Agreement.

9. **GOVERNING LAWS.** The laws of Florida shall govern all aspects of this Agreement.

10. **AMENDMENTS.** This Agreement may be amended at any time by the written mutual consent of the Parties. In the event that the third-party litigation effectively delays the Parties' ability to meet the Conditions Precedent, the Parties will agree to modify the schedule.

11. **FORCE MAJEURE.** Notwithstanding any other provision of this Agreement, MDLPA and FPL shall not be considered liable for failure to fully perform an obligation hereunder, or as having defaulted on any of their obligations hereunder, to the extent performance of any such

obligation is prevented in whole or in part by causes outside said Party's control, not due to its fault or negligence, and not reasonably foreseeable or, if foreseeable, an event that could not be avoided by the exercise of all reasonable efforts, including acts of civil or military authority, acts of God including storm, hurricane and other severe weather, acts of war, acts of government, riot, blockages, fire, flood, and/or famine.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first set forth above.

Title: MIAMI-DADE LIMESTONE PRODUCTS ASSOCIATION, a Florida Corporation

By: Victoria E Tomas Martinez
Print Name: VICTORIA E TOMAS MARTINEZ
Title: Executive Director

FLORIDA POWER & LIGHT COMPANY, a Florida Corporation

By: Steven D Scroggs
Print Name: STEVEN D SCROGGS
Title: SENIOR DIRECTOR, DEVELOPMENT

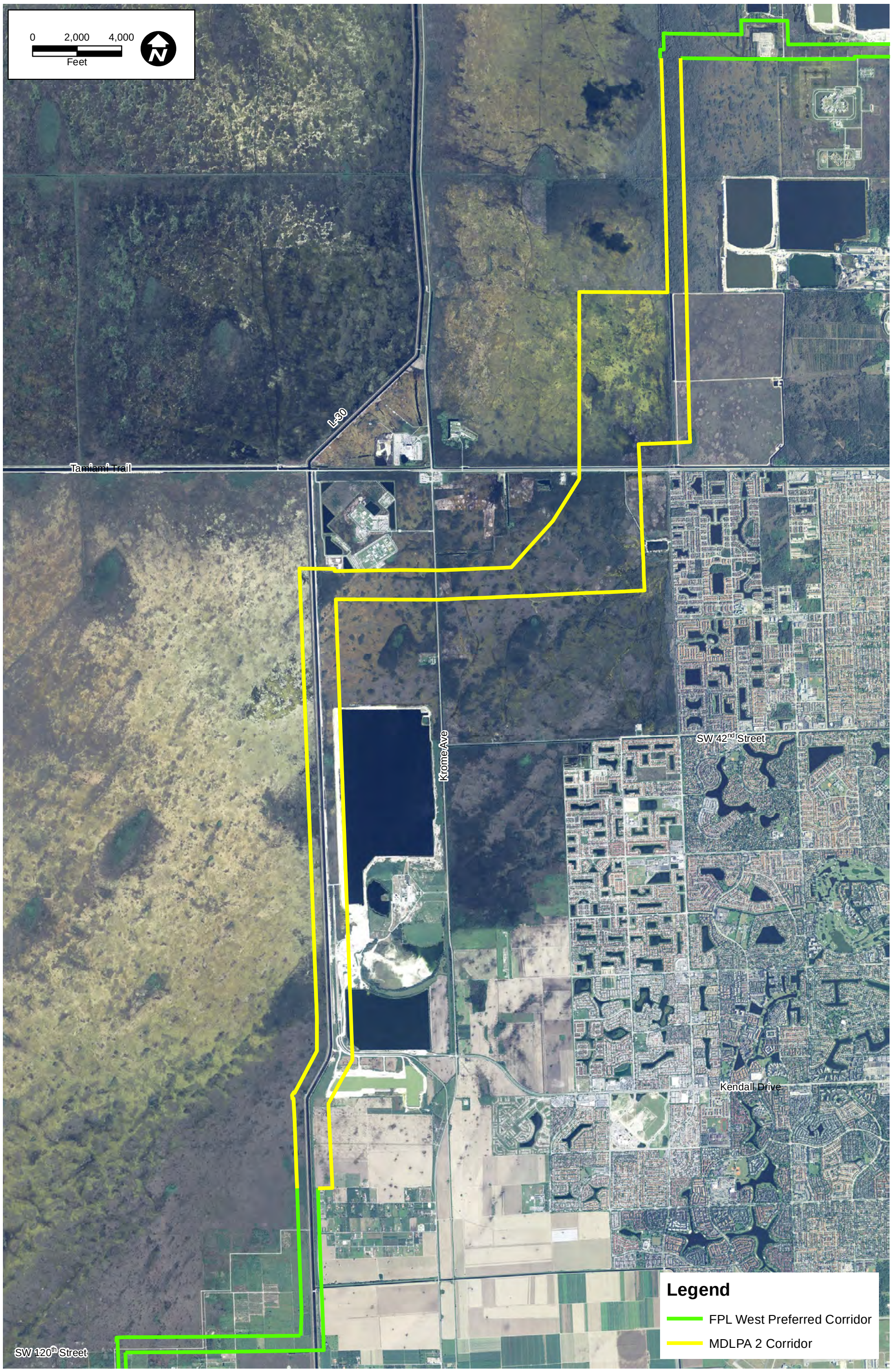


FIGURE
CONSENSUS CORRIDOR

Sources: ECT,2013.

FPL

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

IN RE: FLORIDA POWER & LIGHT COMPANY
FP&L TURKEY POINT NUCLEAR UNITS 6 & 7
PROJECT, POWER PLANT SITING APPLICATION
NO. PA03- 45A3
_____/

DOAH CASE NO. 09-03575-EPP
DEP OGC CASE NO: 09-3107

NATIONAL PARKS CONSERVATION ASSOCIATION
NOTICE OF PROPOSED ALTERNATE CORRIDOR

National Parks Conservation Association ("NPCA"), a not-for-profit corporation, through its undersigned counsel, respectfully files this Notice of Proposed Alternate Corridor under section 403.5271, Fla. Stat. In support of this Notice, NPCA states the following.

INTRODUCTION

1. The National Parks Conservation Association's substantial interests will be affected by the certification of either of Florida Power & Light's ("FPL") two proposed transmission corridors. The current two corridors proposed by FPL both lie within the existing boundary of Everglades National Park, a designated International Biosphere Reserve, a Wetland of International Importance, and one of the listed World Heritage Sites in Danger due to serious and continuing degradation of its ecosystem. Both corridors also lie within a portion of the Park known as the Everglades Expansion Area, created by the U.S. Congress in 1989 to "*increase the level of protection and outstanding natural values of the Park"* and *"to enhance and restore the ecological values, natural hydrologic conditions, and public enjoyment of the area."* The Expansion Area is currently being studied for potential designation as wilderness, and maintains high-quality habitat for wildlife, including some federally listed endangered species.

2. NPCA's substantial interest will be affected because current proposed transmission corridors are incompatible with the designated purpose of Everglades National Park, and with long-term Everglades restoration initiatives. A transmission corridor in existing Everglades National Park boundaries will have negative impacts to natural systems, plant and animal populations, hydrology, and the character and integrity of the National Park.

3. Due to the significant environmental impacts of the FPL Preferred Corridor and FPL West Secondary Corridor upon Everglades National Park and its wildlife and those negative effects on NPCA and its members, NPCA proposes an alternate corridor that avoids or minimizes these impacts.

DESCRIPTION OF PROPOSED ALTERNATE CORRIDOR

4. NPCA's Proposed Alternate Corridor begins at FPL's West Preferred Corridor near the intersection of hypothetical SW 120th Street and hypothetical SW 204th Avenue in Miami-Dade County just south of Everglades National Park ("ENP"). From there, the corridor is approximately 330 feet wide as it heads due east for 3950 feet, before widening to between 500 and 650 feet as it turns northeast to temporarily rejoin the West Preferred Corridor between SW 197th Avenue and SW 194th Avenue and then due east along SW 120th Street for 3950 feet. This initial deviation from the FPL West Preferred Corridor is intended to avoid impacts to Miami-Dade County East Everglades Area of Critical Environmental Concern Management Area 3B, which does not allow transmission lines.

5. The FPL West Preferred Corridor, with NPCA's Preferred Alternate Corridor collocated, then turns due north on the west side of the L31N Canal for 2700 feet. The NPCA Preferred Alternate Corridor is only 550 feet wide in this section, as opposed to the FPL West

Preferred Corridor's 930 feet in order to minimize impacts to residences on the east side of the L31N Canal.

6. The NPCA Preferred Alternate Corridor then deviates from the FPL West Preferred Corridor in order to minimize impacts to ENP, the Miami-Dade County East Everglades Area of Critical Environmental Concern Management Area 3B, Wetlands of International Importance, and ultimately wood stork colonies. In addition, the deviation from the FPL West Preferred Corridor avoids potential conflicts with the South Florida Water Management District L31N Canal Right of Way. The NPCA Preferred Alternate Corridor turns due east from the West Preferred Corridor for 1.3 miles with a corridor width varying between 1550 and 1990 feet. In this location the corridor occurs on both the north and south sides of the C-1W canal, staying over 500 feet from a residential area associated with SW 100th Street, SW 104th Street, and SW 106th Street to the north.

7. The NPCA Preferred Alternate Corridor then turns north on the east side of Krome Avenue, paralleling Krome Avenue with a corridor varying in width between 1150 and 1350 feet for nearly a mile, before widening to 1800 feet to include lands both to the west and east of Krome Avenue, including an existing FPL 230kV line east of Krome Avenue. The NPCA Preferred Alternate Corridor then heads north on both sides of Krome for 3500 feet, remaining over ¼ mile to the west of a planned community within the Urban Development Boundary and remaining to the east of active mining areas.

8. Just to the south of North Kendall Drive/SW 88th Street, the NPCA Preferred Alternate Corridor narrows to 1000 feet wide, existing entirely on the west side of Krome Avenue in order to avoid the intersection of Krome Avenue and North Kendall Drive. The NPCA Preferred Alternate Corridor then travels north for 3750 feet on the west side of Krome

Avenue before turning northeast for approximately 3900 feet, crossing Krome Avenue north of the Miccosukee Tribal lands.

9. From this point, the NPCA Preferred Alternate Corridor turns due north and widens to 1950 feet, traversing approximately 1.5 miles due north before turning northeast north of SW 42nd Street/Bird Drive Canal through an area known as Bird Drive Basin which is comprised of primarily state, county, and South Florida Water Management District owned lands. The Corridor is situated to allow maximum siting flexibility while also providing at least a sufficient set back from Krome Avenue and at least a ¼ mile setback from the developed residential area to the east, including a child care center near the intersection of Tamiami Trail and SW 157th Avenue. The NPCA Preferred Alternate Corridor in this section is between approximately 2000 and 2950 feet wide and travels northeast 2.7 miles from SW 42nd Street/Bird Drive Canal until crossing the Tamiami Trail/US Highway 41/SW 8th Street.

10. North of the Tamiami Trail, the NPCA Preferred Alternate Corridor widens to between 2550 feet and 5100 feet and travels for approximately 3.5 miles before terminating at the intersection of the FPL West Preferred Corridor approximately 4950 feet west of the Levee Substation.

REASONS FOR APPROVING THE PROPOSED ALTERNATE CORRIDOR

11. Both of FPL's proposed transmission corridors lie within the Everglades National Park Expansion Area, which is currently being studied for potential designation as wilderness. In 1991, the NPS completed a Land Protection Plan that established priorities and commitments for implementing the 1989 Expansion Act, where it concluded that construction of utility lines

and roads would not be compatible with the purposes of the Expansion Area. NPCA's Preferred Alternate Corridor lies outside of the Expansion Area.

12. The Expansion Area is the focus of other critical ecosystem restoration projects such as Modified Water Deliveries to Everglades National Park, the Tamiami Trail Next Steps Project, and the Comprehensive Everglades Restoration Plan ("CERP") and associated projects. The state and federal governments have already spent hundreds of millions of dollars, and plan to spend more than a billion dollars on projects to increase water flows and wetland function in this immediate area and provide improved habitat suitable for a variety of wetland-dependent species, particularly water-dependent birds. NPCA's Preferred Alternate Corridor would avoid or minimize impacts to restoration efforts.

13. Construction, maintenance and management of the transmission lines within the existing boundary of Everglades National Park will have a negative impact on the wading bird populations that nest or have habitats in the area. Both of FPL's proposed transmission line corridors pass through sensitive wood stork and snail kite nesting and foraging habitat in northeastern Everglades National Park and eastern Water Conservation Area 3B. Specifically, the West Preferred Corridor is adjacent to wading bird habitat and within foraging flight paths. The location of the FPL West Preferred Corridor poses a substantial risk to juvenile wading birds in three identified colonies, with the wood stork facing the highest risk to its populations. The wood stork and Everglades snail kite are both federally listed as endangered, and the wood stork has been designated as a critical indicator species to measure the success of the CERP projects. NPCA's Preferred Alternate Corridor lies outside the existing boundary of Everglades National Park, and does not contain snail kite or wood stork nesting sites.

14. Both of FPL's proposed corridors are largely dominated by native freshwater marshes, the destruction of which would have direct impacts to hydrology, wetlands values, aesthetics, and threatened and endangered species and their habitats. These Everglades wetlands have national significance and include large expanses of contiguous wetlands with uninterrupted surface water sheet flow. NPCA's Preferred Alternative Corridor has significantly less impact on wetlands and the wildlife that depend on such wetlands.

15. The transmission lines would form a linear barrier that could prevent the natural flow of water as proposed under Everglades restoration plans. Future water management and restoration projects may require the removal or modifications of the L31-N levee to accommodate for new water flow, and the construction of structure pads and access roads in L31-N for transmission lines could hinder hydrological restoration of the Everglades. CERP's seepage management plan was intended to be constructed on the eastern portion of L-31N in recognition that water management features should be built beyond the boundary of Everglades National Park, which includes the area where NPCA's Preferred Alternate Corridor lies.

16. The Modified Water Deliveries to Everglades National Park project ("Modwaters"), a foundation project for Everglades restoration and a precursor to CERP, was authorized in 1989 to reconnect the watersheds of Water Conservation Areas 3A and 3B with Everglades National Park by redirecting water flow to the historic flow channels in Northeast Shark River Slough and establishing natural hydrologic conditions. Any transmission line facilities placed in this project footprint could reduce the effective area of marsh connectivity and the potential movement of wildlife. Presence of transmission line facilities could reduce water velocities through the marsh resulting from the Modwaters project and render portions of the marsh hydraulically isolated, negatively impacting the ecosystem and hydropatterns that the

project seeks to restore. Ongoing maintenance activities of transmission lines will cause soil and peat erosion that would alter adjacent slough hydrology and impact normal fire patterns. Unintentional introduction of hazardous materials or petroleum products resulting from construction or maintenance activities could be transported and dispersed over significant distances within the marsh, including within Everglades National Park, negatively altering habitat quality for both aquatic and terrestrial wildlife within Park boundaries.

17. Currently, there are no existing access roads in Everglades National Park where the FPL West Secondary Corridor is proposed, except for those associated with a few facilities immediately adjacent to the Tamiami Trail. Construction of proposed new access roads in this area would cause long-term impacts to wetlands and wildlife habitat, disrupt hydrologic flows, and impact water quality. New road construction conflicts with CERP restoration goals, objectives, and projects, and with National Park goals and regulations. Vehicles moving over the wetlands without roads would also impact existing wetlands by compacting soils, disrupting hydrologic flows, and degrading habitat for species identified in the CERP Restoration Coordination and Verification (RECOVER) goals and objectives. Furthermore, any access/maintenance roads constructed within the FPL West Secondary Corridor would open the area for unauthorized access, leading to an increase in illegal activities, such as garbage disposal, off-road vehicles, and other activities that would cause environmental degradation.

18. The land identified for the FPL West Preferred Corridor is currently land owned by the federal government as part of Everglades National Park. The construction of the FPL West Preferred Corridor would require a reduction of 260 acres within the authorized boundary of Everglades National Park by adjusting the boundary to exclude lands conveyed to FPL, in violation of the intent and directive of the Everglades National Park Expansion Act. More than

103 acres of wetlands currently within the Park boundary would be filled for construction of the access roads and pads. The NPCA Preferred Alternate Corridor lies outside the existing boundary of Everglades National Park.

19. The linear construction of three transmission lines atop 135-150 foot towers will adversely affect the visual and atmospheric appeal of the Shark River Slough Archeological District, a Federal Registered National Historic District. Visitors to Everglades National Park, including NPCA members, will have their experience negatively impacted by this visual eyesore.

20. Both the FPL Preferred Corridor and the FPL West Secondary Corridor include lands within Miami-Dade County's East Everglades Area of Critical Environmental Concern, including Management Areas 1, 2A, 3A, 3B, and 3C. Miami-Dade County Code declares this an area of significant environmental and natural resource value to Miami-Dade County, and "is inextricably related to the health, safety and welfare of the present and future inhabitants of, and visitors to, Metropolitan Miami-Dade County." Miami-Dade County Code, Sec. 33B-12. FPL's corridors' segments that lie within the Management Areas of 1, 2A, 3A, 3B, and 3C do not comply with Miami-Dade's County Code Chapters 33B and 24; whereas no portion of NPCA's Preferred Alternative Corridor lies within Miami-Dade County's East Everglades Area of Critical Environmental Concern.

SERVICE ON AFFECTED LOCAL GOVERNMENTS

Through counsel, NPCA has provided copies of this Notice of Proposed Alternate Corridor to the ALJ, all parties to this proceeding, and all local governments over the area in which the alternate corridor is proposed, as required by Section 403.5271(a), Fla. Stat.

WHEREFORE NPCA requests that the Alternate Corridor proposed by this Notice be accepted for consideration in this certification proceeding with any other such relief the ALJ deems appropriate.

Respectfully submitted this 10th day of December, 2012.

Everglades Law Center
P.O. Box 2693
Winter Haven, FL 33883
(561) 568-6740
Jason@evergladeslaw.org

By: ____s/Jason Totoiu_____
Jason Totoiu
Florida Bar No. 871931

_____s/Sara Fain_____
Sara Fain
Florida Bar No. 19909

Counsel for NPCA

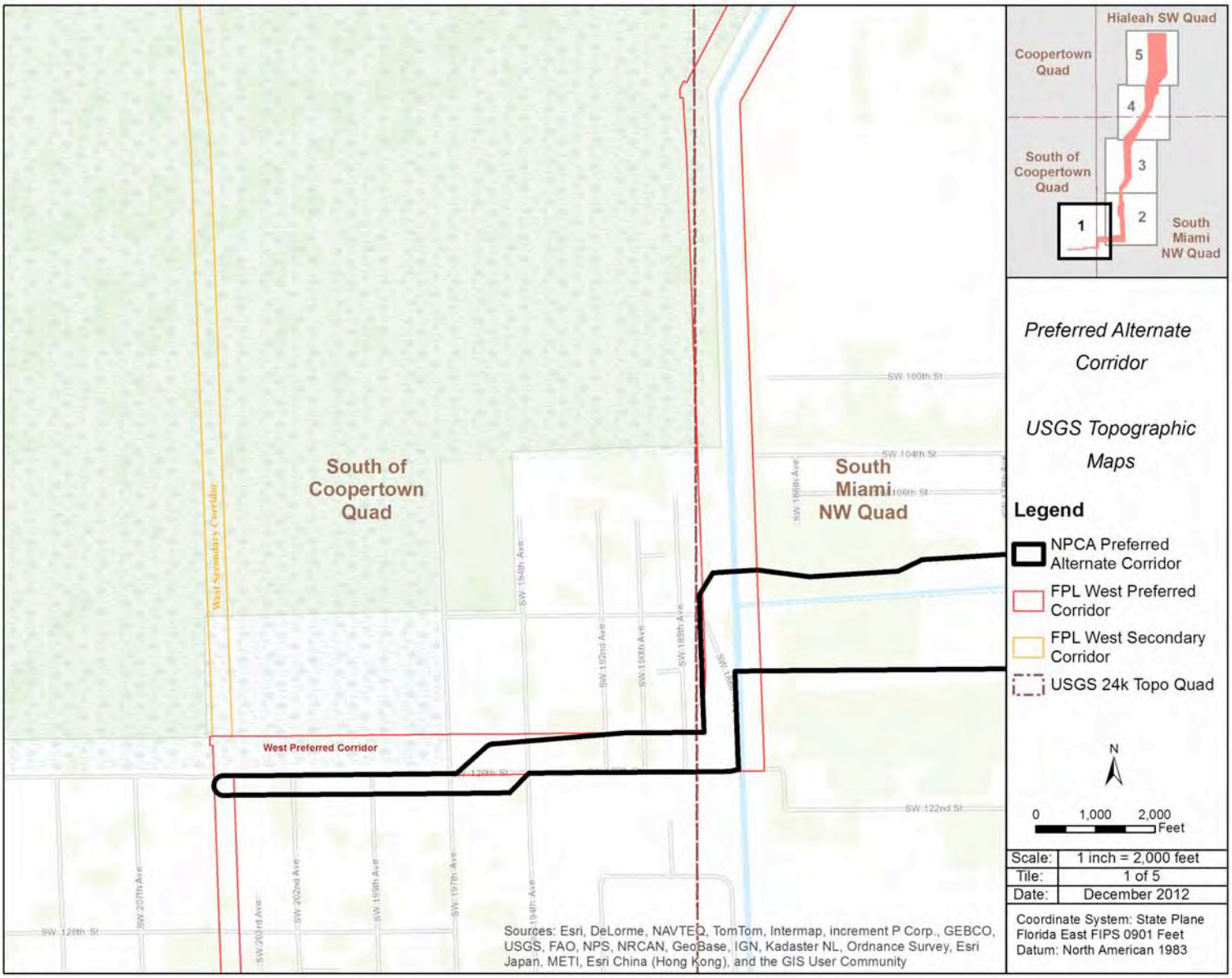

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Figure 1 of 5

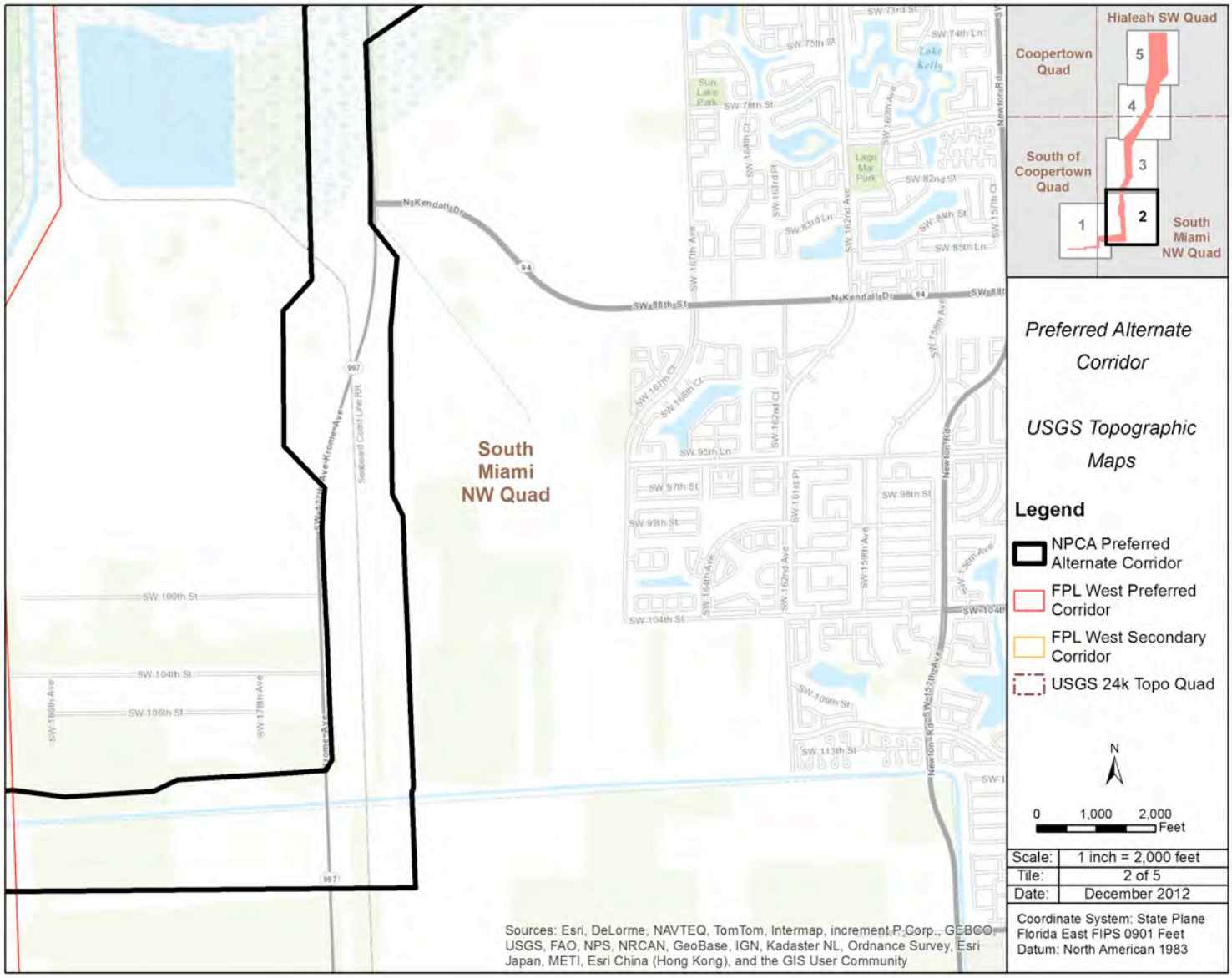
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Figure 2 of 5

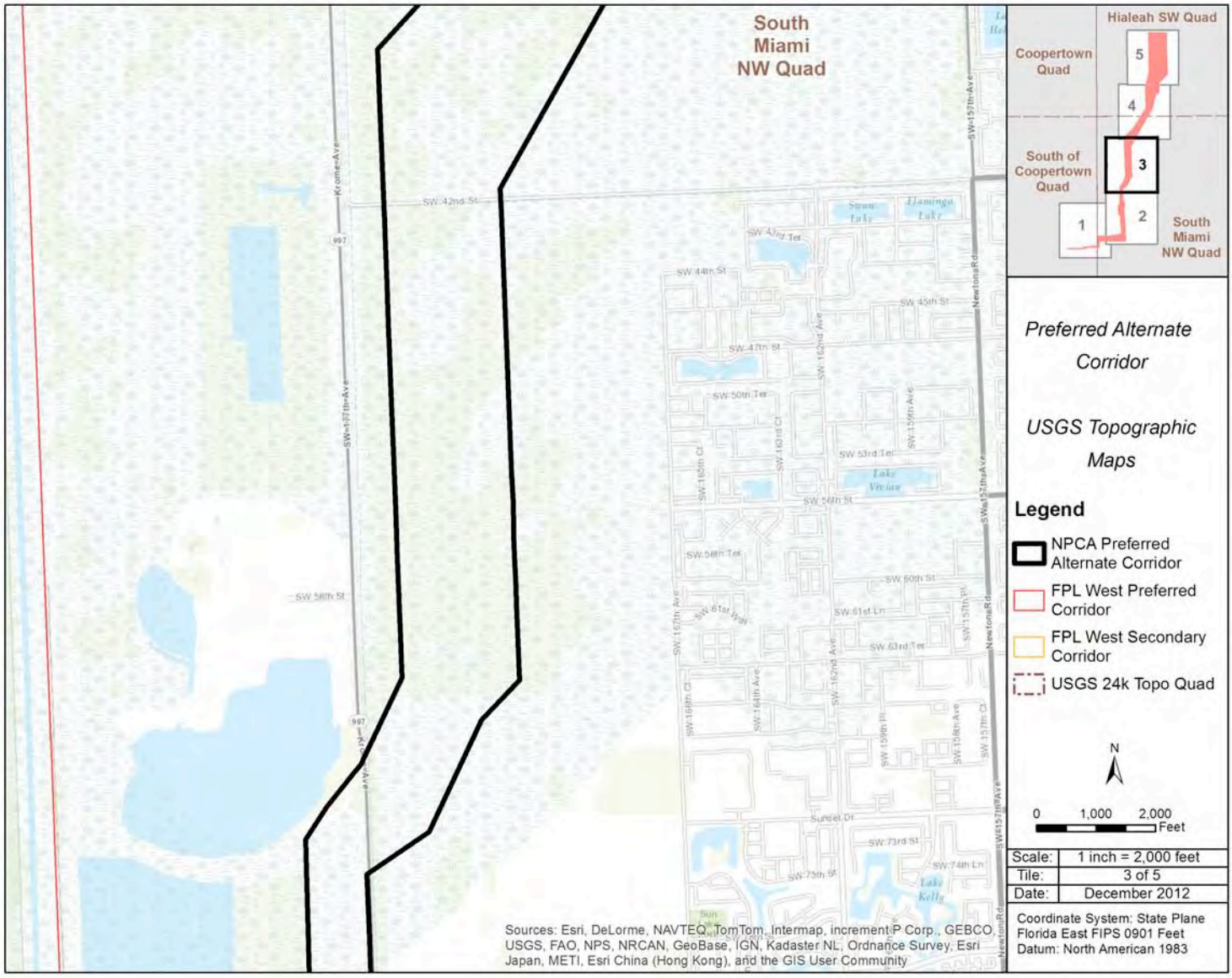
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Figure 3 of 5

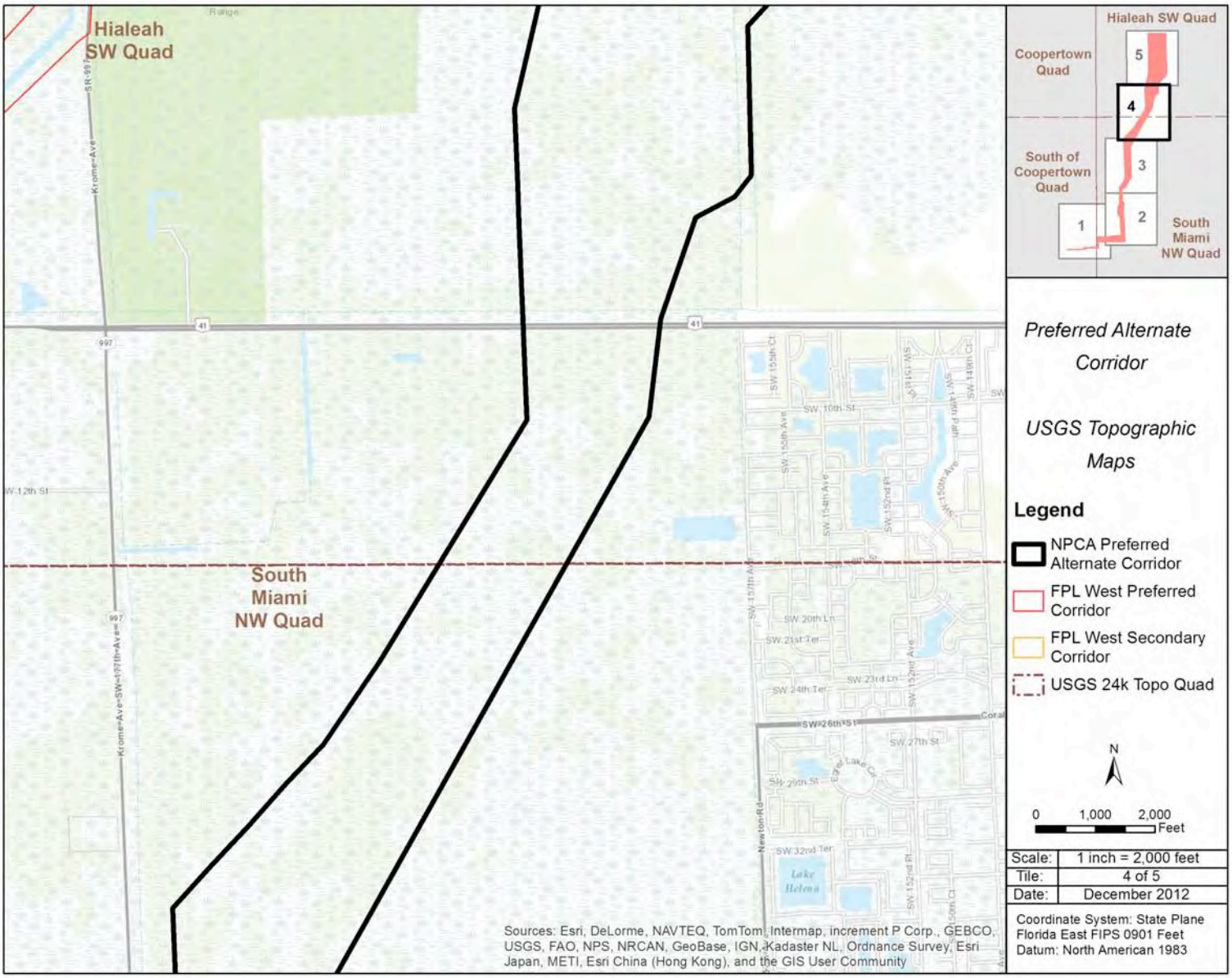
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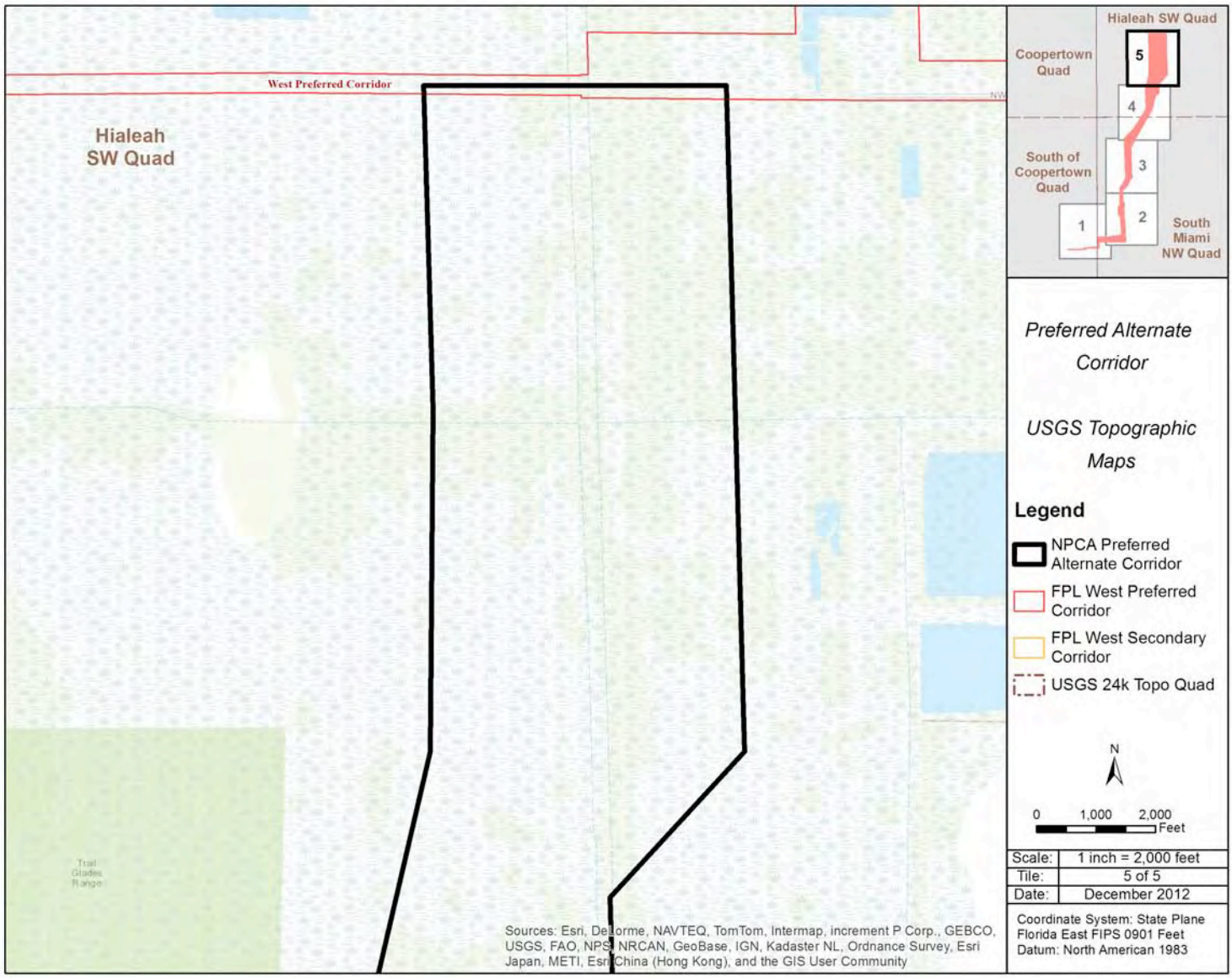
Figure 4 of 5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Japan, METI, Esri China (Hong Kong), and the GIS User Community

Figure 5 of 5

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that copies of the foregoing have been provided to the following parties this 10th day of December, 2012:

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s/Sara Fain
Sara Fain
Everglades Law Center

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

IN RE: FLORIDA POWER & LIGHT CO.
TURKEY POINT UNITS 6 & 7
POWER PLANT SITING
APPLICATION NO. PA 03-45A3

DOAH CASE NO. 09-3575-EPP
DEP OGC CASE NO. 09-3107

/

NOTICE OF PROPOSED ALTERNATE CORRIDORS

The Miami-Dade Limestone Products Association (MDLPA), through its undersigned counsel, files this Notice of Proposed Alternate Corridors pursuant to sections 403.5064(4) and 403.5271 of the Florida Statutes, and states:

1. The MDLPA is submitting for consideration two additional alternate corridors (shown in **Figures 1 and 2** below) for a portion of the West Preferred Corridor for the Turkey Point Units 6 & 7 Project Transmission Lines. The MDLPA makes this submission for the purpose of reducing impacts within Everglades National Park (ENP).

2. Description of the Proposed Alternate Corridors. MDLPA's proposed alternate corridors provide two potential routes (AC-A and AC-B), each approximately 11 miles in length, to relocate FPL's Western Preferred Corridor to the east of the L-31N Canal.

The AC-A Alignment:

a. Follows FPL's West Preferred Corridor until it reaches a point roughly six miles south of Tamiami Trail.

b. Beginning at a point approximately 6 miles south of Tamiami Trail, the AC-A corridor would expand the width of the corridor by 600 feet to the east of the FPL West Preferred Corridor for a distance of about 5 miles until it reaches a point one mile south of Tamiami Trail. This would allow the final right-of-way to be located on the east side of the L-31N Canal.

c. At a point one mile south of Tamiami Trail, the AC-A would turn to the east for a distance of about 2.5 miles.

d. At a point about 2.5 miles east of the L-31N Canal the width of the right-of-way expands in a triangular fashion to allow enough flexibility for the final Transmission Line right-of-way to transition through the Bird Drive Basin area toward the Pennsuco wetlands north of Tamiami Trail.

e. At Tamiami Trail, the alternate corridor expands to a width of approximately one mile from a point just above Tamiami Trail to the north boundary of Government Lot 5. From the north Boundary of G.L. 5, the corridor would be reduced to a width of 600 feet and proceed north along the alignment of the Dade-Broward Levee to intersect with the West Preferred Corridor.

f. For sections south of Tamiami Trail access to the MDLPA AC-A would be through existing public roadways and access roads constructed by FPL within the boundary of the proposed alternate corridors.

g. There are two access corridors proposed for the section north of Tamiami Trail. One corridor extends from the northwest corner of Government Lot 4 to N.W. 137th Avenue. It is two hundred feet wide with one hundred feet extending on each side of the north section line of Government Lots 3 and 4.

h. The second proposed MDLPA access corridor extends south from the northwest corner of Government Lot 4 to the north bank of the C-4 Canal. It is two hundred feet wide with one hundred feet extending on each side of the west section line of Government Lot 4. From that point, it narrows to one hundred feet in width and extends to the west to include the bridge over the C-4 Canal at the entrance to the Trail Glades Shooting Range.

The AC-B Alignment:

a. Follows FPL's West Preferred Corridor until it reaches a point roughly six miles south of Tamiami Trail.

b. Beginning at a point approximately 6 miles south of Tamiami Trail, the AC-B corridor turn to the east until it reaches Krome Avenue. Once reaching Krome Avenue the corridor turns to the north with variable width until it reaches Kendall Drive.

b. From Kendall Drive the corridor moves to the west side of Krome Avenue for approximately 0.75 miles north of Kendall Drive.

c. At a point about 0.75 miles north of Kendall Drive the corridor crosses Krome Avenue and expands in width, proceeding in a roughly southwest to northeast direction through the Bird Drive Basin area until it reaches Tamiami Trail. The width of the corridor expands in an irregular fashion to allow enough flexibility for the final Transmission Line right-of-way to transition through the Bird Drive Basin area toward the Pennsuco wetlands north of Tamiami Trail.

d. At Tamiami Trail the alternate corridor expands to a width of approximately one mile from a point just above Tamiami Trail to the north boundary of Government Lot 5. From the north Boundary of G.L. 5 the corridor would be reduced to a width of 600 feet and proceed north along the alignment of the Dade-Broward Levee to intersect with the preferred corridor.

e. For sections south of Tamiami Trail, access to the MDLPA AC-B would be through existing public roadways and access roads constructed by FPL within the boundary of the proposed alternate corridors.

f. There are two access corridors proposed for the section north of Tamiami Trail. One corridor extends from the northwest corner of Government Lot 4 to N.W. 137th Avenue. It is two hundred feet wide with one hundred feet extending on each side of the north section line of Government Lots 3 and 4.

g. The second proposed MDLPA access corridor extends south from the northwest corner of Government Lot 4 to the north bank of the C-4 Canal. It is two hundred feet wide with one hundred feet extending on each side of the west section line of Government Lot 4. From that point it narrows to one hundred feet in width and extends to the west to include the bridge over the C-4 Canal at the entrance to the Trail Glades Shooting Range.

3. Reasons for Approving One of the Proposed Alternate Corridors. The MDLPA is a non-profit association of limestone mining and processing companies located in the Lake Belt area of western Miami-Dade County. To offset the wetland impacts associated with mining, the mining companies, in cooperation with the State of Florida, the U.S. Army Corps of Engineers, the South Florida Water Management District and Miami-Dade County have committed to a long term program of acquisition and restoration of the Pennsuco wetlands. The reasons that one of the MDLPA Alternate Corridors should be certified include:

a. FPL's West Preferred Corridor crosses near the middle of the Pennsuco wetland through better habitat than in either of the additional proposed MDLPA Alternate Corridors. Moving the Transmission Lines through the Bird Drive Basin to the south of Tamiami Trail leaves the majority of the Pennsuco wetland intact as a single continuous wetland with the best prospects for full restoration of wetland value and wildlife habitat.

b. The West Preferred Corridor proceeds along the eastern border of Everglades National Park and Water Conservation Area-3B just east of several wading bird rookeries. The MDLPA Alternate Corridors A and B would provide the opportunity to locate this section of the Transmission Line several miles to the east depending on the final

alignment chosen. This site is likely to reduce any risk to wading birds that might utilize the Pennsuco wetlands.

c. The West Preferred Corridor segment along the boundary of ENP and WCA-3B on the west side of the L-31N and the L-30 Levee is located in more valuable habitat than the proposed MDLPA additional alternate corridors located to the east. The West Preferred Corridor is contiguous with thousands of acres of Everglades marsh. The MDLPA alternate corridors would remove the transmission lines entirely from WCA-3B and, depending upon the final alignment chosen, greatly reduce the length of the corridor adjacent to ENP.

WHEREFORE, the Miami-Dade Limestone Products Association requests that one or both of the MDLPA Alternate Corridors proposed above be accepted for consideration in this certification proceeding, together with such other relief as the Administrative Law Judge deems appropriate.

Respectfully submitted on behalf of the MDLPA this 10th day of December, 2012, by

GREENBERG TRAURIG, P.A.
Counsel for Miami-Dade Limestone Products Association
333 Avenue of the Americas
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Tel: (305) 579-0772
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By: _____
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Certificate of Service

I certify that I have served a true and correct copy of the foregoing via electronic mail this 10 day of December, 2012, to the following:

By: _____
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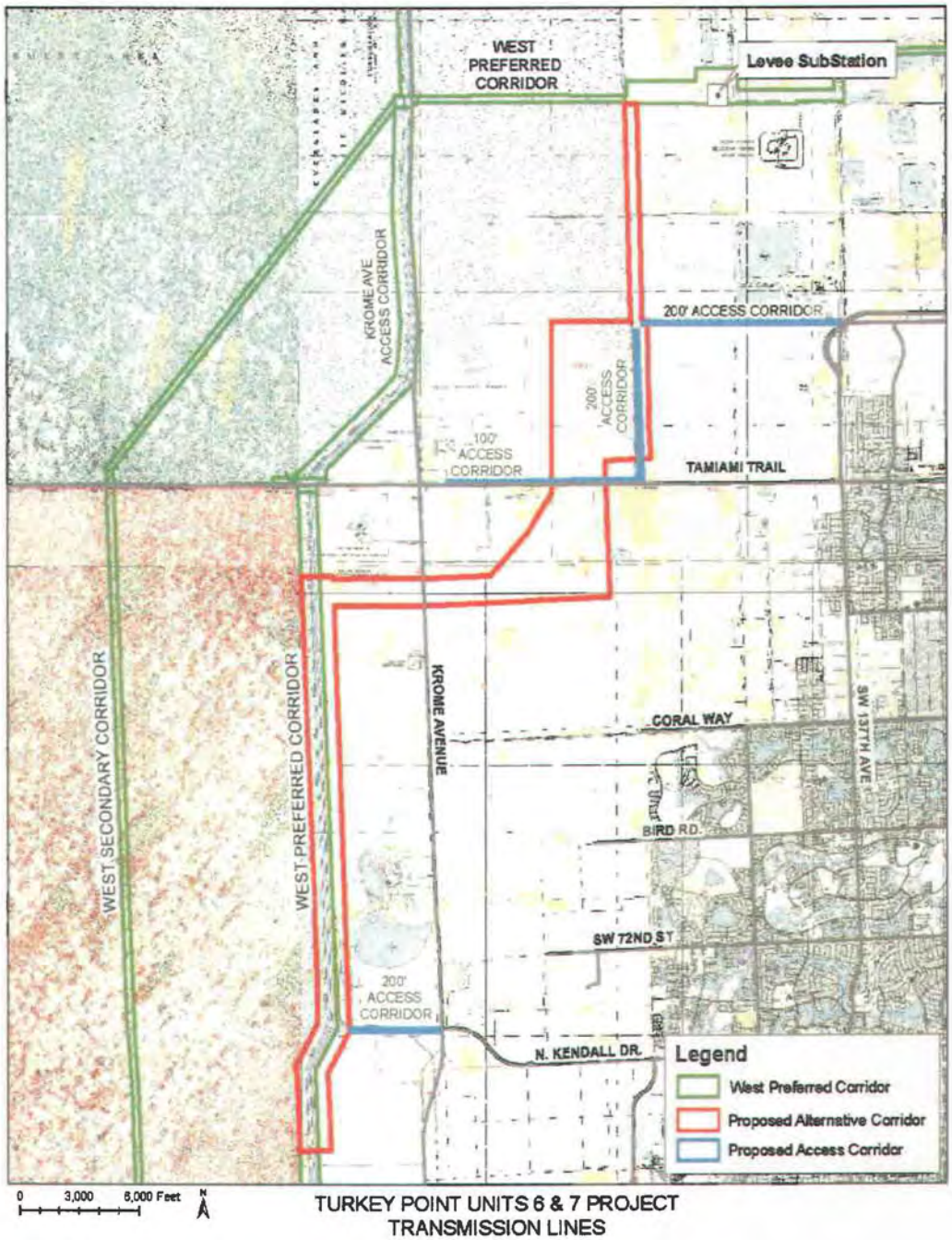

Figure 1. Detailed view of the Alternate Transmission Line Corridor (AC-A), including access corridors proposed by the MDLPA.

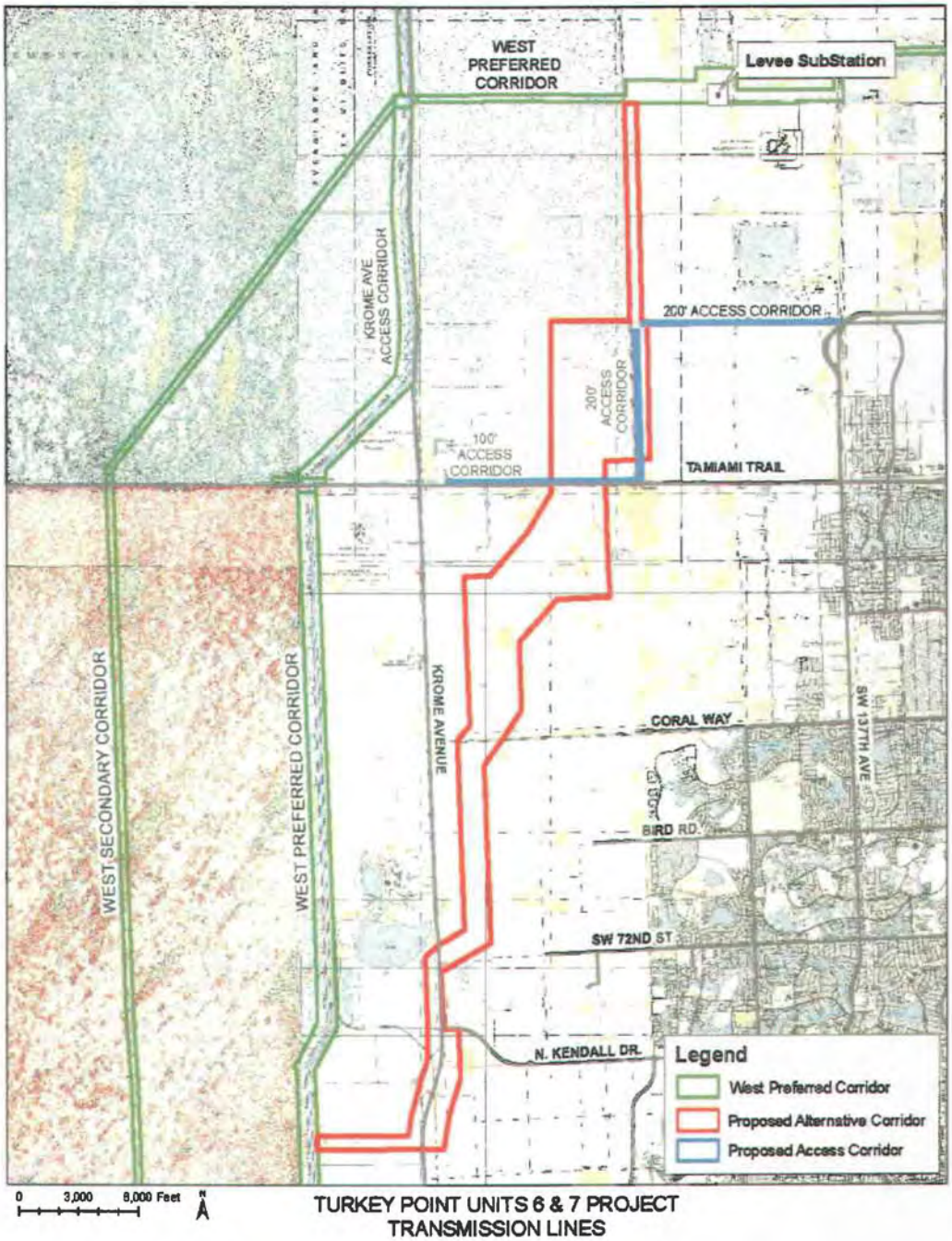

Figure 2. Detailed view of the Alternate Transmission Line Corridor (AC-B), including access corridor proposed by the MDLPA.

National Park Service
U.S. Department of the Interior

Everglades National Park
Florida

Acquisition of Florida Power & Light Company Land in the East Everglades Expansion Area Final Environmental Impact Statement

Volume Two

November 2015

Appendices

APPENDIX E: CONSULTATION LETTERS

United States Department of the Interior

NATIONAL PARK SERVICE
Everglades & Dry Tortugas National Park
40001 State Road 9336
Homestead FL 33034

IN REPLY REFER TO:

L7621

June 8, 2011

Eric Hughes
Everglades Restoration Plan Coordinator
U.S. Environmental Protection Agency
Ecosystem Restoration Branch
P.O. Box 4970
Jacksonville, Florida 32232

Subject: Request for Participation in the Scoping Process for the Acquisition of Florida Power and Light Company Land in the East Everglades Expansion Area Environmental Impact Statement

Dear Mr. Hughes:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The NPS is currently seeking information from agencies, individuals and organizations likely to have knowledge of, or concerns with, issues relating to the proposed land acquisition's potential effects on the environment.

The Everglades National Park Protection and Expansion Act of 1989 expanded the boundaries of the Park in order to "increase the level of protection and outstanding natural values of the Park" and "to enhance and restore the ecological values, natural values and public enjoyment of the area." To date, the park has expanded by 109,600 acres in the Expansion Area. The Expansion Act, and additional legislation, authorized the NPS and U.S. Army Corps of Engineers to acquire lands within the Expansion Area and to modify the Central and Southern Florida Project to restore natural hydrological conditions in the Park.

FPL owns about 320 acres within the Expansion Area. Because the FPL property is currently undeveloped and is needed for restoration of the Everglades ecosystem, the NPS is seeking to acquire the

FPL property, manage it as part of the Park, and maintain it in its undeveloped condition. FPL is currently seeking state and federal permits to construct three major transmission lines on its existing property in the

Park or on the proposed exchange corridor within the Park, authorized by the Omnibus Public Land Management Act of 2009.

You may recall that the NPS began an Environmental Assessment (EA) for the proposed FPL land acquisition in June 2009. During evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts on Park resources was identified. In light of these concerns, the NPS has initiated this EIS process to more fully examine the potential impacts of land acquisition alternatives.

A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on May 26, 2011. A Scoping Newsletter with detailed project information is attached. The NOI and newsletter initiate the scoping process to identify issues or concerns regarding the potential land acquisition in the Park.

As part of this process, I would like to invite you or your staff to attend an agency scoping meeting on Tuesday, June 21, 2011. The meeting will be held from 1:00 – 4:30 p.m. at the Miami-Dade County Department of Environmental Resources Management main building located at:

Overtown Transit Village North
701 NW 1st Court
2nd floor conference room
Miami, FL 33136

The National Park Service is hosting this meeting as part of its responsibilities for preparing the EIS. The Department of Environmental Resources Management is providing a meeting location that will be convenient for participants coming from out of town. Directions and a map are provided at this link: http://www.miamidade.gov/derm/directions_downtown.asp. The building is located adjacent to the Historic Overtown/Lyric Theatre Metrorail station, which is one station north of the Government Center stop. For those driving, there is a City of Miami parking lot immediately west of the building.

During this meeting, you are invited to identify any issues or concerns your agency might have with the proposed project so that the NPS can appropriately consider them in the EIS. The following telephone call-in number is available for those who are unable to attend in person:

Dial-in phone #: 1-877-873-8018
Pass code: 8910744#

Please respond by June 15th with your availability to participate in-person or by teleconference to Mr. Fred Herling at 305-242-7704 or by e-mail at fred_herling@nps.gov.

The NPS will also hold a public scoping meeting on June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. This meeting will provide an opportunity for members of the public to meet and talk with Park staff, learn more about the project and provide comments. You and your staff are invited to attend the public meeting.

Please provide any information, comments, or concerns you feel are appropriate on the scope of the Environmental Impact Statement during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the National Park Service's Planning, Environment, and Public Comment website at:
http://parkplanning.nps.gov/projectHome.cfm?projectID=37220

Comments may also be submitted by mail to:

National Park Service
Denver Service Center – Planning Division
Attn: FPL Project Planning Team
P.O. Box 25287
12795 West Alameda Parkway
Denver, CO 80225-0287

Agency and public comments submitted during scoping for the EA in 2009 will be carried forward to this project and considered as part of scoping for this EIS. Anyone who commented on the EA is welcome to provide new, additional comments during the scoping comment period for this EIS.

If you have any questions concerning the EIS and the scoping process, please contact Mr. Brien Culhane, Chief, Planning and Compliance at 305-242-7717 or by e-mail at brien_culhane@nps.gov. In his absence, please contact Mr. Fred Herling at 305-242-7704 or by email at fred_herling@nps.gov.

Thank you for your continued interest in Everglades National Park. We look forward to hearing from you.

Sincerely,

Dan B. Kimball
Superintendent

United States Department of the Interior

NATIONAL PARK SERVICE
Everglades & Dry Tortugas National Park
40001 State Road 9336
Homestead FL 33034

IN REPLY REFER TO:

L7621

June 8, 2011

U.S. Army Corps of Engineers
Attn: Stuart Appelbaum
Everglades Restoration Program Manager
Jacksonville District
701 San Marco Blvd.
Jacksonville, Florida 32207-8174

Subject: Request for Participation in the Scoping Process for the Acquisition of Florida Power and Light Company Land in the East Everglades Expansion Area Environmental Impact Statement

Dear Mr. Appelbaum:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The NPS is currently seeking information from agencies, individuals and organizations likely to have knowledge of, or concerns with, issues relating to the proposed land acquisition's potential effects on the environment.

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Please provide any information, comments, or concerns you feel are appropriate on the scope of the Environmental Impact Statement during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the National Park Service's Planning, Environment, and Public Comment website at:
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National Park Service
Denver Service Center – Planning Division
Attn: FPL Project Planning Team
P.O. Box 25287
12795 West Alameda Parkway
Denver, CO 80225-0287

Agency and public comments submitted during scoping for the EA in 2009 will be carried forward to this project and considered as part of scoping for this EIS. Anyone who commented on the EA is welcome to provide new, additional comments during the scoping comment period for this EIS.

If you have any questions concerning the EIS and the scoping process, please contact Mr. Brien Culhane, Chief, Planning and Compliance at 305-242-7717 or by e-mail at brien_culhane@nps.gov. In his absence, please contact Mr. Fred Herling at 305-242-7704 or by email at fred_herling@nps.gov.

Thank you for your continued interest in Everglades National Park. We look forward to hearing from you.

Sincerely,

Dan B. Kimball
Superintendent

United States Department of the Interior

NATIONAL PARK SERVICE
Everglades & Dry Tortugas National Park
40001 State Road 9336
Homestead FL 33034

IN REPLY REFER TO:

L7621

June 8, 2011

U.S. Army Corps of Engineers
Attn: Megan Clouser
Senior Project Manager
Miami Permitting Station
9900 SW 107th Ave., Suite 203
Miami, Florida 33176-2785

Subject: Request for Participation in the Scoping Process for the Acquisition of Florida Power and Light Company Land in the East Everglades Expansion Area Environmental Impact Statement

Dear Ms. Clouser:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The NPS is currently seeking information from agencies, individuals and organizations likely to have knowledge of, or concerns with, issues relating to the proposed land acquisition's potential effects on the environment.

The Everglades National Park Protection and Expansion Act of 1989 expanded the boundaries of the Park in order to "increase the level of protection and outstanding natural values of the Park" and "to enhance and restore the ecological values, natural values and public enjoyment of the area." To date, the park has expanded by 109,600 acres in the Expansion Area. The Expansion Act, and additional legislation, authorized the NPS and U.S. Army Corps of Engineers to acquire lands within the Expansion Area and to modify the Central and Southern Florida Project to restore natural hydrological conditions in the Park.

FPL owns about 320 acres within the Expansion Area. Because the FPL property is currently undeveloped and is needed for restoration of the Everglades ecosystem, the NPS is seeking to acquire the

FPL property, manage it as part of the Park, and maintain it in its undeveloped condition. FPL is currently seeking state and federal permits to construct three major transmission lines on its existing property in the

Park or on the proposed exchange corridor within the Park, authorized by the Omnibus Public Land Management Act of 2009.

You may recall that the NPS began an Environmental Assessment (EA) for the proposed FPL land acquisition in June 2009. During evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts on Park resources was identified. In light of these concerns, the NPS has initiated this EIS process to more fully examine the potential impacts of land acquisition alternatives.

A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on May 26, 2011. A Scoping Newsletter with detailed project information is attached. The NOI and newsletter initiate the scoping process to identify issues or concerns regarding the potential land acquisition in the Park.

As part of this process, I would like to invite you or your staff to attend an agency scoping meeting on Tuesday, June 21, 2011. The meeting will be held from 1:00 – 4:30 p.m. at the Miami-Dade County Department of Environmental Resources Management main building located at:

Overtown Transit Village North
701 NW 1st Court
2nd floor conference room
Miami, FL 33136

The National Park Service is hosting this meeting as part of its responsibilities for preparing the EIS. The Department of Environmental Resources Management is providing a meeting location that will be convenient for participants coming from out of town. Directions and a map are provided at this link: http://www.miamidade.gov/derm/directions_downtown.asp. The building is located adjacent to the Historic Overtown/Lyric Theatre Metrorail station, which is one station north of the Government Center stop. For those driving, there is a City of Miami parking lot immediately west of the building.

During this meeting, you are invited to identify any issues or concerns your agency might have with the proposed project so that the NPS can appropriately consider them in the EIS. The following telephone call-in number is available for those who are unable to attend in person:

Dial-in phone #: 1-877-873-8018
Pass code: 8910744#

Please respond by June 15th with your availability to participate in-person or by teleconference to Mr. Fred Herling at 305-242-7704 or by e-mail at fred_herling@nps.gov.

The NPS will also hold a public scoping meeting on June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. This meeting will provide an opportunity for members of the public to meet and talk with Park staff, learn more about the project and provide comments. You and your staff are invited to attend the public meeting.

Please provide any information, comments, or concerns you feel are appropriate on the scope of the Environmental Impact Statement during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the National Park Service's Planning, Environment, and Public Comment website at:
http://parkplanning.nps.gov/projectHome.cfm?projectID=37220

Comments may also be submitted by mail to:

United States Department of the Interior

NATIONAL PARK SERVICE
Everglades & Dry Tortugas National Park
40001 State Road 9336
Homestead FL 33034

IN REPLY REFER TO:

L7621

June 8, 2011

Heinz Mueller, Chief
NEPA Program Office
U.S. Environmental Protection Agency
Region 4 – Atlanta Federal Center
61 Forsyth St., SW
Atlanta, Georgia 30303

Subject: Request for Participation in the Scoping Process for the Acquisition of Florida Power and Light Company Land in the East Everglades Expansion Area Environmental Impact Statement

Dear Mr. Mueller:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The NPS is currently seeking information from agencies, individuals and organizations likely to have knowledge of, or concerns with, issues relating to the proposed land acquisition's potential effects on the environment.

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FPL property, manage it as part of the Park, and maintain it in its undeveloped condition. FPL is currently seeking state and federal permits to construct three major transmission lines on its existing property in the Park or on the proposed exchange corridor within the Park, authorized by the Omnibus Public Land Management Act of 2009.

You may recall that the NPS began an Environmental Assessment (EA) for the proposed FPL land acquisition in June 2009. During evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts on Park resources was identified. In light of these concerns, the NPS has initiated this EIS process to more fully examine the potential impacts of land acquisition alternatives.

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Pass code: 8910744#

Please respond by June 15th with your availability to participate in-person or by teleconference to Mr. Fred Herling at 305-242-7704 or by e-mail at fred_herling@nps.gov.

The NPS will also hold a public scoping meeting on June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. This meeting will provide an opportunity for members of the public to meet and talk with Park staff, learn more about the project and provide comments. You and your staff are invited to attend the public meeting.

Please provide any information, comments, or concerns you feel are appropriate on the scope of the Environmental Impact Statement during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the National Park Service's Planning, Environment, and Public Comment website at:
http://parkplanning.nps.gov/projectHome.cfm?projectID=37220

Comments may also be submitted by mail to:

National Park Service
Denver Service Center – Planning Division
Attn: FPL Project Planning Team
P.O. Box 25287
12795 West Alameda Parkway
Denver, CO 80225-0287

Agency and public comments submitted during scoping for the EA in 2009 will be carried forward to this project and considered as part of scoping for this EIS. Anyone who commented on the EA is welcome to provide new, additional comments during the scoping comment period for this EIS.

If you have any questions concerning the EIS and the scoping process, please contact Mr. Brien Culhane, Chief, Planning and Compliance at 305-242-7717 or by e-mail at brien_culhane@nps.gov. In his absence, please contact Mr. Fred Herling at 305-242-7704 or by email at fred_herling@nps.gov.

Thank you for your continued interest in Everglades National Park. We look forward to hearing from you.

Sincerely,

Dan B. Kimball
Superintendent

United States Department of the Interior
NATIONAL PARK SERVICE

Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:
L7621

JUN 08 2011

Mr. Reid Nelson, Director
Office of Federal Agency Programs
Old Post Office Building
1100 Pennsylvania Avenue, NW, Suite 803
Washington, DC 20004

Subject: Section 106 Compliance, Acquisition of Florida Power and Light Lands/Environmental Impact Statement, Everglades National Park, Miami-Dade County, Florida

Dear Mr. Nelson:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

The process and documentation for preparing the EIS will be used to comply with §106 of the National Historic Preservation Act of 1966. In accordance with section 800.8(c) of the Advisory Council on Historic Preservation's regulations (36 CFR Part 800), I am notifying your office in advance of the Park's intention to use the EIS to meet its obligations under §106.

I have enclosed a scoping newsletter with additional information about the project. As required by 36 CFR 800, the Florida State Historic Preservation Office has been notified regarding inclusion of Section 106 compliance within the environmental assessment process.

Please provide any information, comments, or concerns you feel should be considered in the EIS during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the NPS Planning, Environment, and Public Comment website or at the mailing address below: http://parkplanning.nps.gov/projectHome.cfm?projectID=37220

NPS, Denver Service Center – Planning Division

Attn: FPL Project Planning Team
P.O. Box 25287
12795 West Alameda Parkway
Denver, CO 80225-0287

If you have questions or need any additional information, please do not hesitate to contact Brien Culhane, Chief of Planning and Compliance, at 305-242-7717 or brien_culhane@nps.gov.

Sincerely,

Dan B. Kimball
Superintendent

Enclosure

United States Department of the Interior

NATIONAL PARK SERVICE
Everglades & Dry Tortugas National Park
40001 State Road 9336
Homestead FL 33034

IN REPLY REFER TO:

L7621

June 8, 2011

U.S. Fish & Wildlife Service
Attn: Bob Progulske
Assistant Field Supervisor
Everglades Restoration Program
1339 20th Street
Vero Beach, Florida 32960-3559

Subject: Request for Participation in the Scoping Process for the Acquisition of Florida Power and Light Company Land in the East Everglades Expansion Area Environmental Impact Statement

Dear Mr. Progulske:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The NPS is currently seeking information from agencies, individuals and organizations likely to have knowledge of, or concerns with, issues relating to the proposed land acquisition's potential effects on the environment.

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Park or on the proposed exchange corridor within the Park, authorized by the Omnibus Public Land Management Act of 2009.

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Overtown Transit Village North
701 NW 1st Court
2nd floor conference room
Miami, FL 33136

The National Park Service is hosting this meeting as part of its responsibilities for preparing the EIS. The Department of Environmental Resources Management is providing a meeting location that will be convenient for participants coming from out of town. Directions and a map are provided at this link: http://www.miamidade.gov/derm/directions_downtown.asp. The building is located adjacent to the Historic Overtown/Lyric Theatre Metrorail station, which is one station north of the Government Center stop. For those driving, there is a City of Miami parking lot immediately west of the building.

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Pass code: 8910744#

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National Park Service
Denver Service Center – Planning Division
Attn: FPL Project Planning Team
P.O. Box 25287
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Sincerely,

Dan B. Kimball

Dan B. Kimball
Superintendent

United States Department of the Interior

NATIONAL PARK SERVICE
Everglades & Dry Tortugas National Park
40001 State Road 9336
Homestead FL 33034

IN REPLY REFER TO:

L7621

June 8, 2011

South Florida Water Management District
Attn: James Golden, AICP
Senior Planner
3301 Gun Club Road
West Palm Beach, Florida 33406

Subject: Request for Participation in the Scoping Process for the Acquisition of Florida Power and Light Company Land in the East Everglades Expansion Area Environmental Impact Statement

Dear Mr. Golden:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The NPS is currently seeking information from agencies, individuals and organizations likely to have knowledge of, or concerns with, issues relating to the proposed land acquisition's potential effects on the environment.

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Denver Service Center – Planning Division
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Thank you for your continued interest in Everglades National Park. We look forward to hearing from you.

Sincerely,

Dan B. Kimball
Superintendent

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 13 2011

The Honorable Bill Nelson
United States Senate
2925 Salzedo Street
Coral Gables, Florida 33134

Dear ~~Senator Nelson~~: SENATOR

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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A Scoping Newsletter with detailed project information is enclosed to provide additional background and information about the project. In addition, a public meeting will be held on Wednesday June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. The address is: 11200 SW 8th Street, Miami, Florida 33199. This meeting will provide an opportunity for members of the public to meet and talk with Park staff, learn more about the project, and provide comments. Additional project information can be viewed or downloaded from the NPS Planning, Environment and Public Comment (PEPC) site at: http://parkplanning.nps.gov/projectHome.cfm?projectID=37220

I would like to invite you to participate during the scoping process, or designate a member from your staff to participate. Additionally, if you would like to discuss this project in more detail, please contact my office at Everglades National Park at 305-242-7710.

Should you or your staff have other questions or need additional information, please contact Brien Culhane, Chief, Planning and Compliance at 305-242-7717 or brien_culhane@nps.gov.

Sincerely,

Dan B. Kimball
Superintendent

Enclosure

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 13 2011

The Honorable Marco Rubio
United States Senate
8669 NW 36th Street, Suite 110
Doral, Florida 33166

Dear Senator Rubio:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Sincerely,

Dan B. Kimball
Superintendent

Enclosure

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 13 2011

The Honorable David Rivera
House of Representatives
12851 SW 42nd Street, Suite 131
Miami, Florida 33175

Dear ~~Mr. Rivera~~: Congressman

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

You may recall that in June 2009, the NPS began an Environmental Assessment (EA) for the proposed FPL land acquisition. During evaluation of impacts likely to result from transmission line construction and operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts on Park resources was identified. As such, a decision was made to initiate this EIS process. A Federal Register Notice of Intent to prepare an EIS was published on May 26, 2011.

A Scoping Newsletter with detailed project information is enclosed to provide additional background and information about the project. In addition, a public meeting will be held on Wednesday June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. The address is: 11200 SW 8th Street, Miami, Florida 33199. This meeting will provide an opportunity for members of the public to meet and talk with Park staff, learn more about the project, and provide comments. Additional project information can be viewed or downloaded from the NPS Planning, Environment and Public Comment (PEPC) site at: http://parkplanning.nps.gov/projectHome.cfm?projectID=37220

I would like to invite you to participate during the scoping process, or designate a member from your staff to participate. Additionally, if you would like to discuss this project in more detail, please contact my office at Everglades National Park at 305-242-7710.

Should you or your staff have other questions or need additional information, please contact Brien Culhane, Chief, Planning and Compliance at 305-242-7717 or brien_culhane@nps.gov.

Sincerely,

Dan B. Kimball
Superintendent

Enclosure

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 13 2011

The Honorable Ileana Ros-Lehtinen
House of Representatives
4960 SW 72nd Ave., Suite 208
Miami, Florida 33155

Dear Ms. Ros-Lehtinen:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Sincerely,

Dan B. Kimball
Superintendent

Enclosure

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 13 2011

The Honorable Larcenia Bullard
United States Senate
Senate District 39
8603 S Dixie Hwy, Suite 304
Miami, Florida 33143

Dear Senator Bullard:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Sincerely,

Dan B. Kimball
Superintendent

Enclosure

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 13 2011

The Honorable Nan Rich
United States Senate
Senate District 34
777 Sunrise Corporate Parkway
Sunrise, Florida 33325

Dear Senator Rich :

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Sincerely,

Dan B. Kimball
Superintendent

Enclosure

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 13 2011

The Honorable Ron Saunders
House of Representatives
House District 120
90311 Overseas Hwy., Suite A
Tavernier, Florida 33070

Dear Mr. Saunders:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Sincerely,

Dan B. Kimball
Superintendent

Enclosure

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 13 2011

The Honorable Jeanette Nunez
House of Representatives
House District 112
2450 SW 137th Ave., Suite 205
Miami, Florida 33175

Dear Ms. Nunez:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Should you or your staff have other questions or need additional information, please contact Brien Culhane, Chief, Planning and Compliance at 305-242-7717 or brien_culhane@nps.gov.

Sincerely,

Dan B. Kimball
Superintendent

Enclosure

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 13 2011

Honorable Steve C. Bateman
Mayor of Homestead
790 N Homestead Boulevard
Homestead, Florida 33030

Dear Mayor ~~Bateman~~: MAYOR -

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Should you or your staff have other questions or need additional information, please contact Brien Culhane, Chief, Planning and Compliance at 305-242-7717 or brien_culhane@nps.gov.

Sincerely,

Dan B. Kimball
Superintendent

Enclosure

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 13 2011

Honorable Otis T. Wallace
Mayor of Florida City
404 West Palm Drive
Florida City, Florida 33034

Dear ~~Mayor Wallace~~: MAYOR

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Sincerely,

Dan B. Kimball
Superintendent

Enclosure

United States Department of the Interior
NATIONAL PARK SERVICE

Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:
L7621

June 8, 2011

Ms. Lauren Milligan
Florida State Clearinghouse Coordinator
Florida Department of Environmental Protection
3900 Commonwealth Blvd., Mail Station 47
Tallahassee, FL 32399-3000

Dear Ms. Milligan:

Subject: Proposed Acquisition of Florida Power and Light Lands/Environmental Impact Statement, Everglades National Park, Miami-Dade County

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

You may recall that in June 2009 the NPS began an Environmental Assessment (EA) for the proposed FPL land acquisition. During evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts on Park resources was identified. Thus, a decision was made to initiate the EIS process. A Federal Register Notice of Intent to prepare an EIS was published on May 26, 2011.

A Scoping Newsletter with detailed project information is enclosed to assist with the State's review. The newsletter is provided to your office for processing through appropriate State agencies. Although more specific comments will be solicited during the public review period for the draft EIS, we request that permitting and permit reviewing agencies review the enclosed information and provide any general comments they consider pertinent at this time. In addition, please provide a consistency review for this project in accordance with the State's Coastal Zone Management Program and the approved Comprehensive Plan of the local government jurisdictions.

We look forward to receiving your comments. Should you need additional information, please contact Brien Culhane, Chief, Planning and Compliance at 305-242-7717, or by email at brien_culhane@nps.gov.

Everglades National Park
Attn: Brien Culhane, Acquisition of FPL Lands/EIS
40001 State Road 9336
Homestead, Florida 33034

Sincerely,

Dan B. Kimball, Superintendent

Enclosure

Florida Department of
Environmental Protection
Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

July 25, 2011

Mr. Brien F. Culhane, AICP
Chief of Planning and Compliance
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, FL 33034

RE: National Park Service – Scoping Notice – Proposed Acquisition of Florida Power & Light Company Lands in the East Everglades Addition of Everglades National Park – Miami-Dade County, Florida. SAI # FL201106215826C (Reference SAI # FL200906304829C)

Dear Mr. Culhane:

The Florida State Clearinghouse has coordinated a review of the scoping notice under the following authorities: Presidential Executive Order 12372; Section 403.061(42), *Florida Statutes*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

The Florida Department of State's (DOS) review of their records indicated that in 2009, Florida Power & Light completed an archaeological survey of the six-mile long potential exchange corridor, and no archaeological resources were identified. If this is the same corridor to be addressed in the Draft EIS, there should be no cultural resources of concern. If, however, the proposed corridor is different than that previously surveyed, additional archaeological/cultural resource surveys may be warranted. Please refer to the enclosed DOS letter for additional information.

The South Florida Water Management District (SFWMD) reports that the SFWMD Governing Board approved the proposed land exchange in August 2008, under Resolution # 2008-640.

Based on the information contained in the public notice and enclosed state agency comments, at this stage, the state has no objections to the proposed federal action. To ensure the project's consistency with the Florida Coastal Management Program (FCMP), the concerns identified by our reviewing agencies must be addressed prior to project implementation. The state's continued concurrence will be based on the activity's compliance with FCMP authorities, including federal and state monitoring of the activity

to ensure its continued conformance, and the adequate resolution of any issues identified during this and subsequent reviews.

Thank you for the opportunity to review the proposal. Should you have any questions regarding this letter, please contact Ms. Lauren P. Milligan at (850) 245-2170.

Yours sincerely,

Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/lm
Enclosures

cc: Laura Kammerer, DOS
Jim Golden, SFWMD

Project Information	
Project:	FL201106215826C
Comments Due:	07/15/2011
Letter Due:	07/25/2011
Description:	NATIONAL PARK SERVICE - SCOPING NOTICE - PROPOSED ACQUISITION OF FLORIDA POWER & LIGHT COMPANY LANDS IN THE EAST EVERGLADES ADDITION OF EVERGLADES NATIONAL PARK - MIAMI-DADE COUNTY, FLORIDA.
Keywords:	NPS - ACQUIRE FP&L LANDS IN EAST EVERGLADES NATIONAL PARK - MIAMI-DADE CO.
CFDA #:	15.916

Agency Comments:

FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

No comments at this time. Will review again when the draft EIS is made available.

STATE - FLORIDA DEPARTMENT OF STATE

The DOS's review of their records indicated that in 2009, Florida Power & Light completed an archaeological survey of the six-mile long potential exchange corridor, and no archaeological resources were identified. If this is the same corridor to be addressed in the Draft EIS, there should be no cultural resources of concern. If, however, the proposed corridor is different than that previously surveyed, additional archaeological/cultural resource surveys may be warranted.

TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION

No Comments from FDOT District Six

ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

No comments at this time.

SOUTH FLORIDA WMD - SOUTH FLORIDA WATER MANAGEMENT DISTRICT

The South Florida Water Management District Governing Board approved the proposed land exchange in August 2008, under Resolution # 2008-640.

For more information or to submit comments, please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD, M.S. 47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
FAX: (850) 245-2190

Visit the Clearinghouse Home Page to query other projects.

FLORIDA DEPARTMENT OF STATE
Kurt S. Browning
Secretary of State
DIVISION OF HISTORICAL RESOURCES

July 11, 2011

RECEIVED
JUL 14 2011
DEP Office of
Intergovt'l Programs

Ms. Lauren Milligan
Florida State Clearinghouse
Agency Contact & Coordinator (SCH)
3900 Commonwealth Blvd. MS-47
Tallahassee, FL 32399-3000

Re: SHPO/DHR Project File No.: 2011-2447 / NPS L7621
SAI No.: FL201106215826C
Initiation of Environmental Impact Statement – Florida Power & Light Company Land Acquisition Options within the East Everglades Expansion Area
Scoping Newsletter
Everglades National Park - Miami-Dade County

Dear Ms. Milligan:

This office reviewed the referenced scoping notice and our files to identify issues for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*, that should be addressed in the forthcoming Environmental Impact Statement (EIS) directly with the National Park Service. Our review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966* as amended and with the National Environmental Policy Act (NEPA) and their implementing regulations.

A review of our records and data files indicates that in 2009 the Florida Power & Light completed an archaeological survey (conducted by New South Associates) of the six-mile long potential exchange corridor. No archaeological resources were identified. If this is the entire corridor within the expansion area to be addressed in the referenced EIS, there should be no cultural resources of concern to be addressed. However, if the corridor is different in location or extent, or the proposed EIS includes an alignment(s) outside the Everglades additional archaeological/cultural resource surveys may be warranted. The actions taken by the National Park Service will be consistent with NEPA and federal consistency requirements.

If you have any questions concerning our comments, please contact Laura Kammerer at 850-245-6333 or Laura.Kammerer@DOS.MyFlorida.com. Thank you for your continued interest in protecting Florida's historic properties.

Sincerely,

Laura A. Kammerer

Laura A. Kammerer
Deputy State Historic Preservation Officer

500 S. Bronough Street • Tallahassee, FL 32399-0250 • http://www.flheritage.com

☐ Director's Office (850) 245-6300 • FAX: 245-6436
☐ Archaeological Research (850) 245-6444 • FAX: 245-6452
✓ Historic Preservation (850) 245-6333 • FAX: 245-6437

United States Department of the Interior
NATIONAL PARK SERVICE

Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:
L7621

JUN 08 2011

Mr. Scott Stroh
State Historic Preservation Officer
Division of Historical Resources
R.A. Gray Building
500 S. Bronough Street
Tallahassee, Florida 32399-0250

Dear Mr. Stroh:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

The process and documentation for preparing the EIS will be used to comply with §106 of the National Historic Preservation Act of 1966. In accordance with section 800.8(c) of the Advisory Council on Historic Preservation's regulations (36 CFR Part 800), I am notifying your office in advance of the Park's intention to use the EIS to meet its obligations under §106.

I have enclosed a scoping newsletter with additional information about the project. Please provide any information, comments, or concerns you feel should be considered in the EIS during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the NPS Planning, Environment, and Public Comment website or by mail at the address below: http://parkplanning.nps.gov/projectHome.cfm?projectID=37220

NPS, Denver Service Center – Planning Division
Attn: FPL Project Planning Team
P.O. Box 25287
12795 West Alameda Parkway
Denver, CO 80225-0287

If you have questions or need any additional information, please do not hesitate to contact Brien Culhane, Chief of Planning and Compliance, at 305-242-7717 or brien_culhane@nps.gov.

Sincerely,

Dan B. Kimball
Superintendent

Enclosure

United States Department of the Interior
NATIONAL PARK SERVICE

Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:
L7621

JUN 08 2011

Mr. Reid Nelson, Director
Office of Federal Agency Programs
Old Post Office Building
1100 Pennsylvania Avenue, NW, Suite 803
Washington, DC 20004

Subject: Section 106 Compliance, Acquisition of Florida Power and Light Lands/Environmental Impact Statement, Everglades National Park, Miami-Dade County, Florida

Dear Mr. Nelson:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

The process and documentation for preparing the EIS will be used to comply with §106 of the National Historic Preservation Act of 1966. In accordance with section 800.8(c) of the Advisory Council on Historic Preservation's regulations (36 CFR Part 800), I am notifying your office in advance of the Park's intention to use the EIS to meet its obligations under §106.

I have enclosed a scoping newsletter with additional information about the project. As required by 36 CFR 800, the Florida State Historic Preservation Office has been notified regarding inclusion of Section 106 compliance within the environmental assessment process.

Please provide any information, comments, or concerns you feel should be considered in the EIS during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the NPS Planning, Environment, and Public Comment website or at the mailing address below: http://parkplanning.nps.gov/projectHome.cfm?projectID=37220

NPS, Denver Service Center – Planning Division

Attn: FPL Project Planning Team
P.O. Box 25287
12795 West Alameda Parkway
Denver, CO 80225-0287

If you have questions or need any additional information, please do not hesitate to contact Brien Culhane, Chief of Planning and Compliance, at 305-242-7717 or brien_culhane@nps.gov.

Sincerely,

Dan B. Kimball
Superintendent

Enclosure

Copy

REC'D
JUL 12 2011

Preserving America's Heritage

July 7, 2011

Mr. Dan B. Kimball
Superintendent
Everglades and Dry Tortugas National Parks
National Park Service
40001 State Road 9336
Homestead, Florida 33034

Ref: ***Proposed Acquisition of Florida Power and Light Lands***
Everglades National Park
Miami-Dade County, Florida

Dear Mr. Kimball:

On June 17, 2011, the Advisory Council on Historic Preservation (ACHP) received the National Park Service's (NPS') notification pursuant to Section 800.8(c) of the ACHP's regulations, "Protection of Historic Properties" (36 CFR 800). We appreciate receiving your notification, which establishes that NPS will use the process and documentation required for the preparation of an EIS/ROD to comply with Section 106 of the National Historic Preservation Act in lieu of the procedures set forth in 36 CFR 800.3 through 800.6.

In addition to notification to the ACHP, NPS must also notify the Florida State Historic Preservation Officer and meet the standards in Section 800.8(c)(1)(i) through (v) for the following:

- identify consulting parties either pursuant to 800.3(f) or through the NEPA scoping process with results consistent with § 800.3(f);
- identify historic properties and assess the effects of the undertaking on such properties in a manner consistent with the standards and criteria of § 800.4 through 800.5;
- consult regarding the effects of the undertaking on the qualifying characteristics of historic properties with the SHPO/THPO, Indian tribes, other consulting parties and the Council;
- involve the public; and
- develop in consultation with identified consulting parties alternatives and proposed measures that might avoid, minimize or mitigate any adverse effects of the undertaking on historic properties and describe them in the DEIS..

ADVISORY COUNCIL ON HISTORIC PRESERVATION
1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004
Phone: 202-606-8503 • Fax: 202-606-8647 • achp@achp.gov • www.achp.gov

To meet the requirement to consult with the ACHP as appropriate, the NPS should notify the ACHP in the event NPS determines, in consultation with the SHPO/THPO and other consulting parties, that the proposed undertaking(s) may adversely affect properties listed, or eligible for listing, on the National Register of Historic Places (historic properties). In addition, Section 800.8(c)(2)(i) requires that you submit to the ACHP any DEIS or EIS you prepare. Inclusion of your adverse effect determination in both the DEIS/EIS and in your cover letter transmitting the DEIS/EIS to the ACHP will help ensure a timely response from the ACHP regarding its decision to participate in consultation. Please indicate in your cover letter the schedule for Section 106 consultation and a date by which you require a response by the ACHP. The ACHP's decision to review a DEIS or EIS will be based on the applicability of the criteria in Appendix A of the ACHP's regulations.

Thank you for your notification pursuant to Section 800.8(c). If you have any questions or if we may be of assistance, please contact Katry Harris at 202-606-8520 or via e-mail at kharris@achp.gov.

Sincerely,

Caroline D. Hall
Assistant Director
Office of Federal Agency Programs
Federal Property Management Section

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orig to Abby

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JUL 14 2011

FLORIDA DEPARTMENT OF STATE
Kurt S. Browning
Secretary of State
DIVISION OF HISTORICAL RESOURCES

July 11, 2011

Mr. Dan B. Kimball
National Park Service
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, FL 33034

Re: SHPO/DHR Project File No.: 2011-2446 / NPS L7621
Initiation of Environmental Impact Statement – Florida Power & Light Company Land Acquisition Options within the East Everglades Expansion Area
Scoping Newsletter
Everglades National Park
Miami-Dade County

Dear Mr. Kimball:

This office reviewed the referenced scoping notice and our files to identify issues for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*, that should be addressed in the forthcoming Environmental Impact Statement (EIS). Our review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966* as amended and with the National Environmental Policy Act and their implementing regulations.

A review of our records and data files indicates that in 2009 the Florida Power & Light completed an archaeological survey (conducted by New South Associates) of the six-mile long potential exchange corridor. No archaeological resources were identified. If this is the entire corridor within the expansion area to be addressed in the referenced EIS, there should be no cultural resources of concern to be addressed. However, if the corridor is different in location or extent, or the proposed EIS includes an alignment(s) outside the Everglades additional archaeological/cultural resource surveys may be warranted.

If you have any questions concerning our comments, please contact Laura Kammerer at 850-245-6333 or Laura.Kammerer@DOS.MyFlorida.com. Thank you for your continued interest in protecting Florida's historic properties.

Sincerely,

Laura A. Kammerer

Laura A. Kammerer
Deputy State Historic Preservation Officer
For Review and Compliance

500 S. Bronough Street • Tallahassee, FL 32399-0250 • http://www.flheritage.com

☐ Director's Office
(850) 245-6300 • FAX: 245-6436

☐ Archaeological Research
(850) 245-6444 • FAX: 245-6452

✓ Historic Preservation
(850) 245-6333 • FAX: 245-6437

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks

40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 08 2011

Chairman Colley Billie
Miccosukee Tribe of Indians of Florida
P.O. Box 440021, Tamiami Station
Miami, Florida 33144

Dear Chairman Billie:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This includes the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of the EIS is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The process for preparing the EIS will be used to comply with §106 of the National Historic Preservation Act of 1966. With this letter Everglades National Park would like to initiate government-to-government consultation with the Miccosukee Tribe of Indians of Florida for this project.

From previous consultations, I know that the Miccosukee Tribe has delegated Section 106 compliance to Tribal representative Mr. Fred Dayhoff. Mr. Dayhoff and other Tribal representatives, identified to me recently by Dr. Terry Rice, have also been sent copies of this letter.

The Everglades National Park Protection and Expansion Act of 1989 expanded the boundaries of the Park in order to "increase the level of protection and outstanding natural values of the Park" and "to enhance and restore the ecological values, natural values and public enjoyment of the area." To date, the park has expanded by 109,600 acres in the Expansion Area. The Expansion Act, and additional legislation, authorized the NPS and U.S. Army Corps of Engineers to acquire lands within the Expansion Area and to modify the Central and Southern Florida Project to restore natural hydrological conditions in the Park.

FPL owns about 320 acres within the Expansion Area. Because the FPL property is currently undeveloped and is needed for restoration of the Everglades ecosystem, the NPS is seeking to acquire the FPL property, manage it as part of the Park, and maintain it in its undeveloped

condition. FPL is currently seeking state and federal permits to construct three major transmission lines on its existing property in the Park or on the proposed exchange corridor within the Park, authorized by the Omnibus Public Land Management Act of 2009.

In June 2009, the NPS began an Environmental Assessment for the proposed FPL land acquisition. At that time, a cultural resource survey and assessment was conducted on the proposed exchange lands and no cultural resources were identified. However, during the evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts to other Park resources were identified. In light of these concerns, the NPS has initiated this EIS process to more fully examine the potential impacts of land acquisition alternatives. All comments submitted during scoping for the EA in 2009 will be carried forward to this project and considered as part of scoping for this EIS.

A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on May 26, 2011. A Scoping Newsletter with detailed project information is attached. The NOI and newsletter initiate the scoping process to identify issues or concerns regarding the potential land acquisition in the Park.

A government-to-government consultation meeting would provide an opportunity to update you and/or your delegated staff on this project and other related efforts that may be of interest to the Tribe. In addition, a meeting would provide an opportunity for us to learn of any resources of concern to the Tribe that should be considered in the EIS that the Park may not be aware of at this time.

Also, I wanted to provide you with information about two upcoming project meetings where the Tribe's participation is welcome. An agency scoping meeting for invited local, state, and federal agency representatives will be held on June 21, 2011 from 1:00 to 4:30 p.m. at the Miami-Dade County Department of Environmental Resources Management's (DERM) main building. For directions go to: http://www.miamidade.gov/derm/directions_downtown.asp. The building is located next to the Historic Overtown/Lyric Theatre Metrorail station, which is one station north of the Government Center stop and there is a City of Miami parking lot immediately west of the building. The meeting will be held at:
Overtown Transit Village North
701 NW 1st Court, 2nd floor conference room
Miami, FL 33136

Participants unable to attend in person may call: 1-877-873-8018 and enter pass code: 8910744#. Please respond by June 15th with your availability to participate in-person or by phone Mr. Fred Herling at 305-242-7704 or by e-mail at fred_herling@nps.gov.

The NPS will also conduct a public scoping meeting on June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. During these meetings there will be opportunities to learn more about the project, talk with Park staff, hear issues and questions from participants, and for the Tribe to identify their issues or concerns.

Please provide any comments or concerns you think should be considered in the EIS during the scoping comment period which ends on July 10, 2011. Submit comments electronically to the NPS Planning, Environment, and Public Comment:
http://parkplanning.nps.gov/projectHome.cfm?projectID=37220

Comments may also be submitted by mail to:
NPS, Denver Service Center – Planning Division
Attn: FPL Project Planning Team
P.O. Box 25287
12795 West Alameda Parkway
Denver, CO 80225-0287

If you would like further information or would like to set up a government-to-government consultation meeting, please contact me or have your staff contact Brien Culhane (brien_culhane@nps.gov or 305-242-7717) or Fred Herling (fred_herling@nps.gov or 305-242-7704) of my staff.

Thank you for your assistance. We look forward to hearing from you.

Sincerely,

Dan B. Kimball
Superintendent

Enclosure

bcc:

Betty Osceola, Miccosukee Tribe Administrator
Curtis Osceola, Miccosukee Tribal Consultant
Bernie Roman, Miccosukee Tribal Attorney
Fred Dayhoff, Tribal Representative
Terry L. Rice, Colonel (Retired) PhD, PE

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks

40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:
L7621

JUN 08 2011

Chairman James E. Billie
Seminole Tribe of Florida
6300 Stirling Road
Hollywood, FL 33024

Dear Chairman Billie:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This includes the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of the EIS is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The process for preparing the EIS will be used to comply with §106 of the National Historic Preservation Act of 1966. With this letter Everglades National Park would like to initiate government-to-government consultation with the Seminole Tribe of Florida for this project. A copy of this letter has been sent to Tribal Historic Preservation Officer Willard S. Steele.

The Everglades National Park Protection and Expansion Act of 1989 expanded the boundaries of the Park in order to "increase the level of protection and outstanding natural values of the Park" and "to enhance and restore the ecological values, natural values and public enjoyment of the area." To date, the park has expanded by 109,600 acres in the Expansion Area. The Expansion Act, and additional legislation, authorized the NPS and U.S. Army Corps of Engineers to acquire lands within the Expansion Area and to modify the Central and Southern Florida Project to restore natural hydrological conditions in the Park.

FPL owns about 320 acres within the Expansion Area. Because the FPL property is currently undeveloped and is needed for restoration of the Everglades ecosystem, the NPS is seeking to acquire the FPL property, manage it as part of the Park, and maintain it in its undeveloped condition. FPL is currently seeking state and federal permits to construct three major transmission lines on its existing property in the Park or on the proposed exchange corridor within the Park, authorized by the Omnibus Public Land Management Act of 2009.

In June 2009, the NPS began an Environmental Assessment for the proposed FPL land acquisition. At that time, a cultural resource survey and assessment was conducted on the proposed exchange lands and no cultural resources were identified. However, during the evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts to other Park resources were identified. In light of these concerns, the NPS has initiated this EIS process to more fully examine the potential impacts of land acquisition alternatives. All comments submitted during scoping for the EA in 2009 will be carried forward to this project and considered as part of scoping for this EIS.

A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on May 26, 2011. A Scoping Newsletter with detailed project information is enclosed. The NOI and newsletter initiate the scoping process to identify issues or concerns regarding the potential land acquisition in the Park.

A government-to-government consultation meeting would provide an opportunity to update you and/or your delegated staff on this project and other related efforts that may be of interest to the Tribe. In addition, a meeting would provide an opportunity for us to learn of any resources of concern to the Tribe that should be considered in the EIS that the Park may not be aware of at this time.

Also, I wanted to provide you with information about two upcoming project meetings where the Tribe's participation is welcome. An agency scoping meeting for invited local, state, and federal agency representatives will be held on June 21, 2011 from 1:00 to 4:30 p.m. at the Miami-Dade County Department of Environmental Resources Management's (DERM) main building. For directions go to: http://www.miamidade.gov/derm/directions_downtown.asp. The building is located next to the Historic Overtown/Lyric Theatre Metrorail station, which is one station north of the Government Center stop and there is a City of Miami parking lot immediately west of the building. The meeting will be held at:
Overtown Transit Village North
701 NW 1st Court, 2nd floor conference room
Miami, FL 33136

Participants unable to attend in person may call: 1-877-873-8018 and enter pass code: 8910744#. Please respond by June 15th with your availability to participate in-person or by phone Mr. Fred Herling at 305-242-7704 or by e-mail at fred_herling@nps.gov.

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Please provide any comments or concerns you think should be considered in the EIS during the scoping comment period which ends on July 10, 2011. Submit comments electronically to the NPS Planning, Environment, and Public Comment:
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Attn: FPL Project Planning Team
P.O. Box 25287
12795 West Alameda Parkway
Denver, CO 80225-0287

If you would like further information or would like to set up a government-to-government consultation meeting, please contact me or have your staff contact Brien Culhane (brien_culhane@nps.gov or 305-242-7717) or Fred Herling (fred_herling@nps.gov or 305-242-7704) of my staff.

Thank you for your assistance. We look forward to hearing from you.

Sincerely,

Dan B. Kimball
Superintendent

Enclosure

bcc:

Willard S. Steele
Seminole Tribe of Florida
Tribal Historic Preservation Office
30290 Josie Billie Highway, PMB 1004
Clewiston, FL 33440

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks

40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 08 2011

Leonard Harjo, Principal Chief
Seminole Nation of Oklahoma
PO BOX 1498
Wewoka, Oklahoma 74884

Dear Principal Chief Harjo:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This includes the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of the EIS is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The process for preparing the EIS will be used to comply with §106 of the National Historic Preservation Act of 1966. With this letter Everglades National Park would like to initiate government-to-government consultation with the Seminole Tribe of Florida for this project.

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A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on May 26, 2011. A Scoping Newsletter with detailed project information is enclosed. The NOI and newsletter initiate the scoping process to identify issues or concerns regarding the potential land acquisition in the Park.

A government-to-government consultation meeting would provide an opportunity to update you and/or your delegated staff on this project and other related efforts that may be of interest to the Seminole Nation of Oklahoma. In addition, a meeting would provide an opportunity for us to learn of any resources of concern that should be considered in the EIS that the Park may not be aware of at this time.

Also, I wanted to provide you with information about two upcoming project meetings where the Seminole Nation of Oklahoma's participation is welcome. An agency meeting for invited local, state, and federal agency representatives will be held on June 21, 2011 from 1:00 to 4:30 p.m. at the Miami-Dade County Department of Environmental Resources Management's (DERM) main building. For directions go to: http://www.miamidade.gov/derm/directions_downtown.asp. The building is located next to the Historic Overtown/Lyric Theatre Metrorail station, which is one station north of the Government Center stop and there is a City of Miami parking lot immediately west of the building. The meeting will be held at:
Overtown Transit Village North
701 NW 1st Court, 2nd floor conference room
Miami, FL 33136

Participants unable to attend in person may call: 1-877-873-8018 and enter pass code: 8910744#. Please respond by June 15th with your availability to participate in-person or by phone Mr. Fred Herling at 305-242-7704 or by e-mail at fred_herling@nps.gov.

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http://parkplanning.nps.gov/projectHome.cfm?projectID=37220

Comments may also be submitted by mail to:
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Attn: FPL Project Planning Team
P.O. Box 25287
12795 West Alameda Parkway
Denver, CO 80225-0287

If you would like further information or would like to set up a government-to-government consultation meeting, please contact me or have your staff contact Brien Culhane (brien_culhane@nps.gov or 305-242-7717) or Fred Herling (fred_herling@nps.gov or 305-242-7704) of my staff.

Thank you for your assistance. We look forward to hearing from you.

Sincerely,

Dan B. Kimball
Superintendent

Enclosure

FLORIDA DEPARTMENT OF STATE
Kurt S. Browning
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Mr. Matthew J. Raffenberg
Florida Power & Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

July 13, 2009

Re: DHR Project File No.: 2009-3839 / Received by DHR: June 25, 2009
Cultural Resource Assessment Survey Work Plan for the Turkey Point Units 6 & 7 Associated Linear Facilities
Miami-Dade County, Florida

Dear Mr. Raffenberg:

Our office received and reviewed the above referenced work plan in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and 36 C.F.R., Part 800: Protection of Historic Properties for assessment of possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the National Register of Historic Places (NRHP).

In 2009, Janus Research conducted background research to identify previously recorded archaeological resources within 100 feet and historic cultural resources within 500 feet of the associated linear facilities, and to identify areas of high, medium, and low probability for the presence of unrecorded cultural resources. As a result of this analysis, Janus Research has made the following recommendations:

1. Archaeological and Historic Survey and Identification Plan for Access Roads and Bridges:

    a. Historic access roads and bridges will be surveyed prior to construction.
    b. No archaeological survey will be necessary for existing roads with no proposed widening.
    c. A visual survey of all roads will be conducted to identify areas of high archaeological probability within new roads or areas of road widening.
    d. A standard archaeological survey will be conducted of these high probability areas. Testing will be conducted at 25-meter intervals within the area of potential effect (APE).

2. Archaeological Survey and Identification Plan for the Transmission Line Corridors, Reclaimed Water Delivery Pipelines, and Potable Water Pipelines

    a. Surveys will be conducted prior to construction.
    b. The APE for the survey will be confined to the construction corridor and associated staging areas.

c. The APE will be subjected to a visual survey to refine archaeological probability areas.
d. All previously recorded archaeological sites in the APE will be field verified and re-evaluated. Updated Florida Master Site File (FMSF) forms will be completed for each previously recorded site.
e. A reconnaissance level survey will be conducted for previously surveyed areas that do not meet current professional standards.
f. In areas that have not been previously surveyed, a standard archaeological survey will be conducted of high and moderate probability zones. Testing will be conducted at 25-meter and 50-meter intervals respectively, with judgmental testing of low probability zones. Shovel testing will be confined to the APE.

3. Historic Resource Survey and Identification Plan for the Transmission Line Corridors, Reclaimed Water Delivery Pipelines, and Potable Water Pipelines

   a. Surveys will be conducted prior to construction.
   b. A standard historic resource survey will be conducted to identify resources in areas that have not been previously surveyed. FMSF forms will be completed for newly identified resources.
   c. All previously recorded historic districts and individual resources in the APE will be field verified. Individual structures or buildings within the boundaries of a previously recorded historic district will not be field verified. Updated FMSF forms will be completed only if substantial changes have occurred since a resource's initial recording, including: demolition, change in National Register status, and change in original massing.
   d. The boundaries of both previously recorded and newly identified historic districts will be noted and recorded on FMSF forms. Individual buildings within the historic district will not be recorded.
   e. A reconnaissance level historic resource survey will be conducted of the APE for indirect impacts of the transmission line corridors. This APE will be determined in consultation with our office.

4. A copy of the final survey report should be sent to the five federally recognized tribes with cultural affiliation to Florida.

5. Due to the proximity of the project to Tribal lands associated with the Florida-resident Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida, a meeting is recommended prior to the initiation of field investigations. The purpose of this meeting will be to review the project, address any comments resulting form the project notification letters previously sent to the Tribes, and to identify any cultural issues, sacred areas, or traditional use areas within the APE. Further coordination is recommended to resolve any potential concerns should any such issues be identified during the survey.

6. Prior to construction, an unanticipated finds plan should be developed to outline the procedures and identify personnel to be contacted if significant archaeological material or human remains are encountered during construction.

7. Section 106 consultation will be conducted with this office to identify and resolve any adverse effects to significant resource.

Based on the information provided, our office concurs with these recommendations as outlined in the work plan. We look forward to receipt of the final survey report for review and comment.

If you have any questions concerning our comments, please contact Samantha Earnest, Historic Preservationist, by electronic mail at *swearnest@dos.state.fl.us*, or by telephone at 850-245-6333 or 800-847-7278.

Sincerely,

Laura A. Kammerer

Laura A. Kammerer
Deputy State Historic Preservation Officer
For Review and Compliance

Florida Power & Light Company, P.O. Box 14000, Juno Beach, FL 33408-0420
Environmental Services Department

FPL

FPLMTI-09-0722

Mr. Steve Terry
Section 106 Coordinator
Miccosukee Tribe of Indians of Florida
PO Box Tamiami Station
Miami, Florida 33144

December 15, 2009

SUBJECT: Information Sharing Supporting Section 106 of the *National Historic Preservation Act* for the Proposed Turkey Point Units 6 & 7 On-Site Project Facilities, Florida

Florida Power and Light Company (FPL) has submitted a Combined Operating License (COL) Application to the Nuclear Regulatory Commission (NRC) to construct and operate nuclear power Unit 6 & 7 at the Turkey Point site, located east of Homestead, Florida. The Unit 6 & 7 project would provide clean, safe and reliable power to meet the needs of FPL's customers. As part of its COL Application, FPL included an environmental report to assist the NRC prepare an environmental impact statement (EIS) under the *National Environmental Policy Act*. The decision by the NRC on whether to issue the license for construction and operation of Units 6 & 7 meets the definition of an "undertaking" under the *National Historic Preservation Act* (NHPA) and its implementing regulations 36 CFR Part 800.16(y).

FPL has shared project information with the Florida Division of Historical Resources (DHR) and the Florida State Historic Preservation Officer for this proposed project. Specifically a final cultural resources assessment (CRA) report of on-site areas and associated non- linear facilities and a preliminary CRA report on the associated linear facilities were submitted to the DHR as part of FPL's Site Certification Application (SCA).

By recommendation from the DHR, FPL hereby offers to share project information with potentially interested Tribes to assist us in identifying important cultural resources that could be present in the vicinity of the proposed undertaking. Attached is the CRA report addressing the on-site areas and other non-linear associated facilities affected by the proposed undertaking. Linear facilities (namely access roads, transmissions lines, and water pipelines) are being permitted as corridors in the SCA process. Therefore, the CRA report for the project's linear facilities will be shared with you after placement of those facilities is finalized.

Description of the Proposed Project

The project would add two new nuclear generating units and supporting facilities at a site within the existing Turkey Point plant property boundaries. The Project includes the construction and operation of Turkey Point Unit 6 & 7 on the site as well as new transmission lines and other off-site associated linear and non-linear facilities.

FPL's Turkey Point plant property comprises approximately 11,000 acres in unincorporated southeast Miami-Dade County, Florida, east of Florida City and the City of Homestead, and bordered by Biscayne Bay to the east. The existing Turkey Point Plant consist of two nominal 400-megawatt (MW) natural gas/oil steam electric generating units (Units 1 & 2); two nominal 700-MW nuclear units (Units 3 & 4); and a nominal 1,150 MW natural gas-fired combined-cycle unit (Unit 5). The existing closed- loop cooling canals and industrial wastewater facility occupy approximately 5,900 acres. The location of the Turkey Point plant property is shown in Figure 1.

The site for Turkey Point Units 6 & 7 is south of Units 3 &4 and occupies approximately 300-acres within the industrial wastewater facility. Two nuclear generating units, each with an approximate electrical out put of 1,100 MWe (net), including supporting buildings, facilities and equipment will be located on the site, along with a laydown area. Proposed off-Site associated facilities include: nuclear administration building, training building and parking area; an FPL reclaimed water treatment facility and reclaimed water pipelines; radial collector wells and delivery pipelines; equipment barge unloading area; an FPL–owned fill source; transmission lines and system improvements within Miami-Dade County; access roads and bridges; and a potable water pipeline. The site and proposed off-site associated facilities are shown in Figures 2 to 5. Because the linear facilities are being permitted as corridors, the areas shown on these figures is actually larger than the areas that will be impacted by actual construction and operation of the linear facilities.

Information Sharing with the Florida Division of Historical Resources

On February 20, 2009, FPL notified the DHR that it was commencing a CRA of on-site areas and would be contacting the SHPO to obtain required information as needed. On June 25, 2009, FPL forwarded to DHR its CRA survey work plans for the on- and off-site project areas. In that submittal, FPL requested concurrence that (1) the determination and definition of the Areas of Potential Effect (APEs) are appropriate for the project and (2) implementation of the work plans would constitute a reasonable and good-faith effort to carry out appropriate identification efforts of historic properties that could potentially be impacted by the project. On July 13, 2009, the DHR concurred with all the recommendations provided by FPL in the on-and off-site CRA survey work plans. The DHR recommended that the final CRA survey results be sent to the five federally-recognized tribes with cultural affiliation to Florida.

On June 30, 2009, as part of the Site Certification Application, FPL submitted its final CRA report of on-site areas and associated non-linear facilities and the preliminary CRA report on the associated linear facilities to the DHR. On July 10, 2009, DHR found FPL's final CRA report of on-site areas and associated non-linear facilities complete and sufficient in

accordance with Chapter 1A-46 F.A.C. The DHR offered its opinion that the project would have no effect on historic properties and recommended that the CRA report of on-site areas and associated non-linear facilities be sent to the five federally recognized tribes with cultural affiliation to Florida.

Information Sharing with Potentially Interested Tribes

The purpose of this letter is to share information with potentially interested Tribes in accordance with Section 106 of the NHPA and 36 CFR Part 800.2(c)(2)(ii). The NRC will conduct formal NHPA consultation with Tribes per Federal government-to-government guidance during the preparation of the environmental impact statement. However both the NRC and the DHR have encouraged FPL to share information with Tribes to identify tribal concerns for important cultural resources that could potentially be impacted by the proposed project. On March 20, 2009, FPL submitted a letter to the Miccosukee Tribe of Indians of Florida sharing initial project information.

FPL welcomes your input and comments on the proposed undertaking and the cultural properties of importance to you. FPL is requesting your review of this information so that you can identify concerns about cultural resources, present views about the proposed undertaking's potential effects on such properties, and participate in the resolution of adverse effects. FPL is particularly interested in any information you may have regarding resources, traditional cultural places, sites, or properties of tribal importance that may be adversely affected by the proposed project. This information will assist FPL in identifying important cultural resources in the project area. FPL requests a written response to this information review by January 29, 2010.

Mr. Matthew Raffenberg is FPL's environmental permitting lead and will be your contact for this information sharing request. Please reach Mr. Raffenberg at (561) 691-2808 or by email matthew.raffenberg@fpl.com if you have any questions about this information.

Sincerely,

Barbara Linkiewicz

Barbara Linkiewicz

Director of Environmental Licensing

cc: Mike Halpin, FDEP Siting Office
Laura Kammerer, Florida Division of Historical Resources
Kathleen Hoffman, Janus Research

Florida Department of
Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

August 13, 2009

Mr. Brien F. Culhane, AICP
Chief of Planning and Compliance
Everglades and Dry Tortugas National Parks
40001 State Road 9336
Homestead, FL 33034

RE: National Park Service – Scoping Notice – Proposed Acquisition of Florida Power & Light Company Lands within the East Everglades Addition of Everglades National Park – Miami-Dade County, Florida.
SAI # FL200906304829C

Dear Mr. Culhane:

The Florida State Clearinghouse has coordinated a review of the scoping notice under the following authorities: Presidential Executive Order 12372; § 403.061(40), *Florida Statutes*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended.

The Florida Department of Environmental Protection (DEP) notes that staff has collaborated with both the National Park Service (NPS) and Florida Power & Light regarding the proposed land exchange and fully supports the NPS in moving forward with the aforementioned acquisition. Continued coordination with the appropriate agencies is encouraged to ensure that adjacent areas or restoration projects will not be impacted. Please refer to the enclosed DEP memorandum and contact Ms. Annet Forkink at (850) 245-8527 for additional information and assistance.

The Florida Department of State (DOS) previously conducted a review of this project and noted that the NPS is drafting an Environmental Assessment, which will meet its obligations under Section 106 of the National Historic Preservation Act. DOS staff is awaiting this document for review and comment. Please refer to the enclosed DOS letter.

The South Florida Water Management District (SFWMD) has reviewed the scoping notice and notes that the SFWMD's Governing Board approved the proposed land swap in August, 2008 (Resolution # 2008-640).

Based on the information contained in the scoping notice and enclosed state agency comments, the state has determined that, at this stage, the proposed activities are

consistent with the Florida Coastal Management Program (FCMP). The concerns identified by our reviewing agencies must be addressed, however, prior to project implementation. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting stage, if applicable.

Thank you for the opportunity to review the proposed project. Should you have any questions regarding this letter, please contact Mr. Chris Stahl at (850) 245-2169.

Yours sincerely,

Sally B. Mann

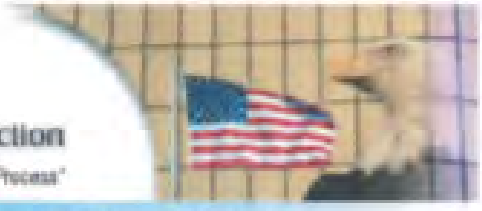
Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/cjs
Enclosures

cc: Tim Gray, DEP, Southeast District
John Outland, DEP, Ecosystem Projects
Ernie Marks, DEP, RPPP
Laura Kammerer, DOS
Jim Golden, SFWMD

Florida
Department of Environmental Protection

"More Protection, Less Process"



Categories

Project Information	
Project:	FL200906304829C
Comments Due:	08/04/2009
Letter Due:	08/13/2009
Description:	NATIONAL PARK SERVICE - SCOPING NOTICE - PROPOSED ACQUISITION OF FLORIDA POWER & LIGHT COMPANY LANDS WITHIN THE EAST EVERGLADES ADDITION OF EVERGLADES NATIONAL PARK - MIAMI-DADE COUNTY, FLORIDA.
Keywords:	NPS - ACQUIRE FP&L LANDS IN EAST EVERGLADES NATIONAL PARK - MIAMI-DADE CO.
CFDA #:	15.916

Agency Comments:

SOUTH FL RPC - SOUTH FLORIDA REGIONAL PLANNING COUNCIL

No Comments Received

FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

NO COMMENT BY MICHAEL ANDERSON AND CHUCK COLLINS ON 7/8/09.

STATE - FLORIDA DEPARTMENT OF STATE

The DOS previously reviewed this project and noted that the National Park Service is drafting an EA, which will meet its obligations under Section 106. Staff is awaiting this document for review and comment.

TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION

FDOT District Six has no comments.

ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

In 1989 the Everglades National Park Protection and Expansion Act expanded ENP to include the East Everglades Addition. Contained within the addition is a strip of land, roughly 350 feet wide and 7.4 miles long, which is owned by FPL. FPL claims that they will need this land in the future for the construction of power infrastructure, specifically electrical transmission facilities. The NPS contends that the strip of land will play a vital role in Everglades restoration efforts through the improvement of natural hydrologic conditions and is seeking to acquire the FPL land through a land exchange. The land being offered for trade is on the eastern boundary of the East Everglades Addition. The Department has collaborated with both the NPS and FPL regarding the proposed land exchange and fully supports the NPS in moving forward with the aforementioned acquisition. Continued coordination with the appropriate agencies is encouraged to ensure that adjacent space or restoration projects will not be impacted. The Department sincerely appreciates the opportunity to comment. Should you have any questions on the comments provided, please feel free to contact Ms. Annet Rivera at (850) 245-8017.

SOUTH FLORIDA WMD - SOUTH FLORIDA WATER MANAGEMENT DISTRICT

The SFWMD's Governing Board approved the proposed land swap in August, 2008 (Resolution #2008-0473).

For more information or to submit comments, please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD, M.S. 47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
FAX: (850) 245-2190

Visit the Clearinghouse Home Page to query other projects.

RECEIVED
JUL 30 2009
DEP Office of Intergovt'l Programs

FLORIDA DEPARTMENT OF STATE
Kurt S. Browning
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Ms. Lauren Milligan
Director, Florida State Clearinghouse
3900 Commonwealth Boulevard, Mail Station 47
Tallahassee, Florida 32399-3000

July 28, 2009

June
RE: DHR Project File No: 2009-3969 / Received by DHR: July 6, 2009
SAI #: FL200906304829C
National Park Service – Scoping Notice
Proposed Acquisition of Florida Power & Light Company Lands within the East Everglades Addition of Everglades National Park
Miami-Dade County

Dear Ms. Milligan:

Our office reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the National Register of Historic Places. The review was conducted in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, 36 CFR Part 800: Protection of Historic Properties, Chapter 267, *Florida Statutes*, and Florida's Coastal Zone Management Program.

Our office has previously reviewed this project (DHR Project File No. 2009-3829). In a July 21, 2009 letter addressed to Mr. Dan B. Kimball of the National Park Service, we noted that the Park Service is drafting an environmental assessment for this project, and intends to use the environmental assessment to meet its obligations under Section 106. We are awaiting receipt of this document for review and comment.

If you have any questions regarding our comments, please contact Samantha Earnest, Historic Preservationist, by email *swearnest@dos.state.fl.us*, or by phone at 850-245-6333.

Sincerely,

Laura A. Kammerer

Laura A. Kammerer
Deputy State Historic Preservation Officer
For Review and Compliance

500 S. Bronough Street • Tallahassee, FL 32399-0250 • http://www.flheritage.com

☐ Director's Office (850) 245-6300 • FAX: 245-6436
☐ Archaeological Research (850) 245-6444 • FAX: 245-6452
☒ Historic Preservation (850) 245-6333 • FAX: 245-6437

United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

July 29, 2009

Memorandum

To: Brien Culhane, Chief, Planning and Compliance, Everglades National Park

From: Paul Souza, Field Supervisor, South Florida Ecological Services Office

Subject: Acquisition of Florida Power and Light Lands and Environmental Assessment
Service Federal Activity Code: 41420-2009-FA-0560

Thank you for the opportunity to offer input to your request for scoping comments on the Acquisition of Florida Power and Light (FPL) Lands and Environmental Assessment (EA) project. Your notice of intent (NOI) to prepare a Draft Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the project was received by the U.S. Fish and Wildlife Service on July 5, 2009. The stated purpose of your NOI is to request information to assist with refining issues and concerns to be addressed in your NEPA document.

The goal of the Acquisition of FPL Lands and EA project is to exchange right-of-way (ROW) land owned by FPL for land owned by the Everglades National Park (ENP). The proposed land exchange is for undeveloped FPL property that is located in the interior portion of ENP for property owned by ENP on the eastern property boundary that abuts the L-31 canal levee. The land under consideration covers approximately 320 acres in the East Everglades Addition in Everglades National Park; Miami-Dade County, Florida.

Issues and Concerns

The Service recommends considering the potential impacts on wetland habitats, hydrology, fire ecology, plants and wildlife, particularly threatened and endangered species such as the eastern indigo snake, Everglade snail kite, Florida panther, and wood stork in accordance with section 7 of the Endangered Species Act of 1973, as amended (87 Stat. 884:16 U.S.C. 1531 *et seq.*). The Service also recommends the evaluation of potential impacts to migratory birds in accordance with the Migratory Bird Treaty Act (40 Stat. 755; 16 U.S.C. 701 *et seq.*). Additional assessments should provide detailed information on the existing condition of the habitats in the ROWs, and how transferring of ownership may affect these habitat conditions, and associated wildlife, as well as Everglades restoration.

We greatly appreciate your efforts in helping to protect the fish and wildlife resources of south Florida. If you have questions regarding this letter, please call Steve Mortellaro at 772-562-3909, extension 322.

TAKE PRIDE® IN AMERICA

cc: electronic copy only
Corps, Jacksonville, Florida (Rebecca Griffith)
DOI, Miami, Florida (Joan Lawrence)
DOI, West Palm Beach, Florida (Dennis Duke)
FWC, Tallahassee, Florida (Ken Haddad)
NPS, Homestead, Florida (David Hallac, Alicia LoGalbo, Mike Zimmerman)
Service, Atlanta, Georgia (David Horning, Jeff Weller)
Service, Jacksonville, Florida (Miles Meyer)

FLORIDA DEPARTMENT OF STATE
Kurt S. Browning
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Mr. Greg Smith
New South Associates
804-C Anastasia Boulevard
St. Augustine, Florida 32080

October 1, 2009

Re: DHR Project File No.: 2009-05046 / Received by DHR: August 27, 2009
Phase I Archaeological Survey for a 6-Mile Florida Power & Light Corridor, Everglades National Park, Miami-Dade County, Florida

Dear Mr. Smith:

Our office received and reviewed the above referenced survey report in accordance with Section 106 of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended in 1992, and *36 C.F.R., Part 800: Protection of Historic Properties*, and Chapter 267, *Florida Statutes*, for assessment of possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the National Register of Historic Places (NRHP).

In July 2009, New South Associates, Inc. (NSA) conducted an archaeological and historical Phase I survey of a six-mile transmission line corridor on behalf of Florida Power & Light Company. NSA identified no cultural resources within the project area during the investigation.

NSA determined that the proposed project will have no effect on cultural resources listed, or eligible for listing, on the NRHP. NSA recommends no further investigation of the corridor.

Based on the information provided, our office concurs with these determinations and finds the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code*.

For any questions concerning our comments, please contact Rudy Westerman, Historic Preservationist, by electronic mail at rjwesterman@dos.state.fl.us, or by phone at (850) 245-6333. We appreciate your continued interest in protecting Florida's historic properties.

Sincerely,

Laura A. Kammerer

Laura A. Kammerer
Deputy State Historic Preservation Officer
For Review and Compliance

500 S. Bronough Street • Tallahassee, FL 32399-0250 • http://www.flheritage.com

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☒ Historic Preservation (850) 245-6333 • FAX: 245-6437

United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

August 12, 2010

Memorandum

To: Dan Kimball, Superintendent, Everglades and Dry Tortugas National Park, Homestead, Florida

From: Paul Souza, Field Supervisor, South Florida Ecological Services Office, Vero Beach, Florida

Subject: Florida Power and Light Company's preferred transmission corridor along the eastern boundary of Everglades National Park

The Service is submitting this preliminary assessment of the potential effects to threatened and endangered species and Everglades wetlands resulting from Florida Power and Light Company's (FPL) proposed construction of a transmission line project located along the eastern boundary of Everglades National Park (ENP). The proposed corridor would extend along the western edge of the L-31N levee from the 8.5 Square Mile Area north to Tamiami Trail, a distance of approximately 6.5 miles (see attachment). We focused our assessment of the proposed transmission line on the section of the corridor to be constructed within ENP.

Project Description

FPL proposes to construct 73 fill pads along the length of the corridor in order to build the towers required to carry two 500 kilovolt (kV) transmission lines and one 230 kV transmission line. Each of the 37 towers designed to carry the 500 kV lines are approximately 160 feet high, supported by 8 guy wires, and spaced at 1,000-foot intervals. Each of the 73 towers designed to carry the 230 kV line are approximately 80 high, supported by two guy wires, and spaced at 500-foot intervals. According to preliminary design specifications, the transmission corridor is projected to be approximately 330 feet wide and constructed within an area 79 to 170 feet west of the L-31N levee. [Note - Figures of the towers and their proposed alignment are attached.]

Wetlands

The proposed corridor is projected to fill approximately 100 wetland acres of Everglades marsh along the eastern edge of the Northeast Shark River Slough. Mitigation options should be considered to offset the final impacts to these wetlands.

Wood storks

The proposed corridor is within 0.60 mile of active wood stork colonies, Tamiami Trail East[1] and Tamiami Trail East 1, a distance beyond the threshold of 0.47 mile for a "may affect" determination. However, the proposed corridor will result in eliminating or altering suitable foraging habitat within the core foraging area (CFA) of at least five active wood stork colonies: Tamiami Trail East, Tamiami Trail East 1, Tamiami Trail West, and Grossman Ridge West in ENP and 3BMud East north of ENP. The loss of these wetlands may reduce foraging opportunities for wood storks. To minimize these potential adverse effects, we recommend compensation be provided in the form of wetlands with the same hydroperiod located within the CFA of the affected wood stork colonies. This compensation guidance is consistent with the conservation measures we developed for wood storks (Service 2010). Under some circumstances, we may consider wetland compensation outside the CFA of the affected colonies.

A potential direct effect to wood storks is injury or death from electrocution and from collisions with the towers and associated guy wires within the corridor; however, these injuries or mortalities of wood storks from this aspect of the project will be difficult to quantify. The proposed configuration for both the 500 kV and 230 kV powerlines present, though minimized, an electrocution risk to these large birds.

Deng (1998) noted that, since 1989, the Florida Fish and Wildlife Conservation Commission found considerable mortality of wetland birds along a powerline bordering the Miami Canal in WCA-3A, including large numbers of great blue herons and wood storks (approximately 170 dead birds per year). Many of the birds were initially thought to have been electrocuted; however, subsequent necropsies discovered that all birds examined died from collision impacts. The Service (2000) developed guidance to address the potential effects on avian fauna from guy wires associated with communication towers less than 200 feet in height. This guidance may be useful or appropriate for electrical transmission towers with guy wires.

Everglade snail kites

The proposed corridor is likely to affect the Everglade snail kite by eliminating or altering existing nesting and foraging habitat (see attachment). Deng (1998) suggested that this species is probably at low risk from colliding with the towers and associated guy wires because of their very slow flight patterns, high maneuverability and diurnal habits.

Eastern indigo snakes

Heavy equipment used to construct the transmission corridor will eliminate suitable habitat for eastern indigo snakes and may injure or kill them, if they are present during construction. The Service (2004) developed guidance and conservation measures designed to avoid or minimize construction-related disturbance, injury and mortality of this species.

---

1 This colony appears to be identified as Tamiami Trail East 2 in the *South Florida Wading Bird Report, Volume 15* (Cook and Kobza 2009).

Florida panthers

Florida panthers have been documented within and around the area of the proposed location of the transmission corridor. The corridor's location is within the Primary Zone of the Panther Focus Area. However, constructing and maintain the transmission corridor is not likely to result in the loss and fragmentation of habitat or the loss of available prey. Furthermore, the proposed corridor will not result in an increase potential for traffic-related mortalities. Any potential effects to the panther are likely to be limited to temporary disturbance for which minimization measures, to address the potential effects described above, may not be warranted.

Other threatened and endangered species

Based on this preliminary assessment, there appears to be no other federally listed species that may be affected by the proposed corridor.

Migratory Birds

Unlike wood storks and snail kites, migratory bird collisions with tower structures and powerlines are well documented. Numerous studies of powerline collisions have resulted in United States estimates of up to 200 avian fatalities per mile per year (Manville 2005). Conservatively, 4-5 million birds are estimated to die each year from communication tower and guy wire collisions (Manville 2008). Manville (2008) cites studies that suggest flashing or blinking lights mounted to the towers may reduce avian collisions. If FPL were to equip their towers as such, the potential to reduce the risk of collisions for migratory birds could extend to wood storks.

Deng (1998) noted that the overhead ground wire, the highest mounted cable associated with 500 kV powerlines, is the principal feature responsible for the majority of avian collisions. The ground wire is typically much smaller in diameter than the transmission lines making it harder to see by birds in flight. Subsequent to the construction of the Levee-Midway 500 kV transmission corridor in 1995, Deng (1998) observed marked (with flight diverters) and unmarked sections of the Levee-Midway powerlines to determine avian collision rates. Given that he observed an extremely small number of collisions with any part of the powerline, Deng concluded the diverters might have had effects on avoidance behavior.

FPL's Avian Protection Plan

FPL (2007) developed an Avian Protection Plan (APP) to provide protection for Federal and State-listed species as well as all migratory birds from activities relating to FPL projects. The APP contains a risk assessment component designed to evaluate the risk to birds from FPL's electric utility structures. The risk to birds is in the form of injury or death from electrocution and collision. Developed by FPL, the risk assessment methodology considers the spatial interaction between avian biology and utility structure characteristics. For instance, a large bird with a long wing span nesting on a power pole with a complex spatial configuration (e.g., multiple distribution lines) is considered a high risk interaction. To date, FPL has yet to provide a risk assessment of the proposed corridor on wood storks and snail kites and the specific measures to be taken to reduce the risk of harm to these avian species.

Summary

Based on our preliminary assessment, we have concluded the proposed transmission corridor, if constructed, is likely to: (1) adversely affect the Everglade snail kite by eliminating or altering existing nesting habitat; (2) adversely affect the Everglade snail kite and wood stork by eliminating or reducing foraging habitat; and (3) may increase the risk of injury or death of wood storks and migratory birds from collision impacts. If we were reviewing a proposed Federal action for the transmission corridor, we would consult on potential effects from the proposed action to wood storks and snail kites under section 7 of the Endangered Species Act and provide technical assistance to avoid and minimize impacts to migratory birds.

If you have any questions, please contact Kalani Cairns of my office at 772 562-3909, extension 240, or by email at kalani_cairns@fws.gov.

Attachments

LITERATURE CITED

Cook, M.I., and M. Kobza. 2009. South Florida Wading Bird Report, Volume 15, November 2009. South Florida Water Management District, West Palm Beach, Florida. 52 pages.

Deng, J. 1998. Bird-strike mortality of wetland birds on a 550kv high-voltage powerline in the Everglades of Florida. Master's thesis, University of Florida, Gainesville, Florida. 117 pages.

Florida Power and Light Company. 2007. Avian Protection Plan. Florida Power and Light Company, Juno Beach, Florida. 148 pages.

Manville, A.M. 2005. Bird strikes and electrocutions at power lines, communication towers, and wind turbines: State of the Art and State of the Science – Next steps toward mitigation. Pages 1051-1064 in Bird Conservation Implementation and Integration in the Americas. Proceedings of the Third International Partners in Flight Conference, Asilomar, California.

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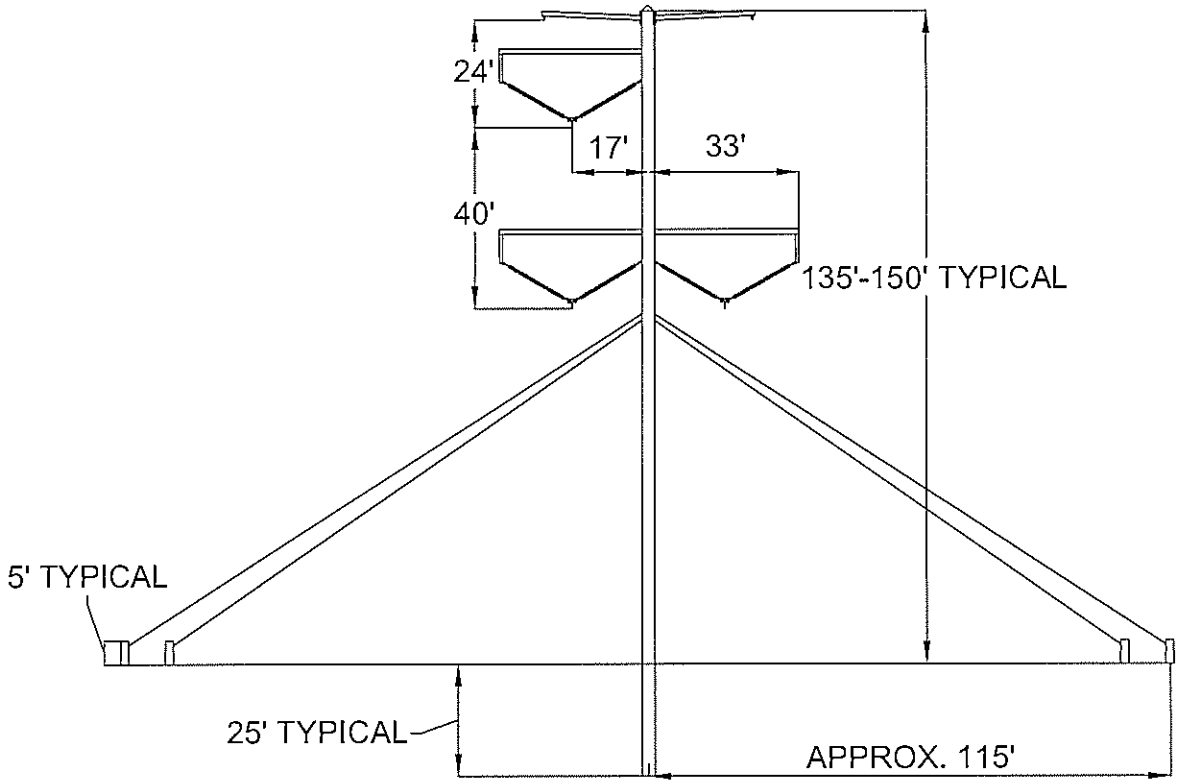
U.S. Fish and Wildlife Service. 2000. Interim Guidelines for Recommendations on Communication Tower Siting, Construction, Operation, and Decommissioning. U.S. Fish and Wildlife Service, Washington, DC.

U.S. Fish and Wildlife Service. 2004. Species conservation guidelines for the eastern indigo snake in south Florida. U.S. Fish and Wildlife Service, Vero Beach, Florida.

U.S. Fish and Wildlife Service. 2010. South Florida Programmatic Concurrence for the wood stork. U.S. Fish and Wildlife Service, Vero Beach, Florida.

TYPICAL SINGLE-POLE GUYED 500-kV STRUCTURE



NOTE: EACH STRUCTURE WILL HAVE EIGHT GUY WIRES CONNECTED TO CONCRETE PILE ANCHORS.

GRAPHIC SCALE

0 10 20 40

SCALE IN FEET

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT: TRANSMISSION LINES

TITLE

TYPICAL SINGLE-POLE GUYED 500-kV STRUCTURE

FPL.

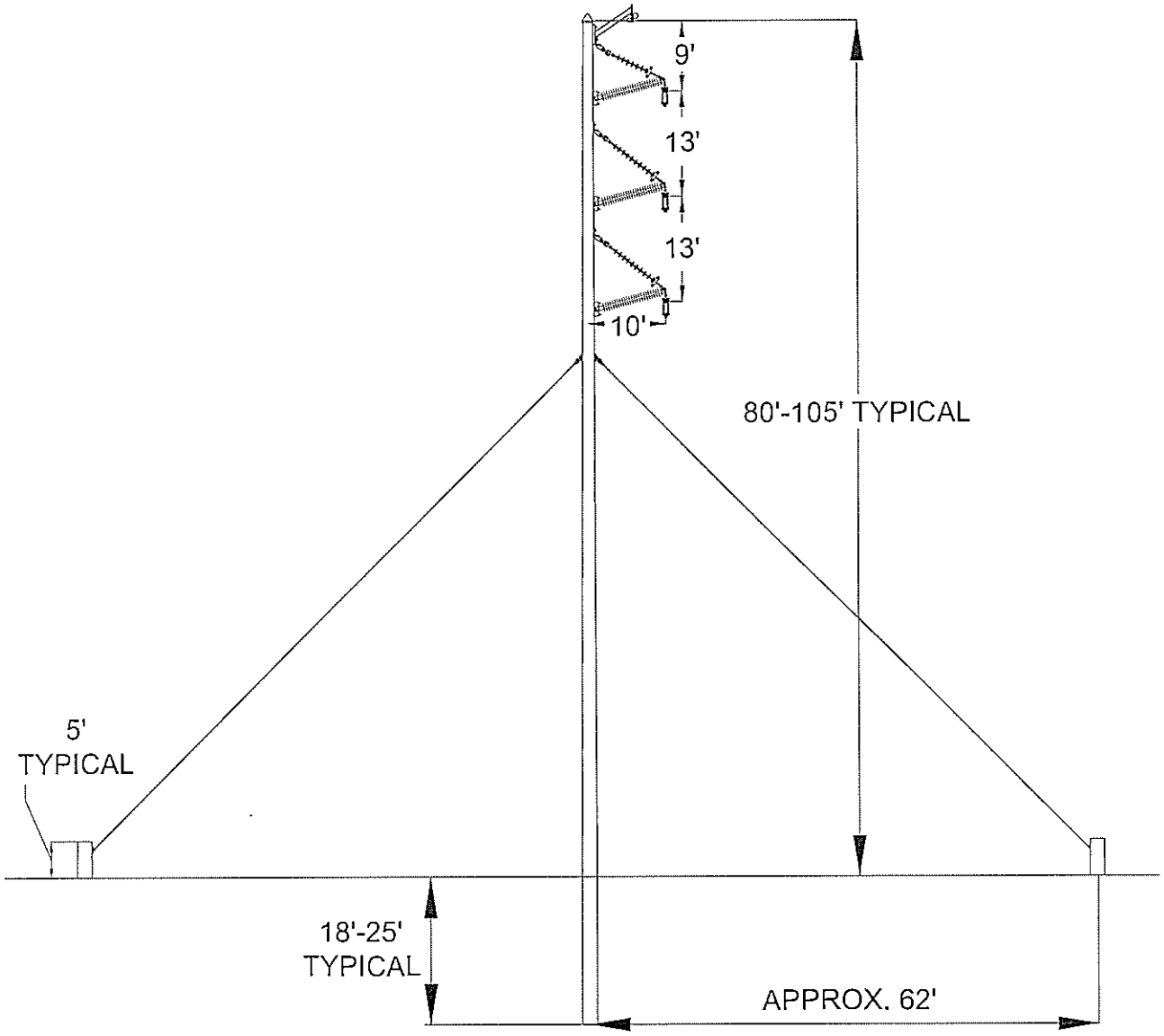
FILE No. 080489-0100

REV. 0

PLOT DATE 05/18/2009

FIGURE W9.2.0-2

TYPICAL SINGLE-CIRCUIT GUYED 230-kV STRUCTURE



NOTES:
1. GUYED STRUCTURES ARE CONNECTED TO CONCRETE PILE ANCHORS.
2. STRUCTURES MAY BE UNGUYED AT CERTAIN LOCATIONS.

GRAPHIC SCALE
0 5 10 20
SCALE IN FEET

PROJECT
TURKEY POINT UNITS 6 & 7 PROJECT: TRANSMISSION LINES

TITLE
TYPICAL SINGLE-CIRCUIT GUYED 230-kV STRUCTURE

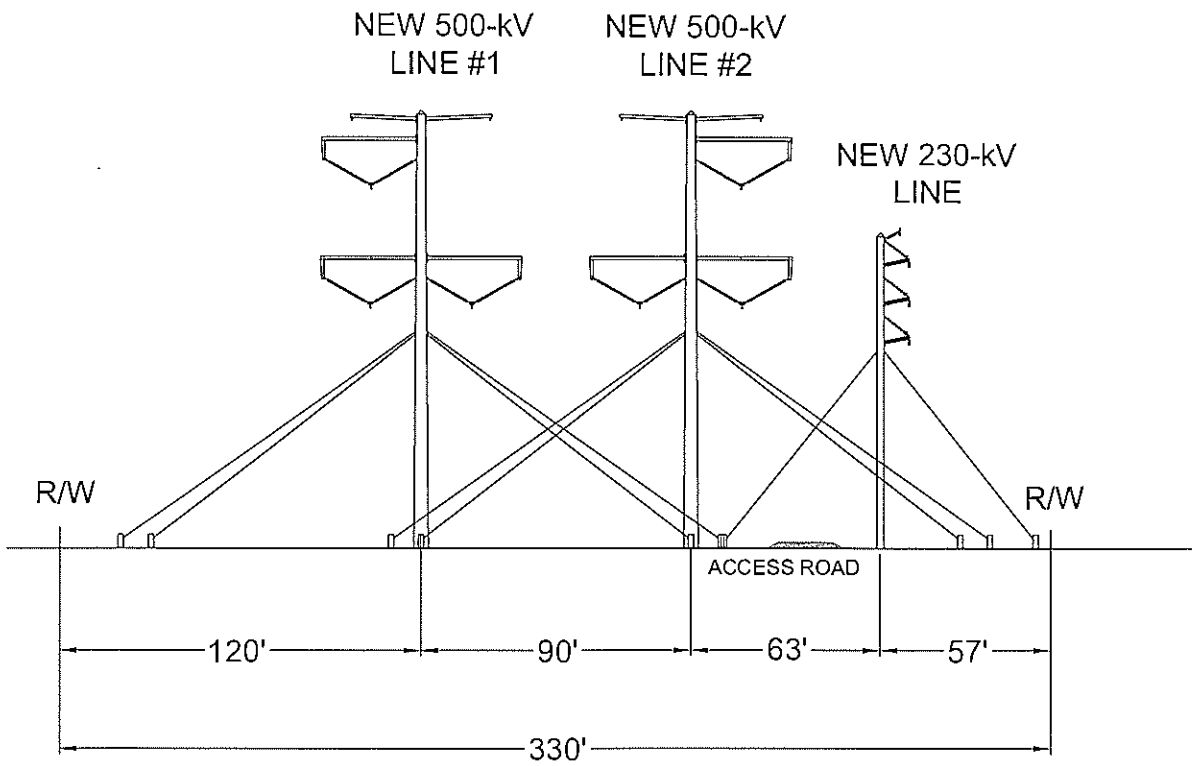
FPL.

FILE No. 080489-0100
REV. 0
PLOT DATE 05/19/2009

FIGURE W9.2.0-3

M:\acad\2434\FCAD From FPL\05043\W4 SFWMD LEVEES WITH 230KV TOT THE WEST.dwg

(W4) CLEAR SKY-LEVEE #1 & #2 500-kV & CLEAR SKY-PENNSUCO 230-kV DESIGN ALONG SFWMD LEVEES WITH 230-kV LINE TO WEST LOOKING SOUTH



NOTES:
1. STRUCTURES MAY BE SPACED AT DIFFERING INTERVALS LONGITUDINALLY ALONG THE RIGHT-OF-WAY.
2. CONCEPTUAL CONFIGURATION SHOWN. FINAL CONFIGURATION MAY VARY.

GRAPHIC SCALE
0 30 60
SCALE IN FEET

PROJECT
TURKEY POINT UNITS 6 & 7 PROJECT:
TRANSMISSION LINES

TITLE
(W4) ALONG SFWMD LEVEES

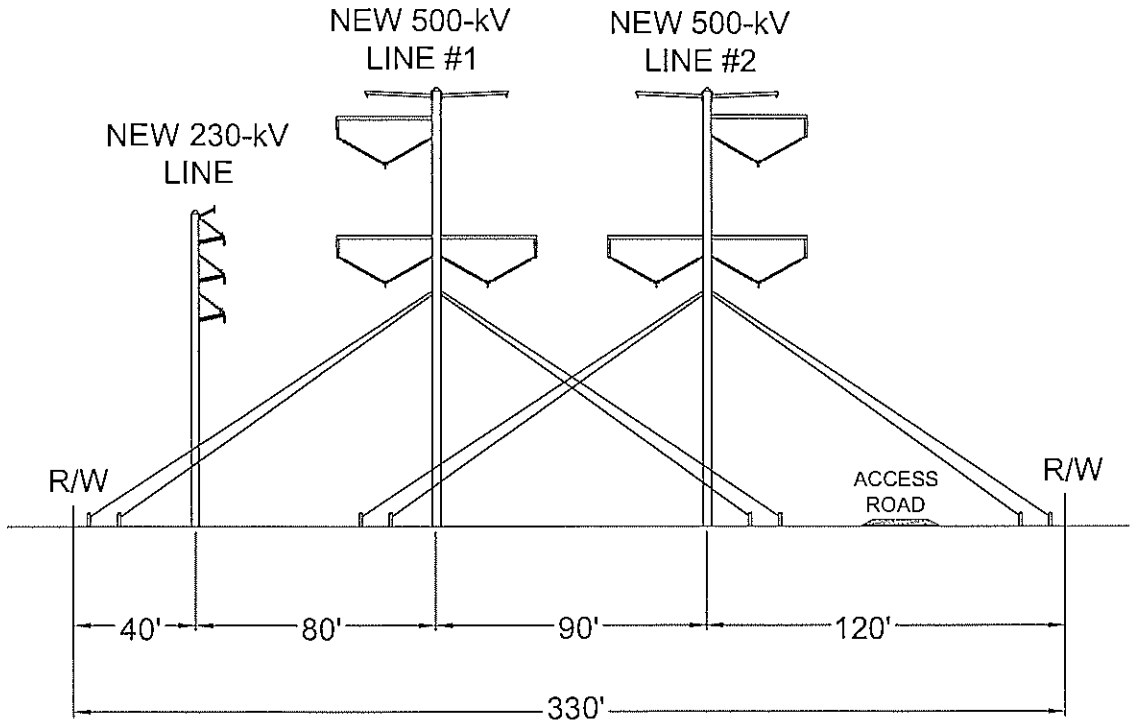
FPL.

FILE No. 080489-0100
REV. 0
PLOT DATE 05/19/2009

FIGURE
W9.2.0-13

M:\xl\080048\CAD From FPL\080409\W4 SFWMD LEVEES WITH 230kV TO THE EAST.dwg

(W5) CLEAR SKY-LEVEE #1 & #2 500-kV & CLEAR SKY-PENNSUCO 230-kV DESIGN ALONG SFWMD LEVEES WITH 230-kV LINE TO THE EAST LOOKING SOUTH (ALTERNATIVE CONFIGURATION)



NOTES:
1. STRUCTURES MAY BE SPACED AT DIFFERING INTERVALS LONGITUDINALLY ALONG THE RIGHT-OF-WAY.
2. CONCEPTUAL CONFIGURATION SHOWN. FINAL CONFIGURATION MAY VARY.

GRAPHIC SCALE
0 30 60
SCALE IN FEET

PROJECT
TURKEY POINT UNITS 6 & 7 PROJECT:
TRANSMISSION LINES

TITLE
(W5) ALONG SFWMD LEVEES
(ALTERNATIVE CONFIGURATION)

FPL.

FILE No. 080409-0100
REV. 0
PLOT DATE 05/19/2009

FIGURE
W9.2.0-14

Everglades National Park Expansion Area
Threatened & Endangered Species

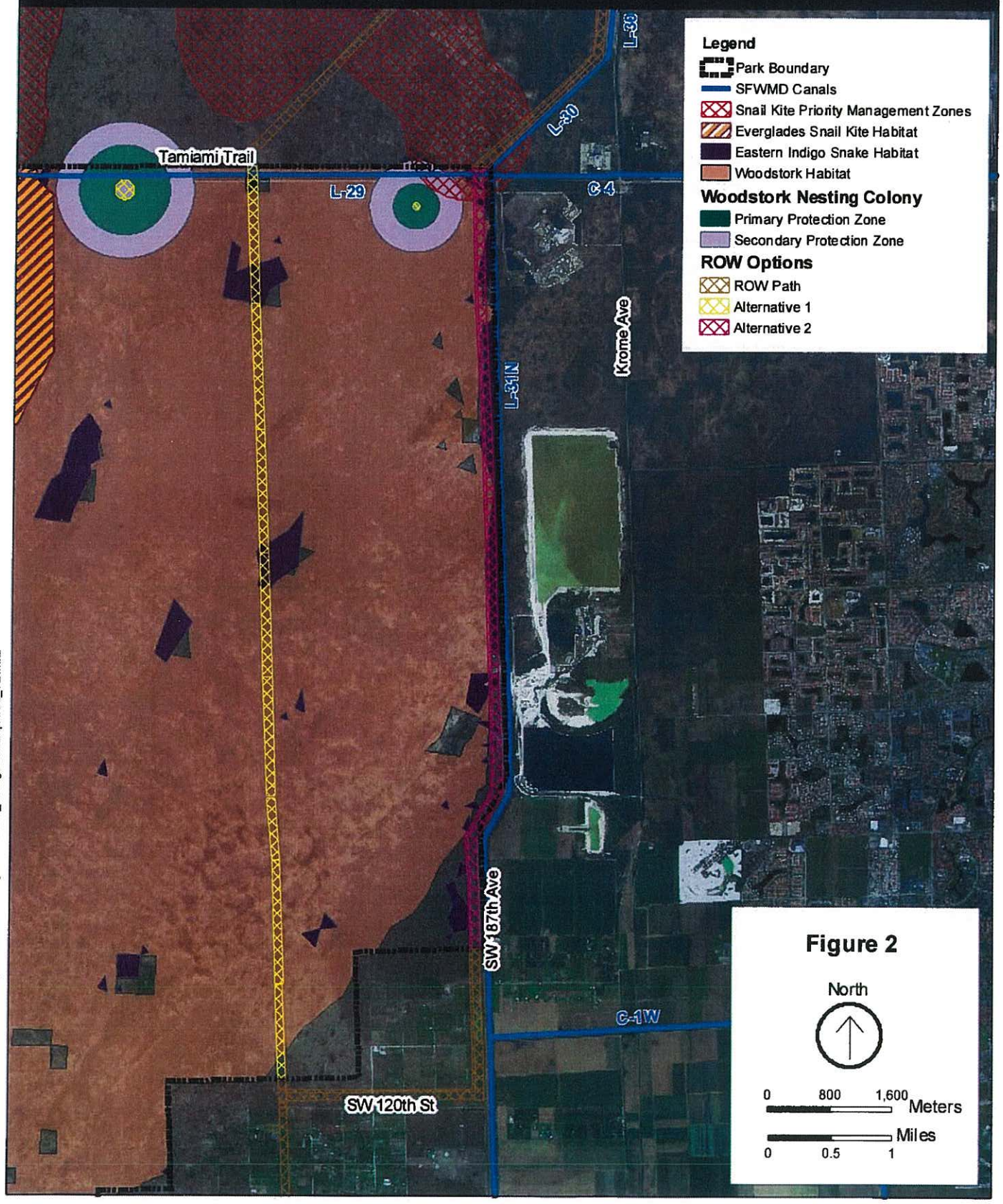


Figure 2

C:\Documents and Settings\69568\My Documents\Everglades\GIS\1_EvergladesExpArea_TE.mxd

LEGEND

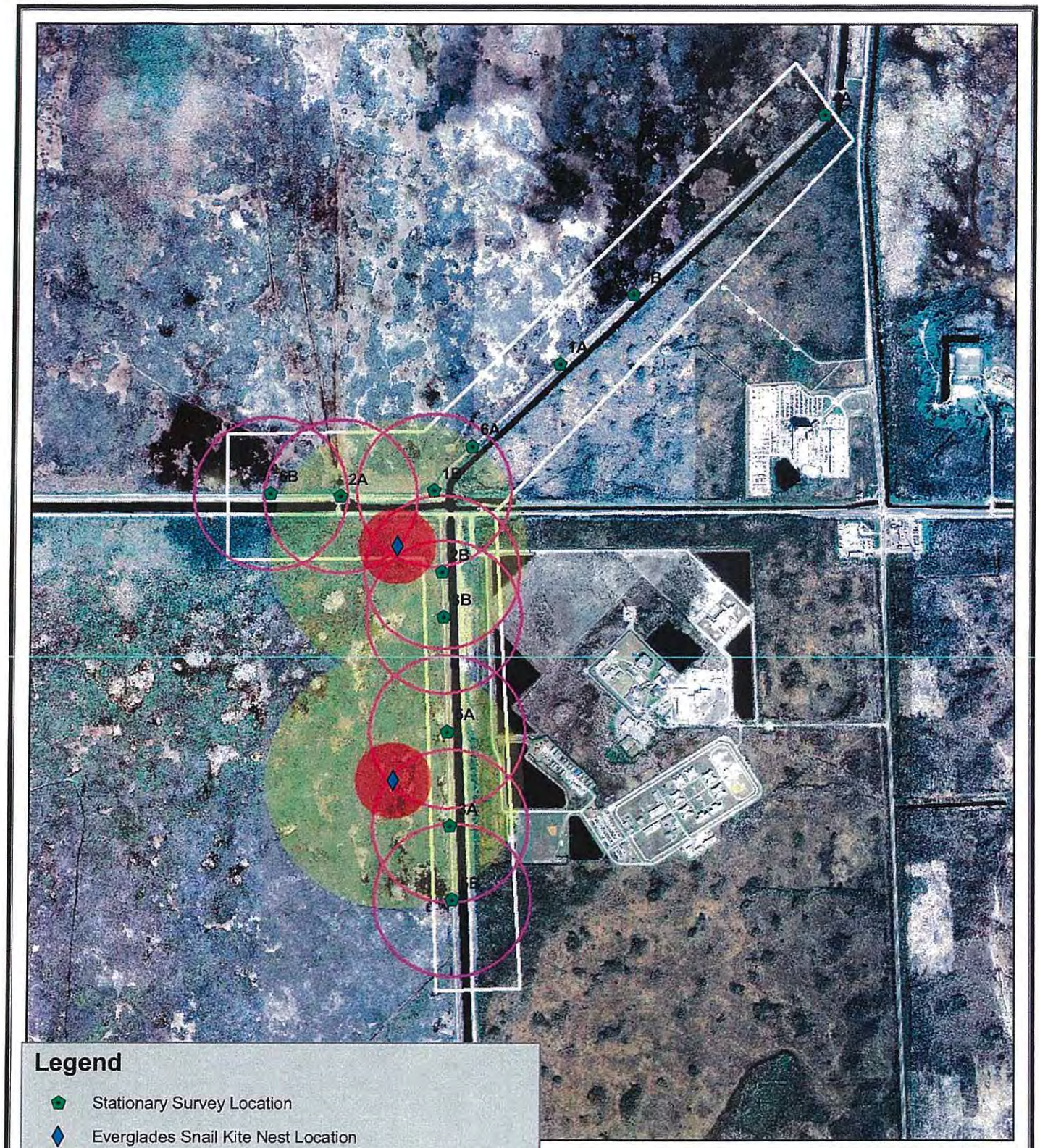
- Wood Stork Colony
- 2500' Secondary Zone
- 1000' Primary Zone
- West Preferred Corridor
- West Secondary Corridor
- Access Corridor

REFERENCES

Sources: FWC, 2009; NRCS, 2007; SFWMD, 2009; FPL, 2009; Miami-Dade County, 2008, 2009; ECT, 2009.

PLOT DATE 12/18/2009	REV 0	FILE No. 090531-0100	TITLE **LOCATION OF WOOD STORK COLONIES (WITHIN 5 MILES) AND ZONES**	PROJECT **TURKEY POINT UNITS 6 & 7 PROJECT: TRANSMISSION LINES**

FPL



EVERGLADES SNAIL KITE OBSERVATIONS AND NEST LOCATIONS	
L31N (L-30) SEEPAGE MANAGEMENT PILOT PROJECT	
Scale: 1 inch = 500 meters	Drawn By: MR
Date: March 2010	Approved By: MH
DIAL CORDY AND ASSOCIATES INC Environmental Consultants	J10-1151
	Figure 11

APPENDIX F: CONSTRUCTION AND OPERATION OF ELECTRICAL POWER TRANSMISSION FACILITIES

Under all the alternatives there would exist the reasonably foreseeable potential for Florida Power & Light Company (FPL) to develop a high-voltage electrical transmission corridor from Clear Sky Substation to Levee (or Pennsuco) Substation. Although the location and construction methods of the transmission corridor would vary under the alternatives, transmission facilities, components, and operations and maintenance needs would be similar regardless of location. Access methods and routes would vary based on location.

TRANSMISSION CORRIDOR CHARACTERISTICS AND STRUCTURES

FPL's transmission line facilities are designed to comply with all applicable codes, guidelines, and standards. The primary code used in the design of transmission lines is the National Electrical Safety Code (NESC 2007). The NESC is an American National Standards Institute (ANSI) standard that covers electrical clearances and loading and strength requirements, including extreme wind. Codes and standards of other agencies and standard organizations that provide rules, guidelines, and conditions for particulars not specified by the NESC, used to design the proposed transmission lines, include:

- Occupational Safety and Health Administration rules provide requirements for safe minimum approach distances.
- American Society of Civil Engineers Manual 74, Guidelines for Electrical Transmission Line Structural Loading, and Standard 48-05, Design of Steel Transmission Pole Structures.
- Federal Aviation Administration guidelines cover requirements in the vicinity of airports.
- Florida Department of Transportation 2007 Utility Accommodation Manual.

These codes, guidelines, and standards provide design parameters and guidelines with the goal of protecting public safety.

It is intended that all three transmission lines associated with the Turkey Point 6 and 7 Project would be constructed within a 330-foot right-of-way. An additional 90-foot vegetation management buffer could also be needed to facilitate operations and management needs and for exotic species control.

Based on information provided in the FPL Site Certification Application (SCA) for the Turkey Point Units 6 & 7 Project (FPL 2009), the analysis assumes a span of 1,000 feet for the 500-kV line and a span of 500 feet for the 230-kV line, but it is recognized that this will vary with length of line between angles and the need to avoid or span some areas. The two proposed Clear Sky-Levee 500-kV transmission lines are to be constructed typically using 135- to 150-feet-tall, single-circuit, guyed, concrete poles directly embedded into the ground. Other structure types that may be used along the route include single-circuit, guyed, hybrid poles (bottom section of the structure is concrete; the top section is tubular steel) or single-circuit, un-guyed, tubular steel poles installed on concrete caisson foundations. Guyed, multi-pole structures will also be used where the transmission lines turn large angles or cross other major linear facilities. The 500-kV transmission lines will typically be framed in a triangular configuration. The conductor to be used for these transmission lines is anticipated to be a three conductor bundle of 1,272-thousand circular mil (kcmil) aluminum conductor, steel-reinforced, alumoweld core. The maximum current rating for this conductor is 4,215 amperes. The maximum current rating is the nominal value that would be expected to cause the conductor to reach a design temperature limit of 115 degrees Celsius (°C).

The proposed Clear Sky-Pennsuco 230-kV transmission line will typically be constructed using 80- to 105-feet-tall, single-circuit, concrete poles directly embedded into the ground using a typical guyed structure. Alternative designs may be used along the corridor to accommodate location-specific conditions. Double-circuit guyed concrete poles will be used in portions of existing rights-of-way where the line will be collocated with existing transmission lines. Alternative guyed configurations, which may include multiple guyed structures, will be used where the transmission line turns large angles or crosses other major linear facilities. In some areas of the line, due to localized considerations, variations to these typical designs may be needed. The six conductors (two per phase) of the proposed Clear Sky-Pennsuco 230-kV transmission line will typically be framed in a vertical configuration. Each conductor is anticipated to be one 954-kcmil aluminum conductor, steel-reinforced alumoweld core. The maximum current rating for the transmission line will be 2,990 amperes. The maximum current rating is the nominal value that would be expected to cause the conductor to reach its design temperature limit of 115°C.

Diagrams of potential structure types and configurations are presented in figures F-1 through F-7.

CONSTRUCTION TECHNIQUES

Construction phases would typically consist of right-of-way clearing, access road and structure pad construction (where necessary), line construction, and right-of-way restoration. Several crews may work simultaneously along the length of the line. During the construction of the transmission line, the duration of a crew's stay in any one area would be relatively short (approximately 1 to 2 weeks per location). Foundation construction (if needed) would take approximately 1 day per structure location. Assembly and erection of a structure would each take a few hours to accomplish. Stringing (installing) the conductors would take 3 to 5 days per location, with stringing locations/wire-pulling equipment approximately 2 to 3 miles apart. Cleanup would likely take a few hours at each location. Crew sizes vary depending on the task. The largest crew in any one location could consist of 20 to 30 members; however, on the average, crew size will be approximately 10 to 15 members.

RIGHT-OF-WAY CLEARING

Where vegetation clearing is required, all trees and shrubs within the right-of-way limits whose mature height could exceed 14 feet and are proximate to the transmission lines would be evaluated for pruning or clearing to ground level consistent with the requirements of ANSI A300 (part I)-2000 Pruning Standards and ANSI Z133.1-2000 Pruning, Repairing, Maintaining and Removing Trees, and Cutting Brush-Safety Requirements. In addition, exotic vegetation that may present a fire hazard outside the right-of-way may be removed.

Where trees are cut to ground level, stumps would either be cut or ground down to natural grade and treated with an approved herbicide to prevent regrowth, or the entire stump and root mat would be grubbed to at or below grade. Chipped material would be spread uniformly in uplands along the right-of-way unless landowner restrictions require disposal in another manner. When chipped material is not spread in uplands along the right-of-way, vegetation debris may be hauled to landfills or piled and burned within the limits of the right-of-way consistent with state and local regulations.

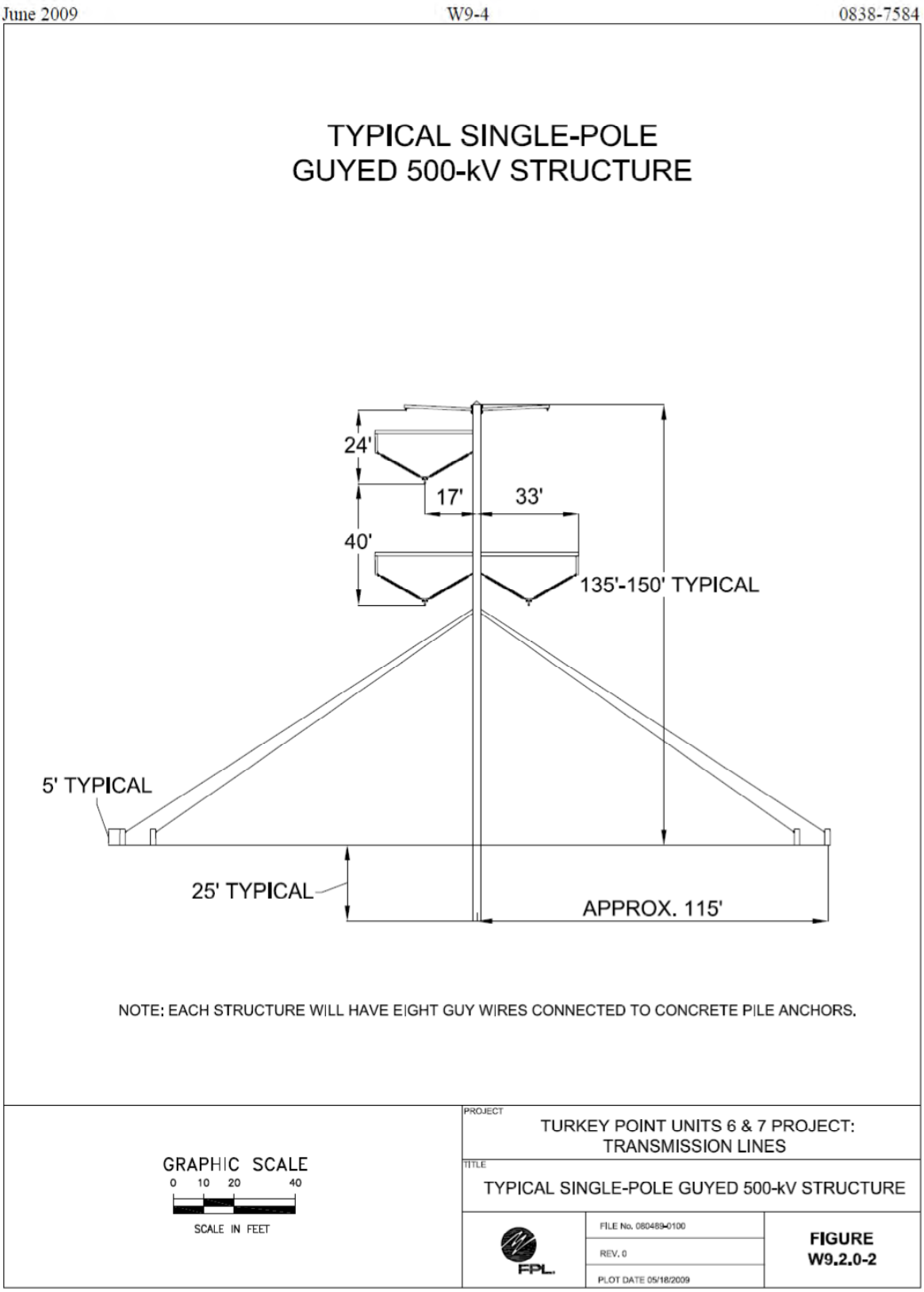


FIGURE F-1: TYPICAL SINGLE-POLE GUYED 500-KV STRUCTURE

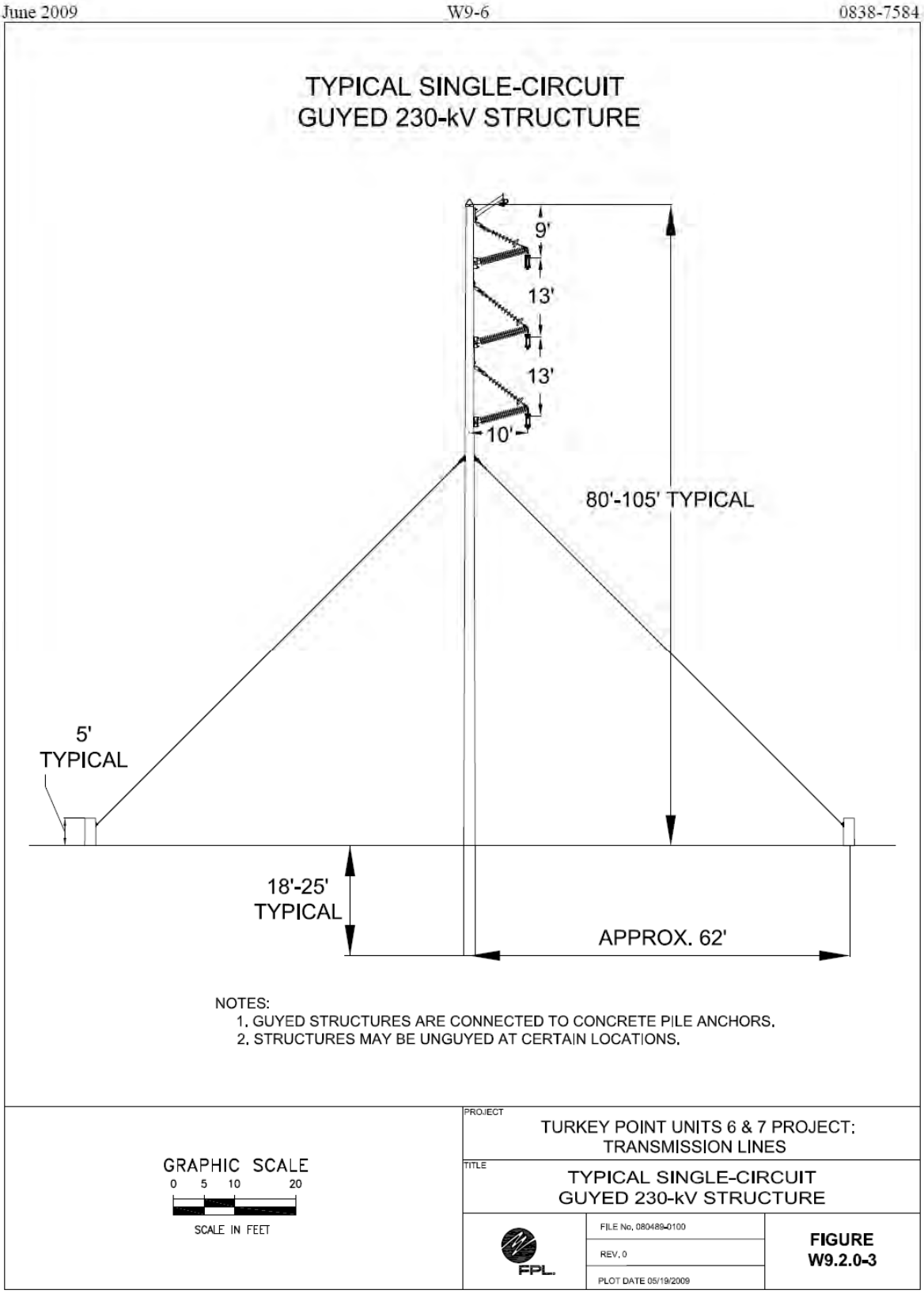


FIGURE F-2: TYPICAL SINGLE-CIRCUIT GUYED 23-KV STRUCTURE

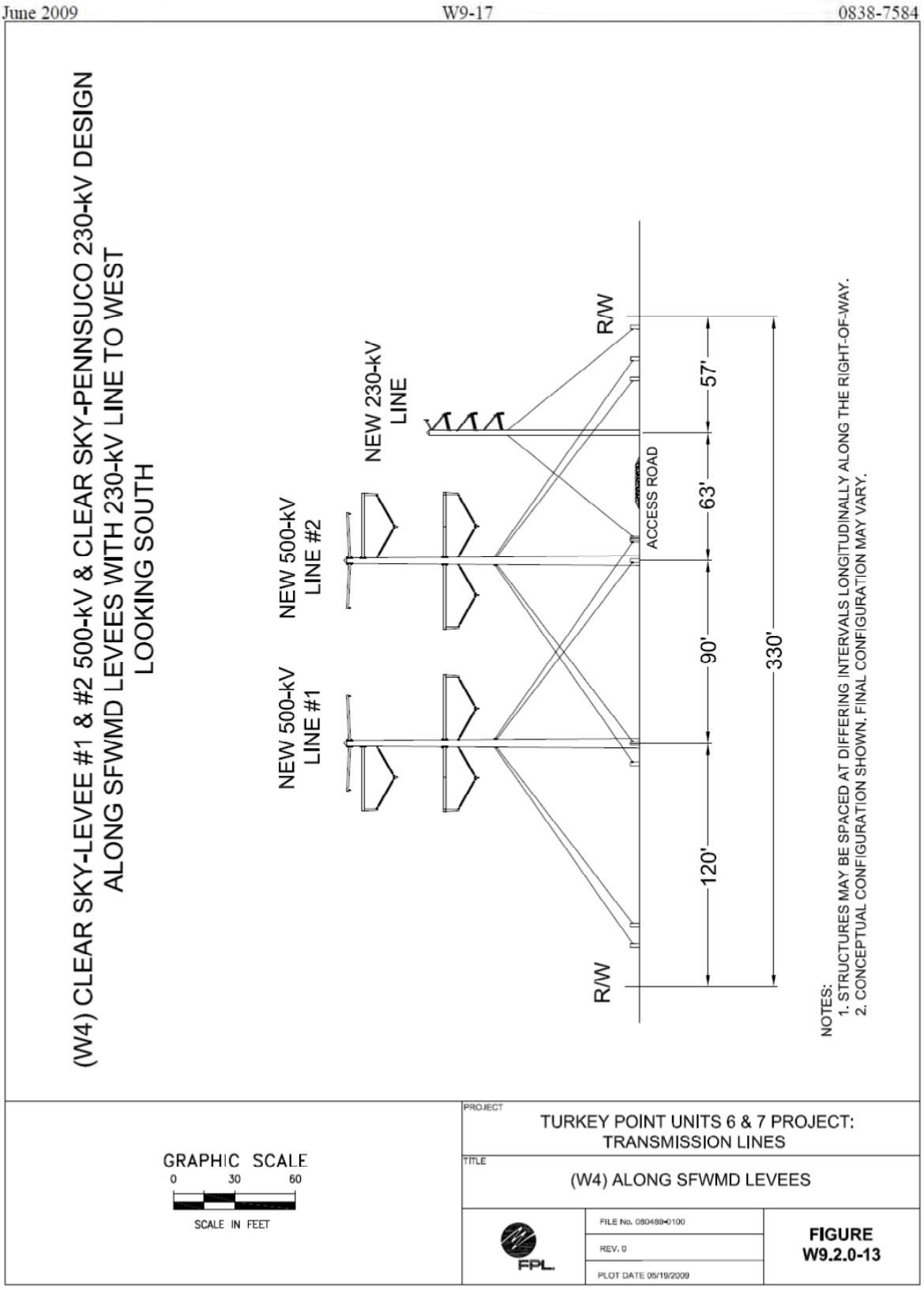


FIGURE F-3: (W4) ALONG SOUTH FLORIDA WATER MANAGEMENT DISTRICT LEVEES

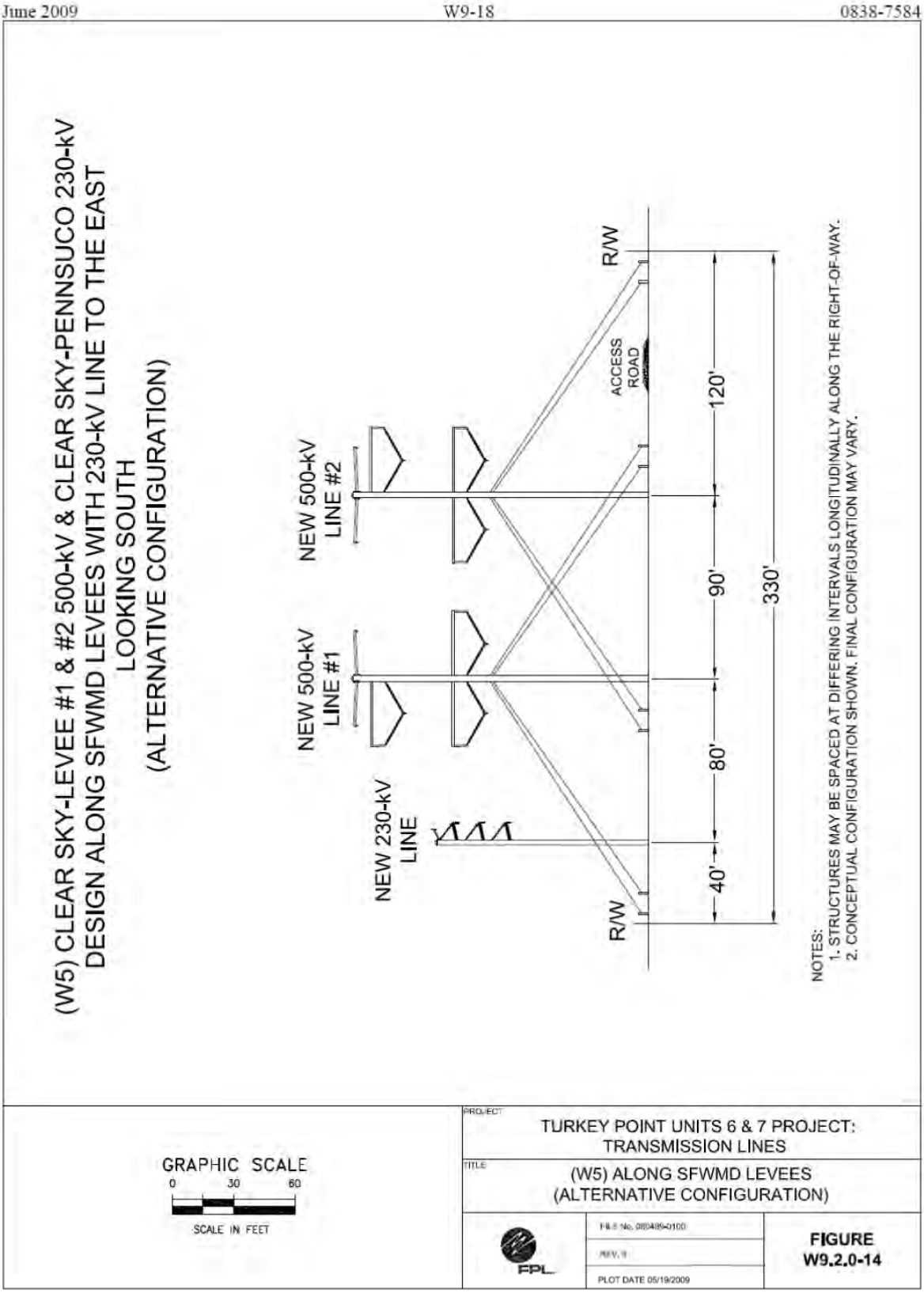


FIGURE F-4: (W5) ALONG SOUTH FLORIDA WATER MANAGEMENT DISTRICT LEVEES (ALTERNATIVE CONFIGURATION)

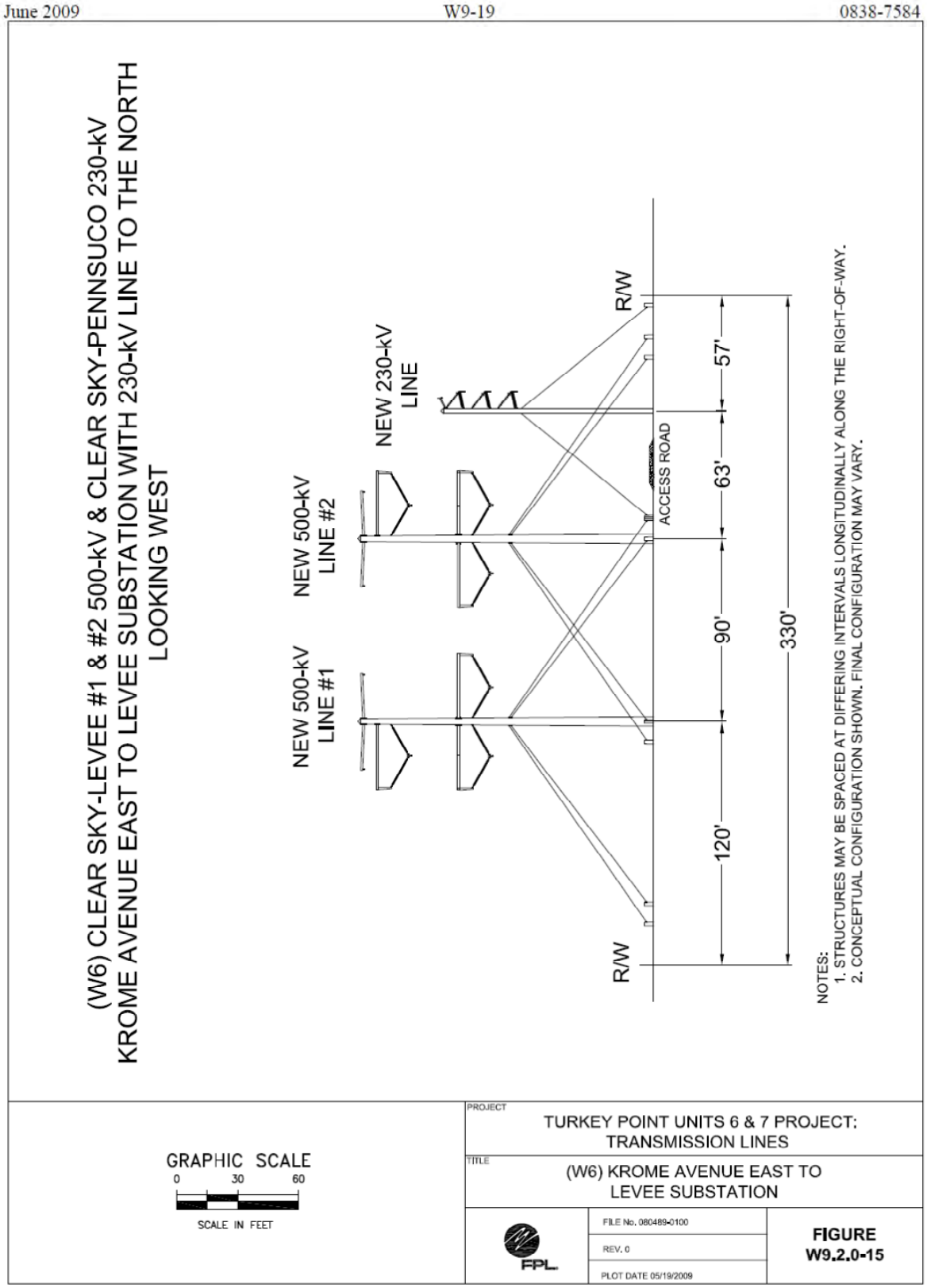


FIGURE F-5: (W6) KROME AVENUE EAST TO LEVEE SUBSTATION

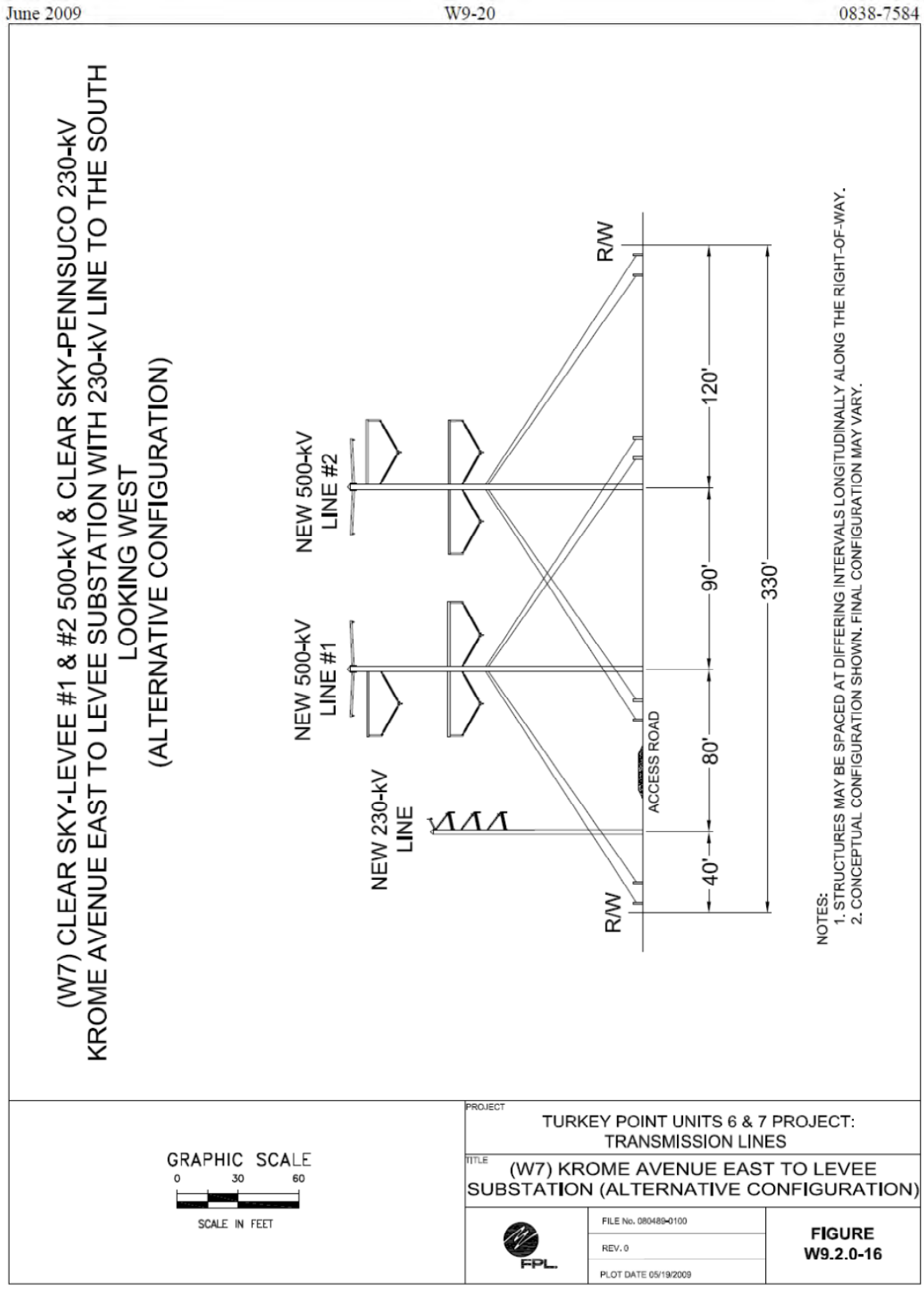


FIGURE F-6: (W7) KROME AVENUE EAST TO LEVEE SUBSTATION (ALTERNATIVE CONFIGURATION)

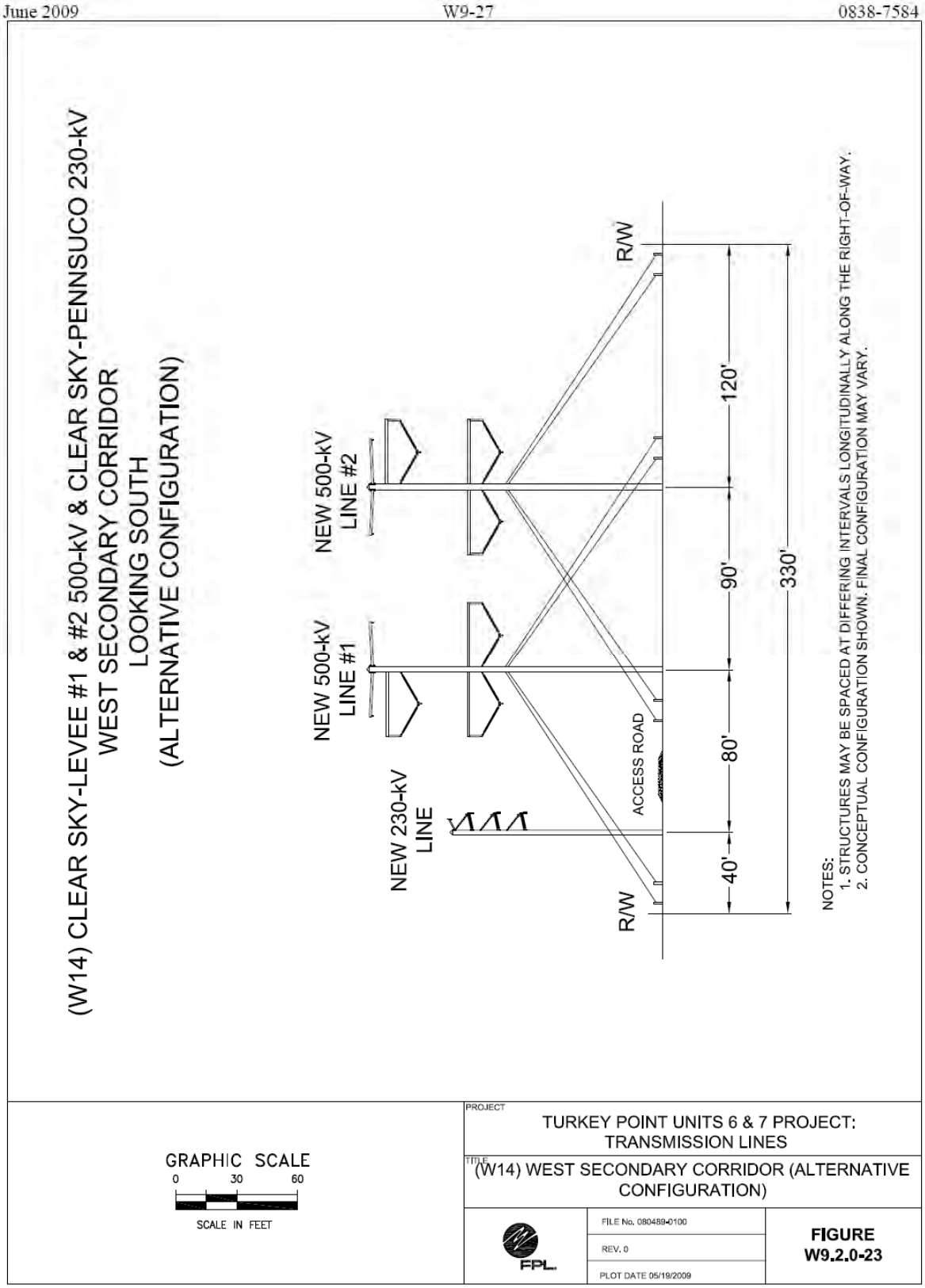


FIGURE F-7: (W14) WEST SECONDARY CORRIDOR (ALTERNATIVE CONFIGURATION)

Clearing in wetlands and sensitive communities along the right-of-way would be accomplished using restrictive clearing techniques. Restrictive clearing is performed by hand, usually with chain saws or with low ground pressure shear or rotary type machines, which reduce soil compaction and vegetation disturbance.

Use of herbicides for vegetation control on the rights-of-way would meet federal, state, and local regulations. Typically, herbicides would be used on exotic and incompatible species. Care would be taken to retain a cover of compatible native species. For the portions of the right-of-way that would be adjacent to the Everglades National Park, herbicide use would be in compliance with the National Park Service (NPS) Integrated Pest Management Plan.

ACCESS ROAD/STRUCTURE PAD CONSTRUCTION

A single access road will be needed to access the structure pads for the two 500-kV and one 230-kV transmission lines along the length of the right-of-way. Access roads would be used for initial line construction and would remain for routine maintenance and emergency access. FPL would evaluate existing access roads (e.g., agricultural roads, public roadways, and South Florida Water Management District levees) for possible use of these existing facilities. In some cases, these existing access roads may need to be improved to accommodate the construction and maintenance equipment. Where access roads are currently not available or where existing roads need to be enhanced, the construction or enhancement of these roads would be completed with clean fill and the roads would be unpaved.

Construction of access roads and pads (where required) in uplands would be accomplished by first completing the clearing and grubbing of the road footprint and then placing, spreading, shaping, and compacting hauled clean fill to the design elevation.

Construction of access roads and pads in wetlands would be accomplished by first installing silt fences or hay bales along the perimeter of the work area of the right-of-way, followed by selective clearing of the right-of-way to remove vegetation whose mature height could exceed 14 feet. Then an additional silt fence would be installed along both sides of the proposed access road and pad footprints, followed by a final clearing and grubbing of the areas to be filled. After clearing and grubbing is complete, a geotextile liner may be laid and staked before road and pad construction commences. The final grade of access roads and structure pads is typically set to be 12 inches above the expected seasonal high water (or controlled high water) elevation.

The typical pads to be constructed for structure support are depicted in figures F-8 through F-11. For purposes of assessing area of disturbance from pads, information provided by FPL was used to supplement the information included in the Site Certification Application (SCA). Based on the figures in the SCA, the typical larger pad size (without side slopes) is assumed to be about 67 by 330 feet for areas containing the 500-kV structures, and 35 by 55 feet for areas with just a 230-kV line present. FPL figures provided in its data needs response were reviewed with FPL (Braun, pers. comm. 2012) and were used to estimate the acres of filled/disturbed areas in order to do a comparative analysis among alternative transmission line scenarios in the EIS. All these figures are rough estimates subject to change and are based on preliminary design only. The larger pad (where there are both 500-kV and 230-kV structures) would be 1 acre in wetland areas (where more fill is needed) and 0.68 acres in non-wetland or upland areas. The smaller 230-kV pads were assumed to be about 0.35 acre in wetlands and 0.05 acres in uplands. If the existing levee road could be used, small finger pads would be needed to connect to the levee road for portions of the West Preferred corridor; these are about 18 by 125 feet on the average and were not included in the estimates used in the EIS, which assumed that a new access road would be built along the length of the right-of-way for all routes analyzed.

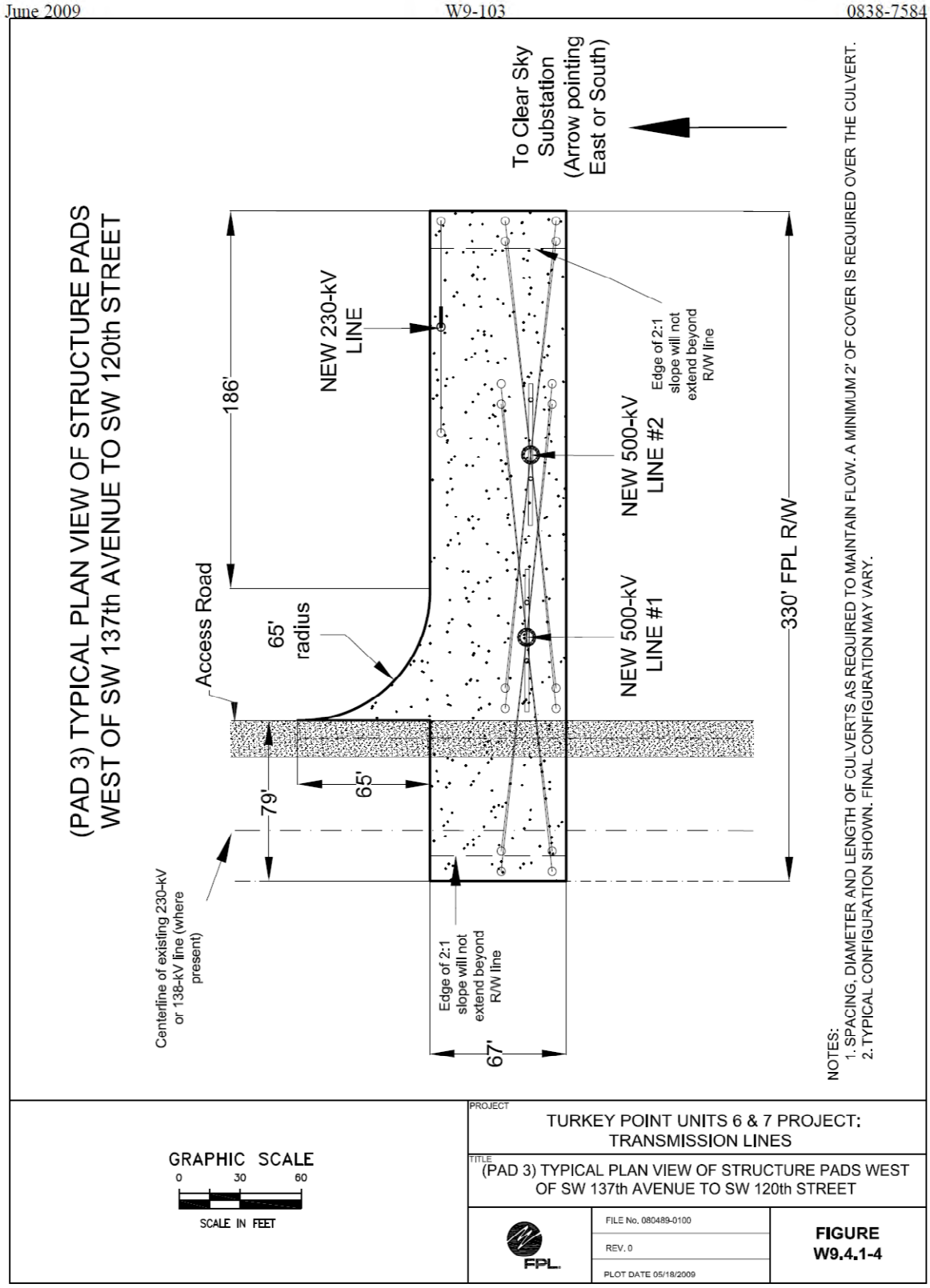


FIGURE F-8: (PAD 3) TYPICAL PLAN VIEW OF STRUCTURE PADS WEST OF SW 137TH AVENUE TO SW 120TH STREET

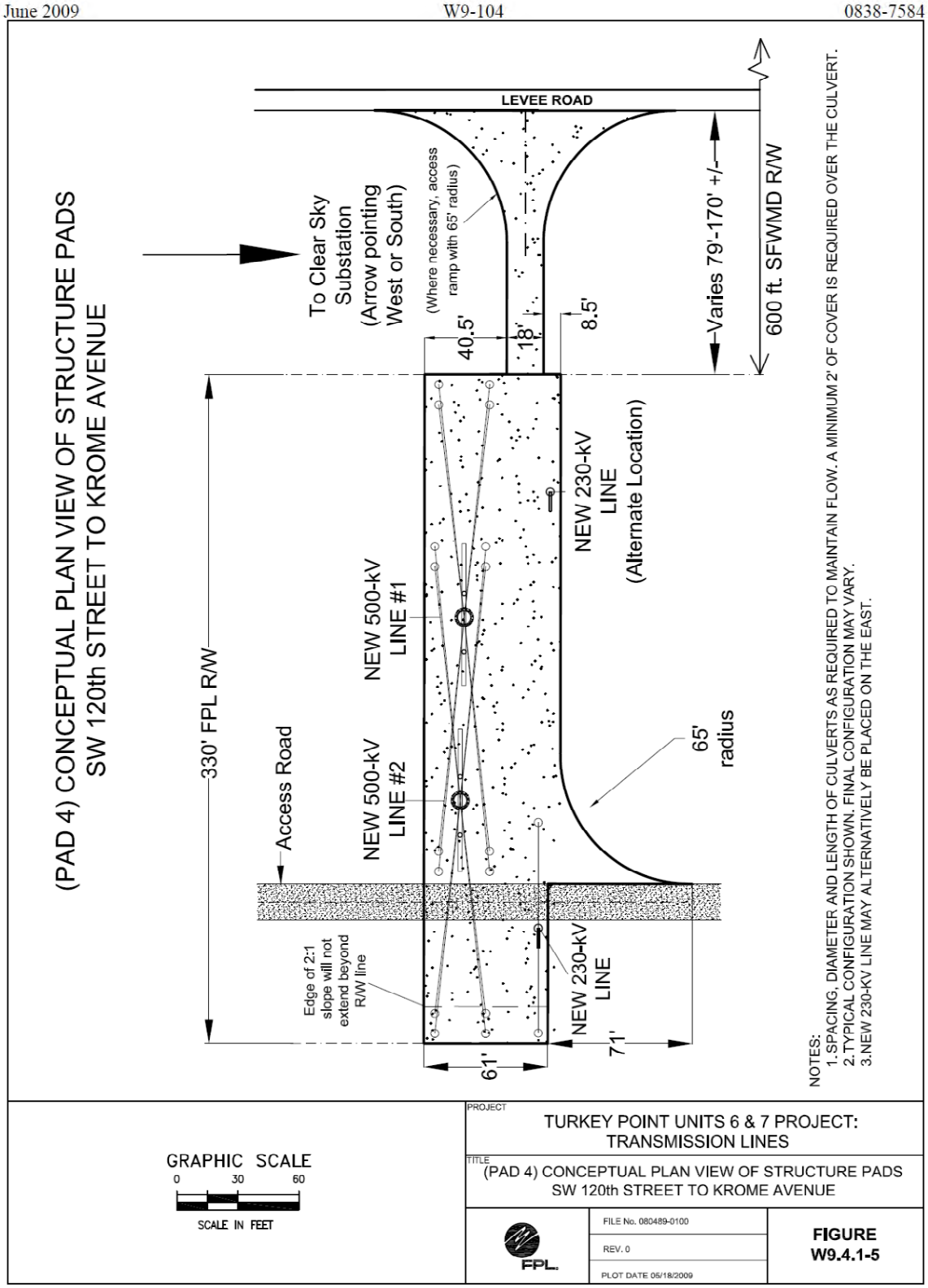


FIGURE F-9: (PAD 4) CONCEPTUAL PLAN VIEW OF STRUCTURE PADS SW 120TH STREET TO KROME AVENUE

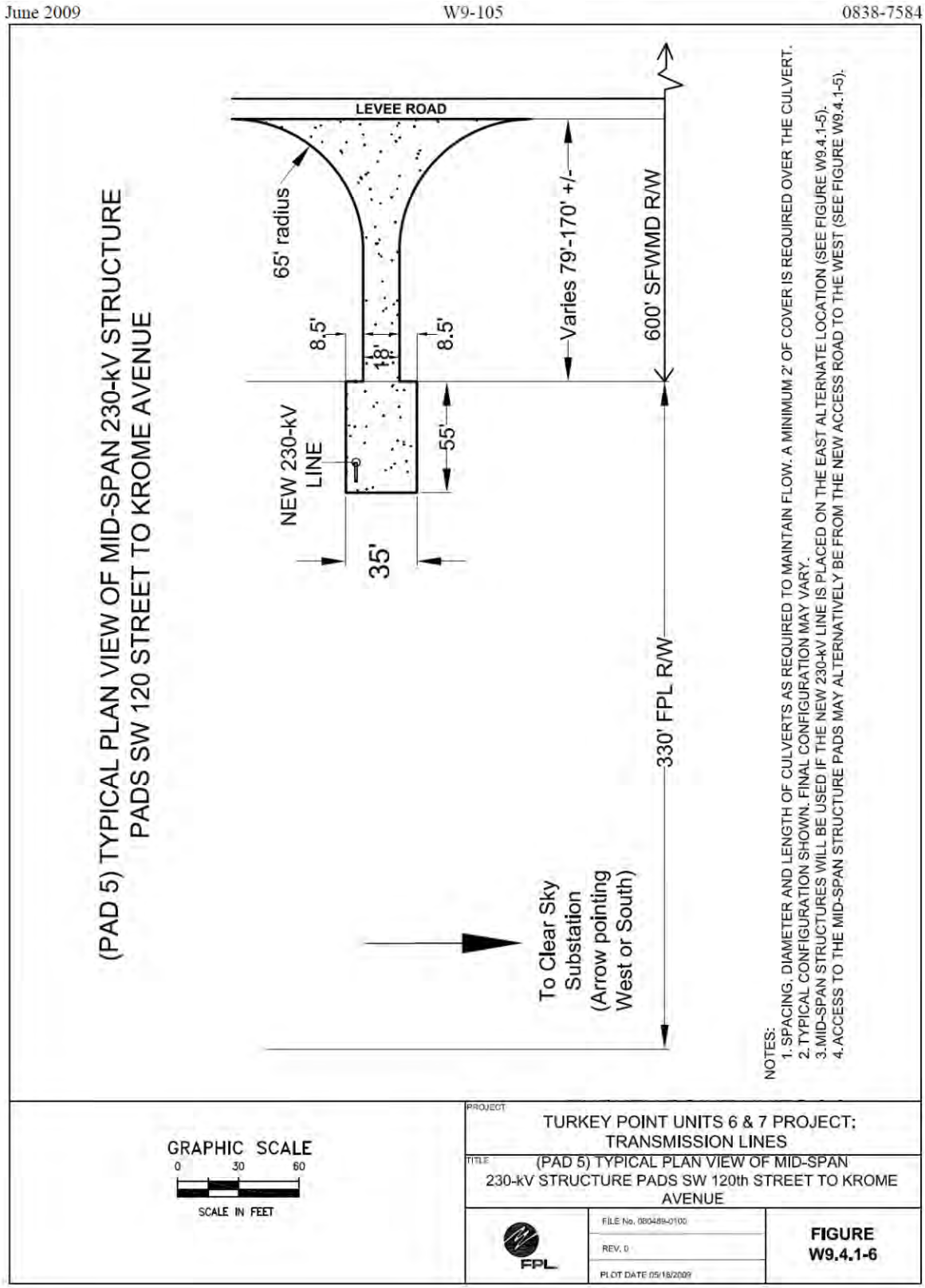


FIGURE F-10: (PAD 5) TYPICAL PLAN VIEW OF MID-SPAN 230-KV STRUCTURE PADS SW 120TH STREET TO KROME AVENUE

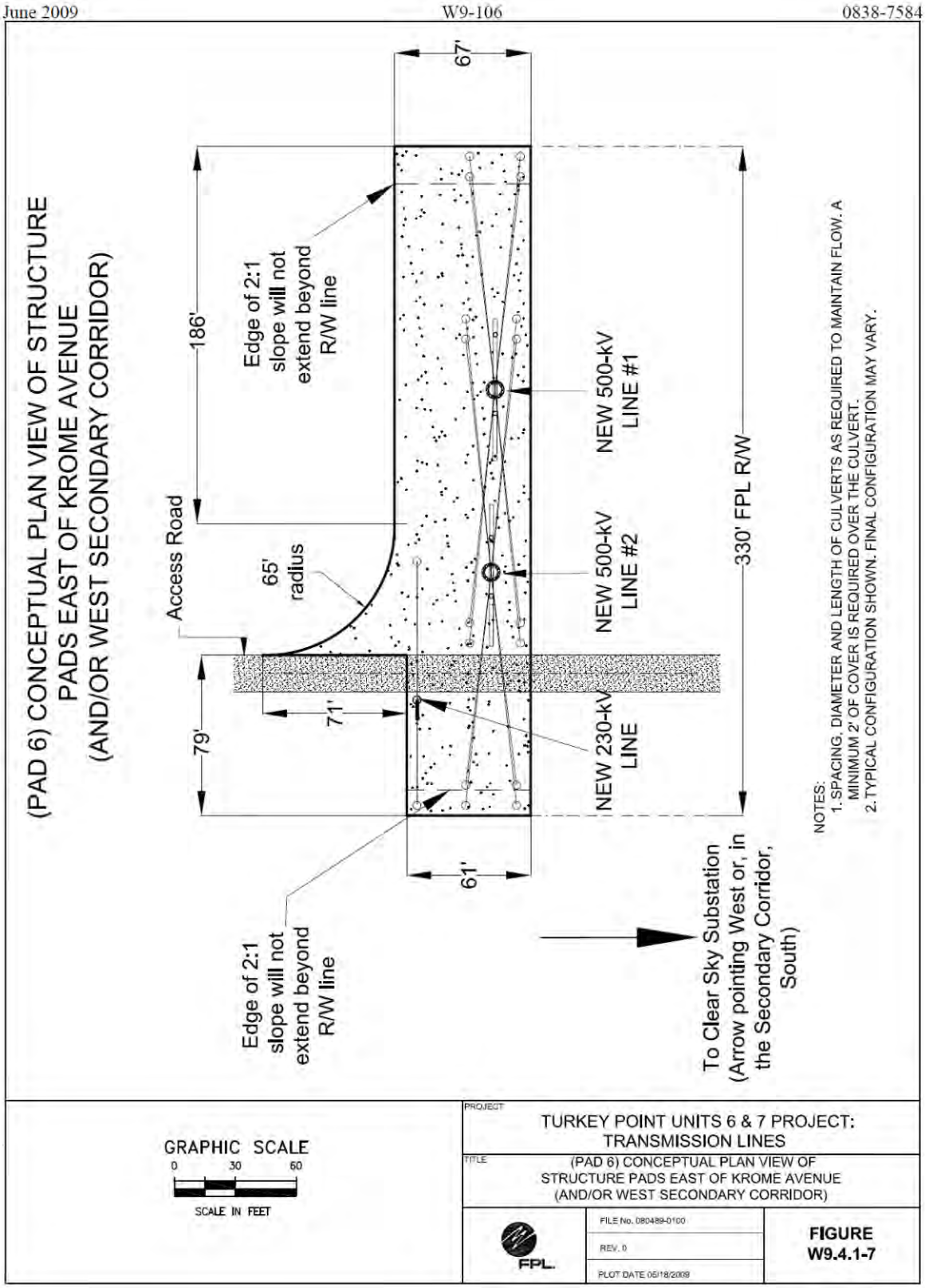


FIGURE F-11: (PAD 6) CONCEPTUAL PLAN VIEW OF STRUCTURE PADS EAST OF KROME AVENUE (AND/OR WEST SECONDARY CORRIDOR)

A cross-section of a typical access road/pad is shown in figure F-12. Typical width of the travel lane of the access road would be 18 feet, although the total area disturbed and graveled (including the side slopes) was assumed to be 42 feet in wetlands (where more fill is needed) and 22 feet in uplands.

Specific locations and design of access roads through wetlands would be part of the final design of the transmission line to be submitted to agencies as a post-certification submittal in compliance with the conditions of certification. Transmission line construction stormwater discharges released into waters of the state will be addressed through compliance with Rule 62-621.300(4) (Generic Permit for Stormwater from Large and Small Construction Activities).

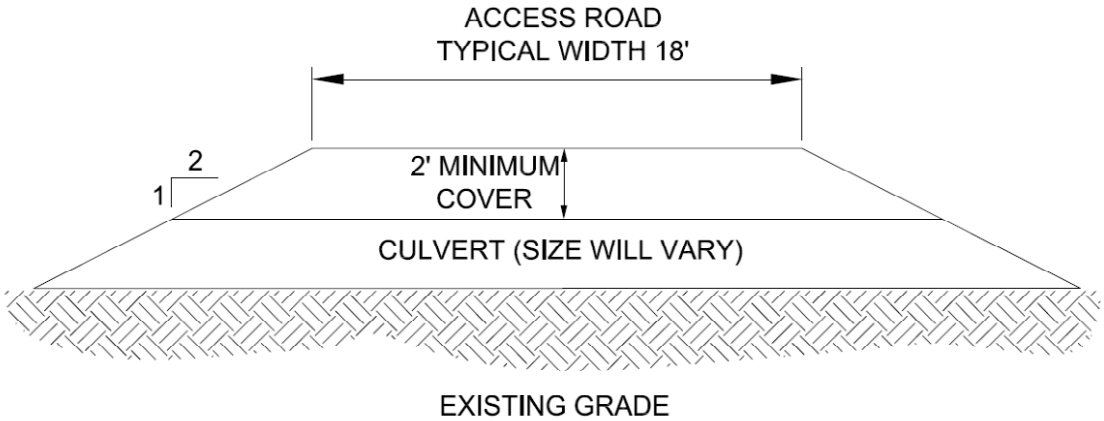
Culverts are included under access roads in wetlands to maintain channel flow and/or overland flow. Typically a minimum of 2 feet of cover is installed over culverts to ensure they are not crushed by vehicle loads. The culverts are installed so that their invert elevations match the wetland floor elevation. A combination of 18-, 24-, 30-, and 36-inch culverts is expected to be used on the transmission line access roads and structure pads where required to maintain existing surface water flows. Smaller diameter culverts are preferred, as practicable, to limit the depth of fill to be installed. However, larger diameter culverts may be required in some locations.

Culverts and access roads would be designed based on best available information and good engineering practice to equalize the water volume created from a small rainfall event. Culvert sizing for the access roads and structure pads in extensive wetland areas would be based on appropriate hydrological studies and comply with applicable codes and requirements. Where construction of access roads and structure pads is required in wetlands, turbidity screens and erosion control devices would be used to minimize construction impacts to wetlands and water bodies and ensure that state water quality standards for turbidity are met.

TRANSMISSION LINE CONSTRUCTION

Transmission structures are generally delivered to the work area using semi-trailer trucks with open trailers. Structure transport would comply with applicable state and local road regulations. Assembly would occur as close as possible to the design location. Typically the structures are framed with the insulator and overhead ground wire assemblies while lying on the ground. Installing the transmission line structures requires an auger truck, which will typically auger a hole approximately 18- to 25-feet deep and approximately 72 inches (6 feet) in diameter on average. Dewatering of the holes during construction, in the unlikely event it is required, may discharge water to catch basins, temporary settling basins, or watercourses if the water is sufficiently free of sediments. The concrete single-pole or hybrid single-pole structures (where the bottom section of the pole is concrete, and the top section of the pole is tubular steel) will be embedded directly into the hole and backfilled with crushed rock. (Use of taller, multiple-piece, single-pole concrete or taller hybrid pole structures, localized geography, or poor subsurface conditions may require the selection of additional setting depths.) Multiple-piece structures could be assembled on the ground prior to lifting in place, or they could be installed in the air one section at a time with the use of a crane. Where tubular steel, single-pole, un-guyed structures are used, they will require augering a hole approximately 108 inches (9 feet) in diameter to accommodate the installation of concrete caisson foundations. A caisson foundation is composed of a reinforcing steel cage with poured-in-place concrete. Excess excavated fill material would be spread evenly onto adjacent uplands, preferably onto existing or recently constructed access roads or pads.

June 2009 W9-49 0838-7584



NOTES:

1. HEIGHT OF ROAD/PAD VARIES, MINIMUM 12" OVER MEAN OR SEASONAL HIGH WATER.
2. SPACING, DIAMETER AND LENGTH OF CULVERTS AS REQUIRED TO MAINTAIN FLOW. A MINIMUM OF 2' OF COVER IS REQUIRED OVER THE CULVERT.
3. ACCESS ROADS/PADS TO BE BUILT ONLY WHERE EXISTING ACCESS AT THE TIME OF CONSTRUCTION IS UNAVAILABLE.
4. TYPICAL ROAD IS 18' TOP-WIDTH. TOP WIDTH OF STRUCTURE PADS WILL VARY.

NOT TO SCALE

PROJECT: TURKEY POINT UNITS 6 & 7 PROJECT: TRANSMISSION LINES

TITLE: TYPICAL ACCESS ROAD / PAD CROSS-SECTION

FPL

FILE No. 080489-0100

REV. 0

PLOT DATE 05/15/2009

FIGURE W9.3.4-1

FIGURE F-12: TYPICAL ACCESS ROAD / PAD CROSS-SECTION

Guys and anchors may be required at structure locations. Anchors used would typically be either multi-helix screw-in-type anchors or pile-type anchors. Pile anchors provide strength applications by embedding a short reinforced concrete pole section to a required depth with backfill. Multi-helix anchors are installed using truck-mounted equipment to screw the anchor into the ground to the required length or torque to meet design requirements. Guy wires are attached to hardware connected to the pole section extending above the ground.

Construction would be performed to minimize disturbance to natural ground cover. Turbidity screens and other erosion control devices (silt fences) would be used where there is erosion potential to minimize any impacts to wetlands and water bodies and ensure that state water quality standards for turbidity are met.

Cranes, bucket trucks, flatbed trucks, semi-trailer trucks, front-end loaders, bulldozers, and other support vehicles are typically used in structure erection and anchor/guying installations. Laydown areas for equipment and materials would be located in uplands to the fullest extent practical. If laydown areas must be located where no uplands exist then they would be permitted as a temporary impact then fully restored. The size of the laydown or staging areas would be dependent on the type and amount of equipment needed in those areas.

Prior to construction, FPL would provide notification to the Federal Aviation Administration via form 7460-1 for appropriate structures and construction equipment and will coordinate with licensed airports as necessary.

Insulator and conductor installation would follow structure erection. Installing conductors between structures requires stringing a lead line between each structure's stringing block to form a continuous connection between end points of a conductor stringing pull. The lead line is used to pull the conductors into position. The conductor is then tensioned to design specifications, transferred to the support clamp at the structure, and then clipped into its final position. This operation is repeated for each of the conductors and overhead ground wires on the transmission line. Bucket trucks, wire-pulling equipment, wire reels, trailers, tensioners, and other support vehicles are typically used in conductor and overhead ground wire installation operations; however, helicopters may also be used. Pulling areas are typically up to 1 acre in size.

RIGHT-OF-WAY RESTORATION

Once construction is completed, construction debris, if any, will be removed, and FPL would employ various methods to restore the right-of-way. These methods will be specific to each location. Restoration may include stabilizing potentially erodible areas, typically through seeding and mulching. Limited permanent alterations would be associated with right-of-way clearing.

Construction practices in wetlands will retain the vegetative root mat in the right-of-way in areas not filled for road or structure pad construction. Outside of areas where filling may be necessary for roads or structure pads, freshwater marsh/wet prairie systems crossed by the transmission lines would not be affected by construction activities since no clearing will be required, and proper culverting would maintain the existing hydroperiod. Forested wetlands would be permanently converted to herbaceous or shrub-scrub wetlands through line clearing and maintenance activities.

POST-CONSTRUCTION ACTIVITIES

LINE MAINTENANCE

Safe and reliable operation of the new transmission lines would be maintained through regular inspection of the poles, conductors, insulators, hardware, access areas, and vegetation in proximity to the facilities. The inspections would primarily consist of truck patrols but may also include aerial (helicopter/airplane) patrols. Electric transmission lines normally require minimal maintenance; however, FPL would inspect the transmission lines on a regular basis to look for problems caused by weather, vandalism, vegetation regrowth, etc.

Vegetation maintenance inspections would likely take place twice yearly. Vegetation would be maintained on an as-needed basis in the right-of-way to ensure the safe, reliable operation of the transmission lines. FPL would manage vegetation on the transmission line right-of-way by a variety of methods, including trimming, mowing, and the use of approved growth regulators and herbicides, targeting species that are incompatible with the safe access and operation and maintenance of the transmission system.

FPL's right-of-way maintenance program is specific to each location, and a maintenance prescription is often detailed down to the individual spans between poles. The exact manner in which right-of-way maintenance would be performed would depend on the location, type of terrain, surrounding environment, and regulatory control. Vegetation removal would be minimized consistent with safe and reliable operation of the transmission line. In non-urbanized or non-cultivated portions of the right-of-way, fast-growing vegetation species and other vegetation whose mature height could exceed 14 feet would be pruned or removed from the area between the structures to avoid interference with the conductor clearance. Any vegetation that could restrict access to the right-of-way would be removed. Other species are generally allowed to remain, resulting in a shrubby and herbaceous cover within the right-of-way.

FPL would also work to control the spread of nuisance plants that could present a fire hazard within the right-of-way through the use of approved herbicides and other removal techniques. Use of herbicides for vegetation control would be selective. Application of these herbicides would meet applicable federal, state, and local regulations. Where vegetation maintenance activities occur within or adjacent to Everglades National Park, herbicide use or other removal techniques would be coordinated with Everglades National Park and in accordance with the NPS Integrated Pest Management Plan.

Some vegetation maintenance activities outside the right-of-way are occasionally necessary. To enhance the safe, reliable operation of the proposed transmission lines, FPL may trim or remove danger timber outside the FPL right-of-way in coordination with the adjacent property owner(s). Danger timber includes trees in danger of falling or leaning into the conductors or, in areas of wildfire hazard, other vegetation that may provide excessive fuel loading in proximity to the transmission lines. FPL may acquire the necessary property rights to maintain such vegetation, as needed.

MULTIPLE USES

FPL rights-of-way are frequently used for other purposes compatible with the safe and reliable operation and maintenance of transmission lines. Multiple uses of a transmission line right-of-way typically include grazing, citrus and row-crop farming, other agricultural operations, controlled landscaping, recreational uses such as golf courses and hiking/biking trails, and other compatible activities that do not interfere with FPL's full use of the right-of-way and the safe, reliable function of the transmission line facilities. In most cases, FPL's property rights consist of an easement for the construction, maintenance, and operation of its transmission line, as well as the rights of ingress and egress to the line, from another party who

retains the fee-simple interest in the property. The easement may provide for the acceptable use of the right-of-way by the fee owner for activities that do not interfere with FPL's full use of its easement and the safe, reliable function of the transmission line facilities.

In some cases, FPL owns or purchases a fee interest in its rights-of-way. If FPL owns the right-of-way, all rights to the property would be held by FPL. If a party wishes to use the company-owned property, a license agreement may be negotiated, allowing for activities that do not interfere with FPL's full use of the right-of-way and the safe, reliable function of the transmission line facilities.

MITIGATION MEASURES

FPL's construction designs would include features to minimize impacts to avian species including the wood stork. For example, the spacing between transmission conductors (wires) for the proposed 230- and 500-kV lines would be far greater than the 61-inch wingspan for the wood stork, greatly minimizing the threat for electrical harm to the bird. These designs would be consistent with the Florida Fish and Wildlife Conservation Commission (FFWCC) recommended Conditions of Certification to install flight diverters on overhead ground wires to minimize bird interactions with the lines in areas within 0.5 mile of active wood stork colonies and FPL's design standard of installing perch discouragers on all new 230- and 500-kV transmission line structures. FPL's designs would be consistent with the mitigation concepts document shared previously with the NPS.

Further, an Avian Protection Plan specifically for this project, consistent with the mitigation concepts document and Avian Power Line Interaction Committee guidelines, would be developed in consultation with U.S. Fish and Wildlife Service (USFWS). In the mitigation concepts document, FPL suggested that various mitigation options are available in certain areas to reduce potential impacts to wading birds. These options include wildlife and wading bird colony surveys to document which species and in what areas of the right-of-way alignment potential impacts are possible in addition to the design features, such as perch discouragers on the towers and flight diverters mentioned above.

Subsequent to submission of that document to the NPS, FPL has been negotiating proposed Conditions of Certification with FFWCC and South Florida Water Management District. Included in those proposed Conditions of Certification are requirements for pre-construction listed species surveys all along the right-of-way and ground and follow-flight surveys of wading bird usage along the right-of-way in areas of known wading bird colonies. The proposed Conditions of Certification also require potential design alternatives such as perch discouragers and flight diverters in areas of those known colonies. FPL would also work with FFWCC to design a post-construction mitigation effectiveness monitoring study. Based on the results of such a study, FPL may be required to implement further mitigation measures, such as additional flight diverters. A specific design has not yet been selected, so these measures are not specifically incorporated into the analysis in this EIS.

Specific mitigation measures taken from the FPL SCA are listed below.

SPECIAL STATUS SPECIES

1. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) or Florida Department of agriculture and Consumer Services or FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts to species within the respective agencies' jurisdiction.
2. FPL will comply with any federal permit conditions regarding wood stork colonies.

3. FPL will work with USFWS/FFWCC to mitigate any potential impacts to Florida panther habitat once a corridor is certified and a specific right-of-way is designed.
4. Appropriate erosion control measures will be used to prevent impacts to aquatic species habitat. The transmission lines will span water bodies where manatees could occur.
5. Maintenance activities will be in conformance with FPL's *Threatened and Endangered Species Evaluation and Management Plan*, which was submitted as Appendix 10.7.1 of the FPL SCA for Turkey Point Units 6 & 7.
6. FPL will construct, operate, and maintain the transmission line in compliance with its Avian Protection Plan (FPL 2007).

WATER RESOURCES

1. Construction of access roads and pads in wetlands would be accomplished by first installing silt fences or hay bales along the perimeter of the work area of the right-of-way, followed by selective clearing of the right-of-way to remove vegetation whose mature height could exceed 14 feet. Then an additional silt fence would be installed along both sides of the proposed access road and pad footprints, followed by a final clearing and grubbing of the areas to be filled. After clearing and grubbing is complete, a geotextile liner may be laid and staked before road and pad construction commences. Stormwater discharges released into waters of the state during transmission line construction will be addressed through compliance with Rule 62-621.300(4) (Generic Permit for Stormwater from Large and Small Construction Activities).
2. Culvert sizing for the access roads and structure pads in extensive wetland areas would be based on appropriate hydrological studies and comply with applicable codes and requirements. Where construction of access roads and structure pads is required in wetlands, turbidity screens and erosion control devices would be used to minimize construction impacts to wetlands and water bodies and ensure that state water quality standards for turbidity are met.
3. In the event of inadvertent equipment or vehicle fluid release, construction crews will be equipped with spill containment and absorption materials.

VEGETATION

1. Where trees are cut to ground level, stumps will either be cut or ground down to natural grade and treated with an approved herbicide to prevent regrowth, or the entire stump and root mat will be grubbed to at or below grade. Chipped material will be spread uniformly in uplands along the right-of-way unless landowner restrictions require disposal in another manner. When chipped material is not spread in uplands along the right-of-way, vegetation debris may be hauled to landfills or piled and burned within the limits of the right-of-way consistent with state and local regulations.
2. All required tree pruning will conform to the current edition of ANSI A300 (Part I)-2000 Pruning Standards and ANSI Z133.1-2000 Pruning, Repairing, Maintaining and Removing Trees, and Cutting Brush-Safety Requirements.
3. Clearing in wetlands and sensitive communities along the right-of-way will be accomplished using restrictive clearing techniques. Restrictive clearing is performed by hand, usually with chain saws or with low ground pressure shear or rotary type machines, which reduce soil compaction and vegetation disturbance.
4. Use of herbicides for vegetation control on the rights-of-way will meet federal, state, and local regulations. Typically, herbicides will be used on exotic and incompatible species. Care will be

taken to retain a cover of compatible native species. For the portions of the right-of-way that will be adjacent to the park, herbicide use will be in compliance with the NPS' Integrated Pest Management Plan.

5. Once construction is completed, construction debris, if any, will be removed, and FPL will employ various methods to restore the right-of-way. These methods will be specific to each location. Restoration may include stabilizing potentially erodible areas, typically through seeding and mulching.

WETLANDS

1. Construction practices in wetlands will retain the vegetative root mat in the right-of-way in areas not filled for road or structure pad construction, thereby minimizing impacts to wetland vegetation.
2. Wetland impacts will be mitigated in accordance with federal and state laws. FPL will comply with all conditions in the environmental resource permit, including those relating to mitigation.
3. Mitigation for impacts to wetlands due to transmission line and access road construction may include a combination of regional wetland restoration, enhancement, and preservation consistent with the regional restoration goals of the Comprehensive Everglades Restoration Plan within the Biscayne Bay Coastal Wetlands study area and Model Lands Basin, as well as the use of Florida Department of Environmental Protection- and U.S. Army Corps of Engineers-approved mitigation banks. The restoration, enhancement, and preservation projects that will potentially be used to mitigate for impacts to wetlands are described in the *FPL Turkey Point Units 6 & 7 Mitigation Plan* (Golder 2009) that was submitted as Appendix 10.4, Section 2, Attachment E of the FPL Turkey Point SCA environmental resource permit. This states that all transmission line impacts are proposed to be mitigated through purchase of mitigation credits from the Hole-in-the-Donut Wetland Mitigation Bank, which is located within the park, using a mitigation ratio of 1:1.

CULTURAL RESOURCES

1. Every attempt will be made to avoid known cultural resources along the corridor. This can be accomplished with alignment of the actual right-of-way and structure and pad placement.
2. If requested by Division of Historical Resources (DHR), an archaeological resource assessment survey will be conducted of archaeologically sensitive areas (as determined by DHR and the archaeologist retained by FPL) within the eventual right-of-way, and the report of the survey will be submitted to DHR for review. If any archaeological resources within the right-of-way are determined to be significant, DHR will be consulted regarding appropriate procedures for either preservation or excavation of the significant resource(s).
3. If unforeseen archaeological finds are discovered during construction, DHR will be notified. Following a determination of the importance of such finds, FPL will work with DHR to assess mitigation measures necessary to minimize adverse impacts.

MISCELLANEOUS

1. Solid wastes would be collected and removed for disposal in compliance with state and local landfill regulations, chipped and spread in uplands, or piled and burned within the limits of the right-of-way in compliance with state and local regulations.
2. Where required, the transmission line construction contractor will follow Florida Department of Transportation guidelines for traffic control.

3. FPL standards require that fences and gates either crossing or parallel to and within the transmission rights-of-way be grounded to mitigate shock hazard. FPL will provide this grounding as part of its construction activities.

REFERENCES

Golder

2009 FPL Turkey Point Units 6 & 7 Mitigation Plan. Submitted as Appendix 10.4, Section 2, Attachment E of the FPL Turkey Point Site Certification Application Environmental Resource Permit Application.

Florida Power & Light Company (FPL)

2007 Avian Protection Plan. Prepared by Pandion Systems, Inc. Gainesville, FL to Florida Department of Environmental Protection, Tallahassee, Florida as part of Florida Power & Light's First Response to Incompleteness Determination

2009 Site Certification Application (SCA) for the Turkey Point Units 6 & 7 Project, June, 2009, Chapter W9.0 and Appendix 10.2.4, Sec. 3. Accessed online at: http://publicfiles.dep.state.fl.us/Siting/Outgoing/FPL_Turkey_Point/Units_6_7/Application/.

National Electrical Safety Code (NESC)

2007 Accessed online at: https://law.resource.org/pub/us/cfr/ibr/004/ieee.c2.2007.pdf.

Personal Communications

Braun, Florette (FPL)

2012 Personal communication via telephone with Nancy Van Dyke of the Louis Berger Group and Brien Culhane of NPS regarding acres of disturbance and line lengths to clarify data provided to the NPS in response to data needs and to provide reasonable estimates of areas of disturbance for pads and access roads for general comparison among routes.

APPENDIX G: DRAFT TERMS AND CONDITIONS FEE FOR FEE EXCHANGE ALTERNATIVE

Draft Terms and Conditions

Fee for Fee Exchange Alternative

Grantee shall have the full property rights and authority on the Exchange Property, subject only to the following restrictions in favor of the United States of America, which may not be terminated, altered or amended except by a written instrument executed by Grantor and Grantee, or their respective successors and assigns in recordable form:

1) **Property Use:** The Exchange Property shall be used solely for conservation or for the purpose of accessing, constructing, operating, maintaining, replacing, removing, relocating, improving and modifying utility facilities and appurtenant equipment and facilities.

2) **Consistency with Other Regulatory Actions and Legislative Direction**: Grantee shall obtain all required federal, state and local permits, including incidental take permits from the U.S. Fish & Wildlife Service as appropriate, for all facilities constructed on the Exchange Property.

3) **Flowage:** The United States expressly reserves the right to flow water in perpetuity over the entirety of the Exchange Property, up to a design level of -10.5 NGVD 1929.

4) **Best Management Practices**: Grantee shall utilize best management practices for all construction, operations and maintenance activities within the Exchange Property to the maximum extent practicable to avoid, minimize and mitigate adverse impacts to natural and cultural resources of Everglades National Park.

5) Work Plans:

a) **Construction Work Plan**: Prior to construction of any facilities within the Exchange Property, Grantee shall develop a Construction Work Plan for any construction activities within the Exchange Property. This work plan will provide details on proposed activities and steps taken to avoid and minimize impacts to adjacent park resources from construction activities including but not limited to dredging and filling, heavy equipment use, presence of hazardous materials, and sediment and erosion. Park resources to be considered in the plan include but are not limited to cultural resources, soundscapes, wetlands, vegetation, wildlife, sheetflow/hydrology, and special status species. Plan should also include details of how ongoing or planned park projects in the vicinity of the Exchange Property would be impacted by construction activities including consideration of access during construction. Grantee will provide the Grantor with an opportunity to review and comment on the Construction Work Plan prior to finalization. Grantor will provide comments to Grantee within 60 days of receiving plan. If Grantor and Grantee do not concur on the adequacy of the plan, then resolution of the dispute will occur according to section 11 of this appendix.

b) **Operations & Maintenance (O&M) Work Plan**: Following completion of construction of any utility facilities and prior to commencement of O&M activities within the Exchange Property, Grantee shall develop an O&M Work Plan for the O&M activities within the Exchange Property. Grantee will provide the Grantor with an opportunity to review and comment on the O&M Work Plan prior to finalization. Grantor will provide comments to Grantee within 60 days of receiving plan. If grantor and grantee do not concur on the adequacy of the plan, then resolution of the dispute will occur according to section 11 of this appendix.

6) Vegetation Management:

a) Grantee shall manage vegetation, including trimming, pruning or topping of trees, as necessary to maintain the minimum safety and electrical clearances in accordance with the most recent ANSI A-300 Standard Practices of Tree Care Operations.

b) Grantee shall use best management practices within the Exchange Property to control exotic, non-native vegetation species, such as mechanical methods and selective application of herbicides. Control activities for exotic, non-native vegetation will be initiated promptly after FPL receives title to the Exchange Property.

c) Integrated Pest Management: Grantee and Grantor agree to coordinate the development and implementation of an Integrated Pest Management (IPM) Plan for control of exotic vegetation within the Exchange Property. Herbicides applied within the Exchange Property shall only be those registered by the U.S. Environmental Protection Agency and which have state approval. Herbicide application rates and concentrations will be in accordance with label directions and will be carried out by a licensed applicator, meeting all federal, state and local regulations. Herbicide applications shall be selectively applied to targeted vegetation. Broadcast application of herbicide shall not be used within the Exchange Property unless the effects on non-targeted vegetation are minimized consistent with the IPM plan. Grantee understands and agrees that a report must be submitted to the Grantor for each herbicide application.

7) Fire Management: Grantee and Grantor agree to coordinate fire management within and adjacent to the Exchange Property. Recognizing that the Grantor periodically uses prescribed burns to maintain its lands adjacent to the Exchange Property, Grantee shall coordinate times for Grantor to initiate and manage such prescribed burns within the Exchange Property on no less than a 5-year cycle so that the prescribed burns will not interfere with the reliable delivery of utility service to Grantee's customers.

8) Rights of Access:

a) Neither Grantee nor Grantor shall create any new public access to the Everglades National Park through the Exchange Property.

b) Grantee's access points to the Exchange Property shall be secured with locks designed to exclude members of the public from the Exchange Property while maintaining access to adjacent government lands by appropriate government officials and individuals conducting National Park Service business.

c) Grantee may provide to Grantor or other federal or state agencies access to the Exchange Property to the extent such access is not incompatible with Grantee's existing and future use of the Exchange Property.

9) **Avian Species Protection:**

a) In the northernmost five (5) miles of the Exchange Property, nearest to where wood storks and other wading birds integral to the character, purpose, and ecological health of Everglades National Park are known to utilize habitat in the park, the Exchange Corridor, and habitats east of the Corridor, Grantee agrees that all infrastructure shall be constructed, operated, and maintained utilizing state-of-the-art practices to eliminate or reduce injury/mortality of avian species to the maximum extent practicable, to include, inter alia:
   i) construction without guy wires to the maximum extent practicable;
   ii) varied transmission structure spacing and sizing to minimize risk of avian impacts; and
   iii) maximizing use and effectiveness of flight diverters and powerline marking.

b) Powerline design will be submitted to Grantor for review and comment. Other design alternatives may also be available in certain locales and Grantee may submit alternatives to Grantor for review and comment. Grantee is encouraged to consider constructing the line underground to avoid above-ground impacts to avian resources. If grantor and grantee do not concur on the adequacy of the design, then resolution of the dispute will occur according to section 11 of this appendix.

c) If Grantee seeks to reduce the area where maximum avian protection is required, it may conduct a pre-construction avian risk study over the entire Exchange Property for a minimum of 3 full years prior to finalizing powerline design to identify the locations where powerlines pose a threat to the avian resources (primarily wading birds). The multi-year duration is needed to address inter-annual variation in avian use of the landscape in response to varying quality of avian habitat, food resources, and climatic variability. The study shall be subject to peer review by NPS and other scientists. The results of the study will be agreed in advance by the Parties to determine the locations where the design must maximize protection of avian resources.

10) Right of First Refusal: If FPL, or any of its successors or assigns, should seek to sell, transfer or assign its interests in the Exchange Property or Vegetation and Fire Easement Property other than to a related entity or an entity acquiring all or substantially all of the assets of FPL, or an entity acquiring a facility built by FPL on the Exchange Property, the United States shall have the right of first refusal of any bona fide offer for sale of any of FPL's interests in said Exchange Property or Vegetation and

Fire Easement Property. This right of first refusal shall survive closing, and such rights shall be exercised within 120 days of FPL's receipt of notice of the bona fide offer for sale.

11) Dispute Resolution: The parties desire and agree to use their best efforts to work cooperatively and to settle disagreements through good faith negotiations between themselves. The parties agree to make every attempt to settle any disputes regarding this agreement at the lowest organizational level within 30 days with the Grantor being represented by the Superintendent of Everglades National Park and the Grantee being represented by the Vice President Transmission and Substation of Florida Power & Light Company. If the dispute is not resolved within 30 days upon elevation, the parties will elevate the matter to the next organizational level with the Grantor being represented by the Southeast Regional Director, National Park Service and the Grantee being represented by the Senior Vice President Power Delivery of Florida Power & Light Company. If the matter is not resolved within 14 days upon elevation, the parties agree that the matter shall be elevated to the Director of National Park Service and the President of Florida Power and Light Company for prompt resolution.

APPENDIX H: DRAFT TERMS AND CONDITIONS FEE FOR EASEMENT EXCHANGE ALTERNATIVE

Everglades National Park
Acquisition of Florida Power and Light Land in the East
Everglades Expansion Area Environmental Impact Statement

Draft Terms and Conditions
Fee for Easement Exchange Alternative

March 18, 2013

The land exchange would be subject to terms and conditions that are to be agreed upon between National Park Service (NPS) and Florida Power & Light Company (FPL) and incorporated into a binding exchange agreement to ensure that any power transmission lines and infrastructure on the interest in land conveyed to FPL are designed, constructed, and operated to avoid, or minimize impacts, to the maximum extent practicable, to park resources, including but not limited to, hydrology, wetlands, flora and fauna (including threatened and endangered species), cultural resources, tree islands, wilderness character, visitor experiences, and viewshed and visual aesthetics. The proposed terms and conditions are not intended to alter the conditions and requirements of any other applicable local, state, or federal law or regulation. It is not the intent of the NPS to address or modify the applicable certification or permit requirements of local, state, or other federal agencies. NPS will seek to be consistent with known requirements of other agencies. The NPS anticipates the final terms and conditions will be negotiated with FPL after the Record of Decision is signed concluding the National Environmental Policy Act process for this project.

For ease of understanding, the term "FPL Utility Easement Area" in the following terms and conditions refers to the 260 acres of NPS land along the eastern park boundary over which the NPS would grant an easement to FPL in exchange for the acquisition of FPL lands within Everglades National Park; the term "FPL Vegetation Easement Area" in these terms and conditions refers to the vegetation management easement that is proposed to be granted by NPS to FPL. The NPS would retain ownership of the property underlying these easement areas.

In this alternative, the property interest exchanged for the FPL lands in Everglades National Park would be an easement for the purpose of potential transmission lines on a 330-foot-wide corridor covering approximately 260 acres along 6.5 miles of the eastern boundary of the East Everglades Addition in Everglades National Park. As with the Fee for Fee Alternative, NPS would also grant to FPL a 90 foot-wide perpetual easement covering approximately 71 acres on a corridor of land contiguous to the FPL Utility Easement Area for the purpose of vegetation management.

A summary of the types of terms and conditions that would be considered for inclusion into the exchange agreement is set forth below:

<u>Proposed Terms and Conditions</u>

1. <u>Land Purposes:</u> The FPL Utility Easement Area shall not be used for any purposes other than conservation or the potential construction and operation of electric transmission lines and appurtenant facilities. All property uses shall also be consistent with the terms and conditions herein and shall be identified and addressed in Item 5, "Resource Stewardship Plans" of these terms and conditions.

2. <u>Perpetual Flowage Easement:</u> The FPL Utility Easement Area will be subject to a perpetual flowage easement. FPL will allow the perpetual right, power, privilege and easement in, upon, over and across

the easement area for the purposes of overflowing, flooding and submerging said property lying at a level consistent with hydrologic restoration requirements. Support structure pads, all other infrastructure and equipment that remains on the property, if any, shall be constructed to sustain water levels no greater than 10.7 feet NGVD29 for significant periods. The flowage easement supports Everglades restoration goals and objectives, including the construction, operation and maintenance of projects authorized by the Act of Congress approved December 13, 1989 as the Everglades National Park Protection And Expansion Act of 1989 (Public Law 101-229); the Comprehensive Everglades Restoration Plan as authorized by Public Law 106-541 and any subsequent project authorizations; and the Tamiami Trail Next Steps Project as authorized by Public Law 112-74.

3. Compatibility with Ecosystem Restoration: FPL shall allow without compensation reasonable future use by the United States of the FPL Utility Easement Area in furtherance of ecosystem restoration and/or environmental projects that would not interfere with FPL's proposed use of the property for electric transmission facilities.

4. Protection of Everglades National Park Resources and Values: FPL shall ensure that construction, maintenance, or other activities carried out on the FPL Utility Easement Area shall not adversely impact park resources to the maximum extent practicable. In the event of adverse impacts on park resources, NPS and FPL shall jointly identify necessary and appropriate remediation efforts, to be undertaken by FPL, and mutually determine how to implement such remediation efforts within a reasonable period of time.

5. Resource Stewardship Plans

   a. Prior to any construction on the FPL Utility Easement Area, FPL shall prepare and submit to NPS for its review and approval a construction Resource Stewardship Plan (RSP). The construction RSP shall address efforts by FPL to avoid and minimize impacts during construction to park resources, including natural resources, cultural resources, and other park resources. In addition, the construction RSP shall include information on necessary permits, approvals, or authorizations that have been received for the proposed construction on the FPL Utility Easement Area, including such information as permit type/name, agency(s) responsible, status, anticipated milestones schedule, and any mitigation requirements. In preparing the construction RSP, FPL will consult with NPS to obtain current plans for any projects that have been approved or approved for funding, including ecosystem restoration, natural resource monitoring, fire management, visitor use and recreational opportunities, and law enforcement activities, and other such plans as NPS determines to be potentially relevant. The construction RSP shall specifically cover, but not be limited to, the range of topics described in Items 6 through 12, as well as the following information, subjects, plans, surveys, or reports, as applicable:

      i. Wetland Impacts – Provide a description of steps proposed to avoid, minimize, and mitigate wetland impacts to the maximum extent practicable, including temporary impacts that occur during construction.

      ii. Pollution/Contaminant/Hazardous Materials Management – Describe how pollutants, contaminants, or hazardous materials, used or present during construction, will be managed to minimize impacts, and how the contingency/containment plan will be implemented to prevent environmental transport in case of spill.

      iii. Sediment and Erosion Control – Describe how sediment will be managed to limit erosion and impacts to water quality. No wetlands on the FPL Utility Easement Area shall be excavated for the purpose of obtaining fill.

iv. Vegetation – Describe methods for pre-construction and construction vegetation surveys and analyses to be performed and what constitutes suitable habitats for these species. Describe what mitigation measures will be put into place to avoid and minimize impacts to vegetation during construction and maintenance.

v. Wildlife – Describe methods for pre-construction and construction wildlife surveys and analyses to be performed and what constitutes suitable habitats for these species. Describe what mitigation measures will be put into place to avoid and minimize impacts to wildlife during construction and maintenance.

vi. Sheetflow/Hydrology – Describe methods and results of hydrologic analysis to avoid and minimize impacts to sheetflow on Park Property to the maximum extent practicable.

vii. Exotic and Invasive Species Control – Describe the planned exotic vegetation management targets and performance standards and methods to control exotic and invasive plants and animals within the FPL Utility Easement Area and FPL Vegetation Easement Area. Describe the sequence of removing exotic vegetation prior to construction, including the decontamination of all equipment used for exotic vegetation removal on the FPL Utility Easement Area and FPL Vegetation Easement Area, to prevent the unintentional introduction of exotic and invasive plant species within the park during construction.

viii. Special Status Species – Provide a discussion of steps to be taken on the FPL Utility Easement Area to avoid, minimize, and mitigate impacts to listed species to the maximum extent practicable as a result of construction activities. This plan will include provisions consistent with the Avian and Bat Protection Plan (described Item 9).

ix. Cultural Resources – Describe methods for a pre-construction survey of sensitive cultural resources to be performed and steps to be taken to avoid and minimize impacts to cultural resources during construction. If cultural resources are discovered during survey or construction in the FPL Utility Easement Area, FPL will be required to immediately notify the Park Superintendent (or representative) and work with the Florida State Historic Preservation Office (SHPO) to define appropriate mitigation measures. Any artifacts found on the FPL Utility Easement Area are recognized as property of the NPS.

x. Access Control – Describe how access and uses on the FPL Utility Easement Area and adjacent Park Property will be controlled during construction and how unauthorized access will be minimized and/or prevented.

xi. Other plans, surveys or reports associated with utility-related facilities deemed necessary by NPS, with FPL concurrence, to address any unanticipated potential impacts to Park Property to protect park resources.

b. Following construction of any facilities on the FPL Utility Easement Area, FPL shall update the RSP to address long-term operations and maintenance needs and planned activities on the FPL Utility Easement Area (Operations and Maintenance (O&M) RSP). This O&M RSP shall be submitted to NPS for its review and approval. The O&M RSP shall address efforts by FPL to avoid and minimize impacts to park resources to the maximum extent practicable and address topics such as operations and maintenance protocols, natural resource monitoring, threatened and endangered species, fire management coordination, impacts to visitor use and recreational opportunities on adjacent Park Property, access control and coordination with law enforcement activities. A revised O&M RSP shall be submitted by FPL to NPS upon any material changes to operations and maintenance procedures, proposed changes to the O&M RSP or substantive new

information that is identified by NPS or FPL that is expected to impact Park Property. NPS may request that FPL review the O&M RSP in the event it is determined necessary.

6. Hydrology

   a. All electric transmission-related infrastructure shall be constructed, operated, and maintained utilizing state-of-the-art practices to eliminate or reduce adverse impacts to wetlands or other surface waters of the FPL Utility Easement Area and adjacent Park Property to the maximum extent practicable. Such practices shall be consistent with the terms and conditions herein and shall be identified and addressed in Item 5, "Resource Stewardship Plans" of these terms and conditions. FPL must also comply with substantive criteria for elimination or reduction of adverse impacts to jurisdictional waters of the U.S. as defined by all applicable regulatory agencies. In locations where NPS determines, in consultation with FPL, that maximizing the level of protection for wetlands, hydrology, or surface waters is warranted, roadless and padless construction methods shall be used to the maximum extent practicable. These methods would be evaluated in consultation with appropriate agency personnel prior to implementation.

   b. The following represent practices that FPL will implement during construction and operation to the maximum extent practicable. (1) Maximize or vary the location and span between power poles to eliminate or reduce wetland impacts. (2) Use existing roads to provide access to the property for construction, operation, and maintenance purposes. (3) Minimize permanent wetland impacts by employing stabilized at-grade roads or geoswales that would not extend above existing wetland grades, constructing elevated roadways to bridge slough features, or using other appropriate design alternatives to maintain historical drainage patterns and sheetflow. For those areas where wetland will be impacted, wetland control elevations shall be established to maintain or improve pre-construction hydroperiods within all affected areas. (4) Unavoidable fill pads necessary for construction, but not operation, of transmission lines shall be removed after construction and the land restored to pre-construction conditions to the extent practicable.

7. Water Quality: To allow for stabilization of all disturbed areas, immediately prior to construction, during and after construction, and for the appropriate period of time after construction of facilities on the FPL Utility Easement Area, FPL shall implement and maintain erosion and sediment control best management practices, such as silt fences, berms, set-backs, erosion control blankets, sediment traps, polyacrylamide, floating turbidity screens, or other state-of-the-art methods to retain sediment on-site and to prevent violations of State water quality standards. These devices shall be installed, used, and maintained at all locations where the possibility of transferring suspended solids into a receiving water body to which state surface water quality standards apply due to the licensed work. Controls shall remain in place at all locations until construction in that location is completed and soils are stabilized and vegetation is established. FPL shall correct any erosion or shoaling that causes adverse impacts to the water resources as soon as practicable. Once project construction is complete in an area, and before conversion to the operation and maintenance phase, all silt screens and fences, temporary baffles, and other materials that are no longer required for erosion and sediment control shall be removed.

8. Fire Management

   a. Prescribed Fire Plan – NPS periodically uses prescribed fire to maintain its lands. For any prescribed burns on Park Property adjacent to the FPL Utility Easement Area, NPS shall provide prior notice to FPL and the opportunity to coordinate the times and management of such prescribed burns. FPL may use prescribed fire to maintain the FPL Utility Easement Area. To the extent FPL proposes to use such practices, FPL will develop and submit for NPS review and

approval a plan detailing use of prescribed fire to ensure consistency with park fire management goals.

b. Wildland Fire Investigation – Fires resulting from power transmission structures, or their operation and management, could increase unnatural fire frequencies in the park. The NPS will conduct a full investigation of all fires started in proximity to the power transmission lines on the FPL Utility Easement Area in close coordination with FPL.

9. Avian and Bat Species Protection: All electric transmission-related infrastructure shall be constructed, operated, and maintained utilizing state-of-the-art practices to eliminate or reduce injury/mortality of avian and bat species to the maximum extent practicable. These practices shall include mitigation measures that follow appropriate guidelines, including but not limited to Avian Power Line Interaction Committee guidelines, both during and after construction, including operations and maintenance activities. In locations where NPS determines, in consultation with FPL, that maximizing the level of protection of avian species is warranted, guy wires will not be used to the maximum extent practicable and transmission structure spacing and sizing will be varied to lower certain structures or stagger the normal span distances in areas within proximity of wading bird colonies to minimize possible interactions. Other design alternatives may also be available in certain locales. Measures for eliminating or reducing injury/mortality of avian and bat species would all be evaluated in consultation with appropriate agency personnel prior to implementation.

   a. Prior to commencing any construction, FPL shall develop a detailed pre- and post-construction avian and bat protection plan with approval of NPS and input from other appropriate federal and state agencies. The plan shall reflect the requirements for avian protection required by appropriate regulatory authorities. The plan will include pre- and post-construction monitoring to address avian and bat flight presence, flight level, position and frequency in flight in relation to the power transmission line configurations. The plan will focus on federal- and state-listed species in the vicinity of the proposed transmission route and assess impacts of transmission infrastructure on their populations. The pre-construction study will be conducted over an appropriate time period agreed upon by NPS and other appropriate federal and state agencies prior to initiating construction to address data variations related to inter-annual variation in the location and quality of habitat and food resources, climatic variability and will also be conducted throughout the year to address seasonal migratory species and flight patterns.

   b. The plan shall be reviewed and updated on an annual basis. Reporting requirements for FPL should include a discussion of avian and bat injury and mortality and the consideration of additional injury/mortality mitigation.

10. Exotic and Invasive Vegetation Management: FPL shall develop and submit, for NPS review and approval, an Exotic and Invasive Vegetation Management Plan as part of each RSP. The Exotic and Invasive Vegetation Management Plan shall describe how both the FPL Utility Easement Area and the FPL Vegetation Easement Area is to be managed consistent with applicable State and county guidelines on exotic species eradication, NPS management policies, park management goals and activities in the area, as well as ongoing ecosystem restoration projects.

11. Notification: NPS and FPL shall establish notification protocols that provide adequate notice to the other party in the development and circulation of any plan or other filing described in these conditions. In particular, FPL shall provide NPS with prior notice of any proposed construction or demolition, including the nature and purpose of the activity, plans, and areas affected, as part of the filing of the construction RSP. A dispute resolution approach will be developed and included in the exchange agreement.

12. Access: FPL shall secure access to the FPL Utility Easement Area to prevent unauthorized access to the FPL structures and Park Property. The FPL Utility Easement Area shall be closed to the public, and shall be secured via locked gates or other appropriate methods or techniques to prevent motorized public access. After construction, at reasonable times and with reasonable notice, except in cases of emergency or law enforcement response, and recognizing that safety hazards will exist at the FPL Utility Easement Area, FPL shall agree to requests from NPS and its governmental cooperators for access to the FPL Utility Easement Area for the purposes of official business and as set forth in this document. Access may be limited to those NPS employees or governmental cooperators who have had safety training appropriate to conditions on the property.

13. Right of First Refusal: In the event that FPL seeks to sell the FPL Utility Easement other than to a related entity, or an entity acquiring all or substantially all of the assets of FPL, or an entity acquiring a project built by FPL on the FPL Utility Easement Area, the United States shall have the right of first refusal of any bona fide offer for sale of FPL's interests in the FPL Utility Easement Area.

14. Modification of Terms and Conditions: Either party will notify the other party of desired changes to Terms and Conditions within 30 days of being made aware of the required/desired modification. The responding party would have at least 30 days to review and raise issues/concerns. Any modification shall be agreed upon by both parties.

APPENDIX I: VEGETATION IN FLORIDA POWER & LIGHT COMPANY CORRIDORS

Species (Scientific Name)	Common Name	State status (T=threatened, E=endangered)	Nativity (N=native, E=exotic)	FLEPPC category (I=category I invasive, II=category II invasive, NL=not listed)	Listed for potential occurrence on FPL West Secondary Corridor in ENP	Listed for potential occurrence on FPL West Preferred Corridor in ENP
Acrostichum danaeifolium	Giant leather fern		N		X	X
Agalinis fasciculata	Beach false foxglove		N			X
Aeschynomene pratensis	Sensitive joint-vetch, Meadow joint-vetch	E	N		X	
Amaranthus australis	Southern water-hemp, Southern amaranth		N			X
Ampelopsis arborea	Peppervine		N		X	X
Andropogon glomeratus var. pumilis	Common bushy bluestem		N		X	X
Andropogon virginicus	Broomsedge bluestem		N		X	X
Anemia adiantifolia	Pine fern, Maidenhair pineland fern		N		X	X
Angadenia berteroi	Pineland-allamanda, Pineland golden trumpet	T	N			X
Annona glabra	Pond-apple		N		X	X
Ardisia elliptica	Shoe-button ardisia		E	I		X
Ardisia escallonioides	Marlberry		N			X
Aristida purpurascens	Arrowfeather threeawn		N		X	X
Aster bracei	Brace's aster		N			X
Baccharis glomeruliflora	Silverling		N			X
Bacopa caroliniana	Lemon hyssop, Lemon bacopa, Blue waterhyssop		N		X	X
Bidens alba var. radiata	Spanish-needles		N			X
Blechnum serrulatum	Swamp fern, Toothed midsorus fern		N		X	
Boehmeria cylindrica	Button-hemp, False nettle, Bog hemp		N		X	X
Carica papaya	Papaya		E	NL		X
Casuarina equisetifolia	Australian-pine, Horsetail casuarina		E	I	X	X
Centella asiatica	Coinwort, Spadeleaf		N		X	
Cephalanthus occidentalis	Common buttonbush		N		X	X
Chamaesyce conferta	Everglades key sandmat		N			X
Chamaesyce hirta	Hairy spurge, Pillpod sandmat		N			X
Chamaesyce hyssopifolia	Eyebane, Hyssopleaf sandmat		N			X
Chiococca parvifolia	Pineland snowberry		N			X
Chromolaena odorata	Jack-in-the-bush		N			X
Cirsium horridulum	Purple thistle		N			X
Chrysobalanus icaco	Coco-plum		N		X	
Cladium jamaicensis	Saw-grass, Jamaica swamp sawgrass		N		X	X
Coelorachis rugosa	Wrinkled jointtail grass		N		X	X

Species (Scientific Name)	Common Name	State status (T=threatened, E=endangered)	Nativity (N=native, E=exotic)	FLEPPC category (I=category I invasive, II=category II invasive, NL=not listed)	Listed for potential occurrence on FPL West Secondary Corridor in ENP	Listed for potential occurrence on FPL West Preferred Corridor in ENP
Conoclinium coelestinum	Blue mistflower		N		X	X
Conyza canadensis var. pusilla	Dwarf Canadian horseweed		N		X	X
Crinum americanum	Swamp-lily, Seven-sisters, String-lily		N		X	X
Cuphea strigulosa	Stiffhair waxweed		E	NL		X
Cyperus haspan	Haspan flatsedge		N			X
Dichanthelium aciculare	Needleleaf witchgrass		N		X	X
Dichanthelium dichotomum	Cypress witchgrass		N			X
Dichanthelium erectifolium	Erectleaf witchgrass		N		X	X
Echites umbellata	Devil's-potato, Rubbervine		N			X
Eleocharis cellulosa	Gulf Coast spikerush		N		X	X
Eragrostis elliottii	Elliott's love grass		N		X	
Erigeron quercifolius	Southern-fleabane, Oakleaf fleabane		N			X
Eugenia axillaris	White stopper		N			X
Eupatorium leptophyllum	Falsefennel		N		X	X
Eustachys glauca	Prairie fingergrass, Saltmarsh fingergrass		N			X
Eustachys petraea	Common fingergrass, Pinewoods fingergrass		N			X
Ficus aurea	Strangler fig, Golden fig		N		X	X
Ficus citrifolia	Short-leaf fig, Wild banyan tree		N			X
Fimbristylis cymosa	Hurricane sedge, Hurricanegrass		N			X
Flaveria linearis	Narrowleaf yellowtops		N			X
Fuirena breviseta	Saltmarsh umbrellasedge		N		X	X
Heliotropium polyphyllum	Pineland heliotrope		N			X
Hibiscus grandiflora	Swamp hibiscus, Swamp rosemallow		N		X	
Hypericum brachyphyllum	Coastalplain St. John's-wort		N			X
Hypericum hypericoides	St. Andrew's-cross		N			X
Hyptis alata	Musky mint, Clustered bushmint		N		X	X
Ilex cassine	Dahoon holly, Dahoon		N		X	X
Imperata cylindrica	Congongrass, Cogongrass		E	I		X
Ipomoea alba	Common moonflowers, Moonflowers		N			X
Ipomoea sagittata	Everglades morningglory		N		X	
Iva microcephala	Piedmont marshelder		N		X	X
Lantana camara	Shrubverbena		E	I		X

Species (Scientific Name)	Common Name	State status (T=threatened, E=endangered)	Nativity (N=native, E=exotic)	FLEPPC category (I=category I invasive, II=category II invasive, NL=not listed)	Listed for potential occurrence on FPL West Secondary Corridor in ENP	Listed for potential occurrence on FPL West Preferred Corridor in ENP
Justicia angusta	Narrow-leaved waterwillow		N		X	
Kosteletzkya virginica	Virginia saltmarsh mallow		N		X	
Leersia hexandra	Southern cutgrass		N		X	
Linum medium var. texanum	Stiff yellow flax		N		X	
Ludwigia curtissii	Curtiss's primrosewillow		N			X
Ludwigia microcarpa	Smallfruit primrosewillow		N		X	X
Ludwigia octovalvis	Mexican primrosewillow		N		X	
Magnolia virginiana	Sweet-bay		N			X
Mecardonia acuminata ssp. peninsularis	Axilflower		N			X
Melaleuca quinquenervia	Punktree		E	I	X	X
Mikania scandens	Climbing hempweed, Climbing hempvine		N		X	X
Mitreola sessilifolia	Mitrewort, Swamp hornpod		N		X	X
Muhlenbergia capillaris	Muhlygrass, Hairawnmuhly		N		X	X
Myrica cerifera	Wax myrtle, Southern Bayberry		N		X	X
Neyraudia reynaudiana	Burmareed, Silkreed		E	I		X
Nuphar lutea	Spatterdock, Yellow Pondlily		N			X
Nymphaea odorata	American white waterlily		N		X	
Nymphoides aquatica	Big floatingheart		N		X	
Oxypolis filiformis	Water dropwort, Water cowbane		N		X	
Panicum hemitomon	Maidencane		N		X	X
Panicum rigidulum	Redtop panicum		N		X	X
Panicum tenerum	Bluejoint panicum		N		X	
Parthenocissus quinquefolia	Virginia-creeper, Woodbine		N		X	
Paspalidium geminatum	Egyptian paspalidium		N			X
Paspalum caespitosum	Blue paspalum, Blue crowngrass		N			X
Paspalum monostachyum	Gulfdune paspalum		N			X
Passiflora suberosa	Corkystem passionflower		N		X	X
Persea palustris	Swamp bay		N		X	X
Phyla nodiflora	Frogfruit, Turkey tangle fogfruit, Capeweed		N		X	X
Phyla stoechadifolia	Southern fogfruit	E	N		X	X
Phyllanthus caroliniensis ssp. saxicola	Rock Carolina leafflower		N			X
Physalis walteri	Walter's groundcherry		N		X	X

Species (Scientific Name)	Common Name	State status (T=threatened, E=endangered)	Nativity (N=native, E=exotic)	FLEPPC category (I=category I invasive, II=category II invasive, NL=not listed)	Listed for potential occurrence on FPL West Secondary Corridor in ENP	Listed for potential occurrence on FPL West Preferred Corridor in ENP
Pluchea caroliniana	Cure-for-all		N		X	X
Pluchea rosea	Rosy camphorweed		N			X
Poinsettia cyathophora	Paintedleaf, Fire-on-the-mountain		N			X
Polygala grandiflora	Bigleafed Milkwort		N		X	X
Polygonum hydropiperoides	Mild water-pepper, Swamp smartweed		N		X	X
Pontederia cordata	Pickerelweed		N		X	
Proserpinnaca palustris	Mermaid weed, Marsh mermaidweed		N			X
Psychotria nervosa	Shiny-leaved wild coffee		N			X
Psychotria sulzerni	Shortleaf wild coffee		N			X
Pteris bahamensis	Bahama ladder brake	T	N			X
Pteris vittata	China brake		E	II		X
Rapanea punctata	myrsine		N			X
Rhynchelytrum repens	natal grass		E	I		X
Rhynchospora colorata	Starrush whitetop		N			X
Rhynchospora divergens	Spreading beaksedge		N		X	X
Rhynchospora inundata	Narrowfruit horned beaksedge		N		X	
Rhynchospora microcarpa	Southern beaksedge		N		X	X
Rhynchospora odorata	Fragrant beaksedge		N			X
Rhynchospora tracyi	Tracy's beaksedge		N		X	X
Sabal palmetto	Cabbage palm		N		X	X
Saccharum giganteum	Sugarcane plumegrass		N		X	X
Sagittaria lancifolia	Bulltongue arrowhead, lance-leaved arrowhead		N		X	X
Salix caroliniana	Coastal Plain willow		N		X	X
Samolus ebracteatus	Water pimpernel, Limewater brookweed		N		X	X
Sarcostemma clausa	Whitevine, White twinevine		N		X	X
Schinus terebinthifolius	Brazilian-pepper		E	I	X	X
Schizachyrium rhizomatum	Rhizomatous bluestem		N		X	X
Scleria verticillata	Low nutrush		N			X
Setaria magna	Giant bristlegrass		N		X	
Setaria parviflora	Knotroot foxtail, Yellow bristlegrass		N		X	X
Sida acuta	Common wireweed, Common fanpetals		N			X
Smilax bona-nox	Saw greenbrier		N			X

Species (Scientific Name)	Common Name	State status (T=threatened, E=endangered)	Nativity (N=native, E=exotic)	FLEPPC category (I=category I invasive, II=category II invasive, NL=not listed)	Listed for potential occurrence on FPL West Secondary Corridor in ENP	Listed for potential occurrence on FPL West Preferred Corridor in ENP
Smilax laurifolia	Catbrier, Laurel greenbrier, Bamboo vine		N		X	
Solidago sp. (not stricta; e.g. gigantea)	Giant goldenrod		N		X	X
Solidago stricta	Narrow-leaved goldenrod, Wand goldenrod		N		X	X
Spartina bakeri	Sand cordgrass		N		X	
Spermacoce assurgens	Woodland false buttonweed		N			X
Spermacoce verticellata	Shrubby false buttonweed		E	NL		X
Spigelia anthelmia	West Indian pinkroot		N			X
Sporobolus indicus var. pyramidalis	West Indian dropseed		E	NL		X
Stachytarpheta jamaicensis	Blue porterweed, Joee		N			X
Teucrium canadense	Wood sage, Canadian germander		N			X
Thelypteris kunthii	Southern shield fern		N		X	X
Trema micrantha	Florida trema, Nettletree		N			X
Typha domingensis	Southern cat-tail		N		X	X
Utricularia purpurea	Eastern purple bladderwort		N			X
Vernonia blodgettii	Florida ironweed		N			X
Vitis rotundifolia	Muscadine, Muscadine grape		N			X
Waltheria indica	Sleepy morning		N			X
Total native					**76**	**109**
Total exotic					**3**	**13**
Total species					**79**	**122**
Total state listed threatened					**0**	**2**
Total state listed endangered					**2**	**1**

APPENDIX J: AVIAN RISK ASSESSMENT ASSOCIATED WITH ENVIRONMENTAL IMPACT STATEMENT FOR EVERGLADES AND BISCAYNE NATIONAL PARKS

Exponent®

Avian Risk Assessment Associated with Environmental Impact Statement (EIS) for Everglades and Biscayne National Parks

Avian Risk Assessment Associated with Environmental Impact Statement (EIS) for Everglades and Biscayne National Parks

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Executive Summary

It is well established that birds are exposed to a wide variety of risks from human activities, and specifically from their contact with aspects of the built environment. Such exposures include but are not limited to direct mortality vis-à-vis collision with structures such as towers and buildings and from contact with toxins, and indirectly through imposed limitations on their ability to exploit certain areas for feeding, breeding, and resting. Because proximity to transmission lines and towers is a known risk factor for birds, our goal was to quantify relative risk among the three corridors under consideration in the environmental impact statement (EIS) and to do so by focusing especially on the spatial juxtaposition of south Florida avian resources relative to the location of each corridor. The 47 focal species selected for this risk assessment were considered endangered, threatened, or special concern, federally or in the State of Florida. These species serve as representative receptors for other guilds of birds with similar habitat requirements and behavioral patterns.

Whether an individual bird or a preferred habitat patch, our approach focused on conducting two types of relative risk assessments: a data-based and a habitat-based risk assessment. For the data-based risk assessment, we used GIS to measure the distance from an avian resource (such as a wood stork foraging or nesting location) to the nearest point on each of the three transmission corridors under consideration and weighted each location with the number of birds found at each location via historical surveys. This was done for wood storks, snail kites, and a number of waterbird and wading species for which historical survey data were available. In this way, a transmission corridor that is closest to a particular avian resource, such as a multispecies colony, an individual nest of a critical species, or a preferred foraging habitat, was construed as posing a greater risk of collision or electrocution than a corridor that is farthest from a resource. However, because the survey data set is biased for within-Park boundaries, the additional habitat-based relative risk assessment was conducted using the data for preferred habitats that were available in the GIS data sets.

For all other species for which multi-year survey data were not available, only a habitat-based relative risk assessment was conducted. For these species, the literature was used to determine which types of habitats are preferred by each species. The average distance of each preferred habitat to each potential transmission corridor was calculated and compared.

For all 16 species included in the data-based risk assessment, the Route A Corridor presented the least risk, the FPL West Preferred Corridor posed intermediate risk, and the FPL West Secondary Corridor posed the most risk to birds. This was true for black-crowned night herons, great blue herons, great egrets, little blue herons, snowy egrets, tricolored herons, white ibis, glossy ibis, roseate spoonbill, wood stork, and snail kites. The results based on habitat-based risk assessment were similar to those for the data-based risk assessment, such that for all focal species, the Route A Corridor posed the least risk to birds, while the FPL Secondary Corridor posed the most risk. Additional focal species for which actual distribution data were not available were examined only on a habitat basis. For 25 of the 31 focal species, the habitat-based assessment indicated that the Route A corridor posed the least risk and the FPL West Secondary Corridor posed the most risk. For the 6 remaining species, the opposite was true: the FPL West Secondary Corridor posed the least risk, the FPL West Preferred Corridor posed intermediate risk, while the Route A corridor posed the most risk. This dichotomy is due to the

preferences of the birds—birds that use wetlands and associated water-based habitats end up being closer to the FPL West Secondary Corridor, and therefore experience higher risk as a result. In contrast, birds that use upland habitats to a greater extent would be at higher risk due to the proximity of the Route A Corridor to those types of habitats. In all instances, the FPL West Preferred Corridor posed the intermediate level of risk to all species.

1 Introduction

Everglades National Park encompasses approximately 6000 km^2 of freshwater sloughs, sawgrass prairies, mangrove forests, and estuaries extending from US Highway 41 south into Florida Bay. It was authorized as a national park by the U.S. Congress in 1934 and formally established in 1947. The park's ecological importance was recognized by the international community when it was designated as an International Biosphere Reserve under the Progamme on Man and the Biosphere of the United National Educational, Scientific and Cultural Organization in 1976, a World Heritage Site by UNESCO in 1979, and a Wetland of International Importance in the Ramsar Convention in 1987 (Maltby and Dugan 1994). Biscayne National Park was designated a national park in 1980 and preserves the offshore barrier reefs and extensive mangrove forest. The park covers 172,971 acres and includes Elliott Key.

The warm, shallow, and vast Everglades "river" has attracted all types of birds to the region for thousands of years. In Everglades National Park, more than 350 species of birds have been sighted, including 16 different species of wading birds (http://www.nps.gov/ever/naturescience/birds.htm). Biscayne Bay, including Biscayne National Park, has been designated an important Bird Area for its significant populations of protected species, significant numbers of wading birds and natural habitat for avian feeding, migratory stopover and nesting (http://www.nps.gov/bisc/naturescience/birding.htm).

The objective of the Avian Risk Assessment (ARA) is to perform an assessment of the relative risks to avian resources in Everglades (ENP) and Biscayne (BNP) National Parks resulting from the acquisition of land owned by Florida Power and Light Company and by the National Park Service for construction of a transmission corridor as part of the Turkey Point Expansion project. A diverse assemblage of avian species has the potential to occur, breed, and migrate within or across habitat adjacent to the proposed transmission corridors. Because proximity to transmission lines and towers is a known risk factor for birds, our goal was to quantify relative risk among the three corridors under consideration in the environmental impact statement (EIS) and to do so by focusing especially on the proximity of south Florida avian resources relative to the location of each corridor.

1.1 Birds and Electric Utility Infrastructure

While power lines and related infrastructure are known to provide a mix of benefits and risks to birds and other wildlife, the general perception is that the risks outweigh the benefits (APLIC and USFWS 2005). For this reason, much effort has been expended by industry, government, and non-profit organizations to limit and better control the risks (APLIC and USFWS 2005; APLIC 2006, APLIC 2012). Regarding the benefits, power lines and towers (or any artificial aboveground structures) are known to provide hunting and resting perches (APLIC 2006) in locations where they may otherwise be in short supply. For example, in short- and tallgrass prairies and in large wetlands such as the Everglades, power lines and towers can provide this missing habitat element and, in so doing, have even allowed some species to extend their geographic ranges (APLIC 2006, APLIC 2012). Conversely, power lines pose both direct and

indirect risk to birds, most notably from electrocution and in-flight collision with towers and wires (APLIC 2006, 2012).

1.2 Collision Risk

Regarding direct risks, both electrocution and in-flight collision with towers and wires are among the most significant (APLIC and USFWS 2005). Regarding collision risks, according to Manville (2005), approximately 175 million birds are killed per year by collision with both power and transmission lines in the United States. Similarly, Erickson et al. (2005) estimated an annual transmission-line collision rate for the United States of approximately 130 million incidents. Collisions with power lines can result in injuries, such as broken wings, necks, and bills and head and chest contusions, as well as mortality (Malcolm 1982).

While birds from a wide range of taxa and feeding guilds are exposed to these direct risks, wading birds (such as herons, egrets, storks, and cranes) are of particular concern in this Avian Risk Assessment (ARA), because they make up such a large and important component of the birds found in the Everglades region of South Florida. Also, wading birds are behaviorally predisposed to collision due to their large size and slow flight, which makes it difficult for them to take evasive action when confronted with flight obstacles. Similarly, raptors (especially snail kites, hawks, falcons, vultures, and owls) are also a guild of birds known to experience direct mortality through collision and electrocution (Madders and Whitfield 2006). Specifically, both waders and raptors are biologically more vulnerable than many other birds and have greater risk of electrocution by and collision with electric utility structures and lines (APLIC 2006, APLIC 2012; Hunting 2002). On an annual basis, in the USA alone, thousands of eagles, hawks, and other migratory birds are estimated to be killed from interaction with power lines, transmission towers, and other infrastructure associated with electric generation and transmission (Olendorff et. al. 1981).

While raptors and waders are of particular concern, other taxa of birds are exposed to similar collision risks when in proximity to transmission lines and towers. For example, birds that fly in flocks (such as songbirds, plovers, gulls, ducks, geese, and cranes) near lines and towers are susceptible to collisions due to their reduced ability to see and avoid obstacles (APLIC 1994, 2006, 2012). Among the birds that fly in flocks, the large, heavy-bodied birds (such as gulls, ducks, geese, and cranes) are, like waders, at higher collision risk due to their limited maneuverability (APLIC 1994, 2006, 2012). Generally speaking, collisions are associated with transmission lines that carry 138 kV or more, whereas electrocutions are associated with distribution lines (<69 kV) (APLIC 1994, 2006, 2012). Finally, no population effects have been reported for bird collisions with transmission lines and towers, except for species with very low population sizes and low annual productivity, such as the whooping crane (*Grus americana*) (FPL 2010).

1.3 Electrocution Risk

Bird deaths from electrocution by power lines were first documented in the 1920s—essentially at the very beginning of the build-out of the United States' electricity grid (APLIC 2006, 2012).

Since that time, research has focused on preventing or minimizing avian electrocutions, and while many avian/power line electrocution issues have been resolved, some old challenges remain and new ones have arisen. For example, existing transmission infrastructure is constantly being upgraded, and new transmission infrastructure is actively being installed on as-yet-undeveloped lands to service new power production from wind, solar, biofuel, and other power-generating facilities.

Like collision mortalities, electrocution mortalities are significant events for utilities, because the majority of bird species are protected under one or more federal statutes, including the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA), and the Endangered Species Act (ESA). In addition, Presidential Executive Order 13186, signed on 10 January 2001, directs any federal agency whose actions have a measurable negative impact on migratory bird populations to develop and work under a Memorandum of Understanding (MOU) with the U.S. Fish and Wildlife Service (USFWS) to promote conservation of migratory birds (APLIC 2006, 2012).

In the southeast US, birds of prey (raptors, eagles, and owls) are especially vulnerable to electrocution because of their size, relative rarity as top-of-the-food-chain predators, and hunting behavior, the latter of which can entail searching for prey by soaring at heights above the ground that can correspond to the height of transmission and distribution towers and lines. Of the 31 species of North American raptors, 29 have been documented to be victims of electrocution (APLIC 2006, 2012).

Birds can become electrocuted by power lines when these two interacting factors co-occur:

1. Environmental factors such as topography, vegetation, weather, prey availability, and other behavioral and biological factors cause birds to actively use utility structures.
2. Separation between energized conductors, or between energized conductors and grounded hardware, is insufficient to preclude availability of two points of contact.

Electrocution occurs when a bird or other organism completes an electric circuit by simultaneously touching two energized parts or an energized part and a grounded part of electrical equipment. Most electrocutions occur on medium-voltage distribution lines (4 to 34.5 kilovolts [kV]), in which the spacing between conductors may be small enough to be bridged by birds. Poles with energized hardware, such as transformers, can be especially hazardous, even to small birds, because they contain numerous, closely spaced energized parts (APLIC 2005).

According to APLIC, “avian-safe” structures are those that provide sufficient clearances to accommodate a large bird between energized and/or grounded parts. Specifically, 60 inches of horizontal separation, which can accommodate the wrist-to-wrist distance of an eagle (approximately 54 inches), is used as the standard for raptor protection. Likewise, vertical separation of at least 48 inches can accommodate the height of an eagle from its feet to the top of its head (approximately 31 inches; Figure 2). In areas such as the Everglades (i.e., areas with concentrations of wading birds), both horizontal and vertical separation may need to be

increased beyond these distances. Because dry feathers act as insulation, contact must be made between fleshy parts, such as the wrists, feet, or other skin, for electrocution to occur. In spite of these best efforts to minimize avian electrocutions, some amount of mortality may still occur due to influences such as weather that cannot be controlled.

1.4 Avian Power Line Interaction Committee

The Avian Power Line Interaction Committee (APLIC) is a public/private partnership that includes utilities, resource agencies, and the public. It was convened in 1989 specifically to deal with whooping crane collisions with power lines in Colorado. Since that time, APLIC has expanded their mission to focus on both collision and electrocution risks for all birds, communicating via their regularly published guidance documents (APLIC 2006, APLIC 2012). APLIC members currently include the Edison Electric Institute, the Electric Power Research Institute, the National Rural Cooperative Electrical Association, the Rural Utilities Service, the U.S. Fish and Wildlife Service, and nearly 40 electric utility companies in the U.S. and Canada. These key documents are made available by APLIC:

1. ***Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006.*** The 2006 (fourth) edition, focuses on the domestic and international opportunities for avoidance or mitigation of risk of avian electrocution and highlights the management options available to utilities.
2. ***Reducing avian collisions with Power Lines: The state of the art in 2012.*** The 2012 edition also focuses on the domestic and international opportunities for avoidance or mitigation of risk of avian electrocution and highlights the management options available to utilities.
3. ***Mitigating Bird Collisions with Power Lines (1994).*** This 1994 APLIC report summarizes and documents domestic and international data available as of 1994 on the techniques and management options for mitigating bird mortality before, during, and after power-line construction.

In 2005, APLIC and USFWS developed and jointly announced the Avian Protection Plan (APP) Guidelines, with the intention of enabling utilities to draft and implement their own APPs to manage their avian/power-line issues.

1.5 Approach to the Avian Risk Assessment

The ARA is based on available ecological information pertaining to the bird species and their vulnerability to three transmission corridors under consideration within a 30-mile boundary around the proposed corridors (shown in Figure 1-1). The three transmission corridors that are under consideration, and that are the focus of this ARA, are as follows:

1. The FPL West Preferred transmission-line corridor is located on lands currently owned by FPL within ENP

2. The FPL West Secondary corridor is located on NPS lands currently within ENP that may be exchanged to FPL

3. Route A begins at FPL's West Preferred Corridor near the intersection of the hypothetical SW 120th Street and hypothetical SW 204th Avenue in Miami-Dade County just south of Everglades National Park then turns north adjacent to the L-31N Canal before turning east to cross Krome Ave. From there, Route A is located between Krome Ave. and the Miami-Dade County Urban Development Boundary before it crosses the Tamiami Trail, paralleling the Dade Broward Levee before connecting to the Levee substation.

The northern portions of the FPL corridors (north of Tamiami Trail) are on state lands (Everglades and Francis S. Taylor Wildlife Management Area) before connecting to the Levee substation. Route A is a 330-ft-wide corridor that was initially identified as the preferred alternate corridor during the alternative corridor selection study. In the EIS, it is referred to as a "hypothetical corridor" that was based on siting done during the alternative corridor selection study. This alternate corridor was used for calculation of acreage and distances for comparative analyses both in the LRE and the EIS.

In a previous risk assessment, LoGalbo and Zimmerman (2010) included a list of more than 200 avian species that have the potential to occur in the vicinity of the proposed transmission corridors. Of most concern are those birds that are considered endangered, threatened, or of special concern either federally or in the state of Florida. Therefore, this risk assessment focuses particularly on those birds, but also attempts to address risks to other guilds of birds such as wading birds, waterbirds, raptors, migratory passerines, and wetlands birds. One of the goals of this risk assessment is to determine which of the three transmission corridors presents the least amount of risk to different species of birds.

We used the Relative Risk Model (RRM) to compare the route alternatives. The RRM has been used in a wide variety of applications. The method, as described by Landis and Wiegers (2004), has been applied in evaluations of declines in Pacific herring (Landis et al. 2004), environmental conditions in the Willamette and McKenzie rivers in Oregon (Luxon and Landis 2005), rain forest preserves in Brazil (Moraes et al. 2002), other regional assessments (Landis et al. 2005), and alternative strategies for oyster restoration in Chesapeake Bay (Menzie et al. 2013).

The RRM methodology integrates the following information:

1. Proximity of each transmission corridor to particular species and/or groups of birds

2. Linking bird species with particular habitat types and/or known locations of concentration (foraging, resting, breeding, etc.) in order to identify preferred habitats

3. Habitat estimation of preferred avian habitats potentially affected by each of the three corridors under consideration.

Whether qualitative or quantitative, the accuracy of any risk assessment depends on the uncertainty in the inputs used to estimate the probability of harm. Because the ARA is based on review and integration of past research on the presence, on the absence and proximity of birds to proposed transmission facilities, and on the professional judgments of others, one of the main assumptions is that inputs derived from the past research are accurate. Therein lies a potential source of uncertainty in this, and indeed any, risk assessment. In general, the body of data and information used to characterize risk in the environment always involves uncertainty, in which case, professional judgments are made to arrive at an informed assessment of avian risks.

2 Methods

The goal of the relative risk assessment was to allow a quantitative comparison of the relative risks to important avian resources posed by each of the three transmission corridors under consideration in the EIS. The analysis relied on a variety of existing avian survey data from both the scientific literature and from data provided to us by ENP and BNP and included these data sets, and a previous risk assessment undertaken by ENP (LoGalbo and Zimmerman 2010).

2.1 Focal Species Selection

Avian species that are known or anticipated to occur in the area of the transmission corridors were identified in LoGalbo and Zimmerman (2010). Based on that information, 230 species of birds could potentially be present and therefore subject to risks from transmission lines. Of those 230 species, 40 are noted to have either state or federal protection status (Table 2-1).

LoGalbo and Zimmerman (2010) provided a list of reported Florida utility injuries or mortalities for avian species. This list was updated using information for species that were previously recorded as being injured or killed due to power-line interactions in Florida and the rest of the United States by USGS and USFWS (Dilip Shinde, personal communication to Alicia LoGalbo and Mike Zimmerman). This combined list was then used to determine whether any of the species that occur within the boundary of the transmission corridors have been injured or killed previously by power-line interactions through collisions and electrocutions.

The protected species that have been harmed previously by power lines include the following are identified with an "X" in Table 2-1. It is possible that other species may have had interactions with power lines that resulted in injuries or mortalities but were never located by surveyors, and/or were never recorded in the databases reviewed. Therefore, all other species that are federally or state listed (as shown in Table 2-1) were also included as focal species in the ARA. Finally, a few additional species are included, although they are not considered federally or state threatened, such as the glossy ibis and the brown pelican. These species are included because actual information on their locations was provided in some of the data sets that were reviewed, so they were opportunistically included as representative receptors. The list of focal species, including the avian family they belong to, is as follows:

Family Pelecanidae
- Brown pelican (*Pelecanus occidentalis*)

Family Phalacrocoracidae
- Double crested cormorant (*Phalacrocorax auritus*)

Family Anhingidae
- Anhinga (*Anhinga anhinga*)

Family Ardeidae
- Black-crowned night heron (*Nycticorax nycticorax*)
- Great blue heron (*Ardea herodias*)
- Great white heron (*Ardea herodias occidentalis*)

- Great egret (*Ardea alba*)
- American bittern (*Botaurus lentiginosus*)
- Least bittern (*Ixobrychus exilis*)
- Little blue heron (*Egretta caerulea*)
- Snowy egret (*Egretta thula*)
- Tricolored heron (*Egretta tricolor*)
- Reddish egret (*Egretta rufescens*)

Family Threskiornithidae

- White ibis (*Eudocimus albus*)
- Roseate spoonbill (*Platalea ajaja*)
- Glossy ibis (*Plegadis falcinellus*)

Family Ciconiidae

- Wood stork (*Mycteria americana*)

Family Gruidae

- Florida sandhill crane (*Grus canadensis*)

Family Aramidae

- Limpkin (*Aramus guarauna*)

Family Rallidae

- Black rail (*Laterallus jamaicensis*)
- Yellow rail (*Coturnicops noveboracensis*)

Family Accipitridae

- Snail kite (*Rostrhamus sociabilis*)
- Short-tailed hawk (*Buteo brachyurus*)
- Swallow-tailed kite (*Elanoides forficatus*)
- Northern harrier (*Circus cyaneus*)
- Osprey (*Pandion haliaetus)*

Family Falconidae

- Crested caracara (*Caracara cheriway*)
- American kestrel (*Falco sparverius*)

Family Columbidae

- White-crowned pigeon (*Patagioenas leucocephala*)

Family Cuculidae

- Yellow-billed cuckoo (*Coccyzus americanus*)

Family Tytonidae

- Barn owl (*Tyto alba*)

Family Picidae

- Northern flicker (*Colaptes auratus*)

Family Laniidae

- Loggerhead shrike (*Lanius ludovicianus*)

Family Vireonidae

- Black-whiskered vireo (*Vireo altiloquus*)

Family Troglodytidae

- Marsh wren (*Cistothorus palustris*)
- Sedge wren (*Cistothorus platensis*)

Family Turdidae
- Wood thrush (*Hylocichla mustelina*)
- Veery (*Catharus fuscescens*)

Family Parulidae
- Black-throated blue warbler (*Setophaga caerulescens*)
- Prairie warbler (*Setophaga discolor*)
- Worm-eating warbler (*Helmitheros vermivorum*)
- Swainsons warbler (*Limnothlypis swainsonii*)
- Louisiana waterthrush (*Parkesia motacilla*)

Family Icteridae
- Bobolink (*Dolichonyx oryzivorus*)
- Eastern meadowlark (*Sturnella magna*)

Family Cardinalidae
- Painted bunting (*Passerina ciris*)

Family Emberizidae
- Field sparrow (*Spizella pusilla*)

By including all listed species as receptors, in addition to a few others, these receptors represent various guilds of birds, including raptors, wading birds, passerines, wetland birds, waterbirds, grassland birds, residents, migrants, and other groups of birds that are potentially present in the area of the transmission corridors. They serve as surrogates of risk for other birds with similar life histories, habitat requirements, and behavioral patterns.

2.2 Data Sources

The avian data sets that were used in the ARA are discussed below. Ideally, data for the focal species would have included foraging locations, roosting locations, nesting locations, migration pathways, foraging flight paths, height of flight above the ground, and numbers of flights per day/year over the three transmission corridors in Everglades and Biscayne National Parks, and other areas in between that are located in southern Florida. However, data on migration pathways, foraging flight paths, height of flight, and number of flights per day/year were not available for this risk assessment. The data that were used to address each of the focal species are listed below.

Each data set listed below is composed primarily of direct observations of birds and/or colonies from ground-based surveys, fixed-wing aircraft, or satellite telemetry. Details of the methods used to collect these data, and any constraints or assumptions regarding them, are available in the citations provided. All data sets used in the risk assessment were imported, manipulated, and analyzed using ArcInfo GIS work stations. It was decided in consultation with NPS to use all of the available data points for each species listed in the sources above.

Wading bird nesting and foraging habitats outside of the ENP and BNP boundaries were not well documented in the data provided. This is likely because the habitats outside the park boundaries are heavily urbanized, and therefore are not used by wading birds to the same degree that the non-urbanized protected areas are used. Also, many studies are focused within the park boundaries, as opposed to the more urbanized areas. Regardless, given this lack of data, there

existed a need to determine what potential habitat cover types exist for areas outside the park and study boundaries, because these habitats represent areas where birds could potentially forage for food. To address this data gap, please refer to Section 2.4 below.

2.2.1 Wood Stork Data

Wood storks were identified as one of the focal species for the ARA, because they are federally and state endangered, and because they have been reported as injured or killed in the past due to interactions with power lines. A variety of data sets that contained wood stork foraging or nesting data were available. These are described below.

2.2.1.1 USFWS South Florida Wood Stork Nesting Colony Data

The USFWS North Ecological Services Office website included location data for wood stork nesting colonies in south Florida (http://www.fws.gov/northflorida/WoodStorks/Documents/20100623_list_Wood%20Stork%20Colonies%20within%2018%20Miles%20of%20Coast%20Table.pdf). These data were coded as "nesting colonies" in the GIS database.

2.2.1.2 Wood Stork Data from Borkhateria (2009) Dissertation

Borkhateria (2009) provided foraging locations for wood storks in 2004 and 2005 as part of her dissertation, based on satellite telemetry data. The exact locations of the wood storks noted by Borkhateria (2009) were not provided, so the locations were digitized by a GIS technician into a GIS layer using Figures 4 and 5 provided in the document. It is possible that more wood storks were present in the areas where satellite-tagged birds were noted; however, the number of birds associated with each foraging location was not provided in Borkhateria (2009) reference. Therefore, it was assumed that only one wood stork was present at each data point. These data were coded as "satellite transmissions" in the GIS database.

2.2.1.3 Wood Stork Following Flight Data from Herring and Gawlik (2007)

Herring and Gawlik (2007) provided data on both breeding colonies and foraging sites for wood storks in 2006 and 2007, which they obtained using following flights. The locations of three wood stork breeding colonies (Tamiami West, Paurotis Pond, and Rodgers River Bay) were coded as "nests" in the GIS database, and the location information and number of wading birds associated with each foraging location was coded as "foraging."

2.2.1.4 Wood Stork Nesting Colony Data

The nesting colony database included GIS coordinates of nesting locations (including number of birds nesting at each location) from 1985 through 2011. The data spans from 1936 through 2011; however, only data with actual GPS locations were used, and that range covered 1985 through 2011, and included 3140 usable data points. These data were coded as "nests" in the GIS database.

2.2.1.5 Wood Stork Data from Frederick (2007, 2008, 2009, 2010, 2011)

Data from Peter Frederick of the University of Florida were provided by Everglades National Park. The number of wood stork nests at various colonies were documented during surveys conducted in 2007, 2008, 2009, 2010, and 2011. These data were coded as "nests" in the GIS database.

2.2.1.6 Wood Stork Systematic Reconnaissance Flight (SRF) Data

Wood stork data that are available in the SRF database were used for this avian risk assessment. These data are collected via fixed-wing aircraft containing two observers that fly a prescribed route over Everglades National Park and a small selection of other areas (such as the southern tip of Big Cypress National Preserve) (Russell 2002). The route begins in the northeast corner of the Park and consists of a series of transects following lines of latitude, alternating in direction east-to-west and west-to east. Each transect is 2 km farther south than the previous one. During each transect, observations begin and end when the aircraft crosses predetermined points that correspond roughly to the boundaries of the Park. Both observers record the presence of wading birds. The SRF database includes information on flights that were performed from 1985 to 2011. These data were coded as "foraging" locations in the GIS database.

The SRF data have many strengths, including a consistent survey protocol with exactly equal effort applied to every location in the Park, and repetition at approximately the same dates every year, for many years. They are also subject to some sources of error and unknown quantities, including incomplete coverage, and varying visibility biases because observers cannot see every bird below them. However, the bird counts provided by the SRFs are considered to be conservative sources of data for this avian risk assessment, because it is likely that more birds were using the Park at any given time than were actually recorded.

2.2.1.7 Wood Stork Data from NPS Avian Risk Assessment (LoGalbo and Zimmerman 2010)

Numbers of wood stork nests were recorded from a variety of surveys and were summarized by LoGalbo et al. The sources of data included Cook and Kobza 2008 and 2009, Cook and Herring 2007, Cook and Call 2005 and 2006, Crozier and Cook 2004, Crozier and Gawlik 2003, and Gawlik 2002-1997. These data were included in the database we created and were coded as "nests" in the GIS database.

2.2.2 Little Blue Heron, Snowy Egret, Tricolored Heron, Roseate Spoonbill, and White Ibis Data

2.2.2.1 Systematic Reconnaissance Flight (SRF) Database

Data for little blue herons, snowy egrets, tricolored herons, roseate spoonbills, and white ibis that are available in the SRF database were used for this avian risk assessment. For further description of these data, please refer to Section 2.2.1.6, above. These data were coded as "foraging" locations in the GIS database.

2.2.2.2 Nesting Data from Frederick (2007, 2008, 2009, 2010, 2011)

Data for little blue herons, snowy egrets, tricolored herons, roseate spoonbills, and white ibis were available from surveys conducted by Peter Frederick of the University of Florida. These survey data were provided by Everglades National Park. The number of nests for each species at various colonies was documented during surveys conducted in 2007, 2008, 2009, 2010, and 2011. These data were coded as "nests" in the GIS database.

2.2.2.3 Biscayne National Park 2010 Colony Data

In 2010, Biscayne National Park collected data on the number of little blue heron, tricolored heron, white ibis, and roseate spoonbill nests. These data included locations of the nesting colonies and the number of nests present in each colony. These data were coded as "nest" locations in the GIS database.

2.2.2.4 Nesting Colony Data

The nesting colony database included GIS coordinates of nesting locations (including number of birds nesting at each location) from 1985 through 2011 for little blue heron, tricolored heron, white ibis, snowy egret, and roseate spoonbill. The data spans from 1936 through 2011; however, only data with actual GPS locations were used, and that range covered 1985 through 2011, and included 3140 usable data points. These data were coded as "nests" in the GIS database.

2.2.2.5 Nesting Data from NPS Avian Risk Assessment (LoGalbo et al. 1999)

Numbers of white ibis, tricolored heron, snowy egret, roseate spoonbill, and little blue heron nests were recorded from a variety of surveys and were summarized by LoGalbo et al. (1999). The sources of data included Cook and Kobza 2008 and 2009, Cook and Herring 2007, Cook and Call 2005 and 2006, Crozier and Cook 2004, Crozier and Gawlik 2003, and Gawlik 2002-1997. These data were included in the database we created and were coded as "nests" in the GIS database.

2.2.3 Additional Wading Bird and Colonial Waterbird Data

Although only wood stork, white ibis, tricolored heron, snowy egret, roseate spoonbill, and little blue heron were considered focal species for this ARA, due to their federal and/or state status and previously noted interactions with power lines, a variety of other wading bird species were included in the data sets described above. Therefore, these data were also opportunistically entered into the GIS database so that relative risk could be quantified for these birds as well.

2.2.3.1 Systematic Reconnaissance Flight (SRF) Database

Data for great blue heron, glossy ibis, roseate spoonbill, great egret that are available in the SRF database were used for this avian risk assessment. For further description of these data, please refer to Section 2.2.1.6. These data were coded as "foraging" locations in the GIS database.

2.2.3.2 Nesting Data from Frederick (2007, 2008, 2009, 2010, 2011)

Data for anhinga, black-crowned night heron, cattle egret, glossy ibis, great blue heron, and great egrets were available from surveys conducted by Peter Frederick of the University of Florida. These survey data were provided by Everglades National Park. The number of nests for each species at various colonies was documented during surveys conducted in 2007, 2008, 2009, 2010, and 2011. These data were coded as "nests" in the GIS database.

2.2.3.3 Biscayne National Park 2010 Colony Data

In 2010, Biscayne National Park collected data on number of anhinga, cormorant, great white heron, reddish egret, great blue heron, and great egret nests. These data included locations of the nesting colonies and the number of nests present in each colony. These data were coded as "nest" locations in the GIS database.

2.2.3.4 Nesting Colony Data

The nesting colony database included GIS coordinates of nesting locations (including number of birds nesting at each location) from 1985 through 2011 for anhinga, black-crowned night heron, brown pelicans, cattle egrets, cormorants, glossy ibis, great blue heron, great egrets, and great white heron. These data were provided to Louis Berger by Tylan Dean. The data spans from 1936 through 2011; however, only data with actual GPS locations were used, and that range covered 1985 through 2011, and included 3140 usable data points. These data were coded as "nests" in the GIS database.

2.2.3.5 Nesting Data from NPS Avian Risk Assessment (LoGalbo et al. 1999)

Number of nests for anhinga, black-crowned night heron, cattle egret, glossy ibis, great blue heron, and great egret were recorded from a variety of surveys and were summarized by LoGalbo et al. (1999). The sources of data included Cook and Kobza 2008 and 2009, Cook and Herring 2007, Cook and Call 2005 and 2006, Crozier and Cook 2004, Crozier and Gawlik 2003, and Gawlik 2002-1997. These data were included in the database we created and were coded as "nests" in the GIS database.

2.2.4 Snail Kite Data

Snail kite nesting location data were provided by the Biological Resources Branch Chief of ENP. Data from seven different sources were combined. The sources included 2008, 2009, 2010, and 2011 survey summary data, snail kite nesting data from 1986 through 2007, two snail kite nest locations provided in a map by Dial Cordy and Associates, and nesting data in Water Conservation Area 2B, located in a report titled, "Numbers, Distribution, and Success of Nesting snail Kites in Water Conservation Area 2B, 1995 Final Report prepared for South Florida Water Management District." The survey summary data and nesting data originate from long-term multi-year studies conducted by Dr. Wiley Kitchens at the University of Florida. These data were coded as "nests" in the GIS database.

2.3 Risk Assessment Assumptions

Because birds are known to collide with power lines and associated towers while flying, direct observation and quantification of individual birds or flocks in flight (including but not limited to data such as the numbers of birds in flight, the height of flight above the ground, and direction of flight), are often the best data to inform an analysis of collision risk (APLIC 2006). However, data on individuals or flocks of birds in flight were not available for this analysis; to fill that data gap, we relied on inference and the following assumptions:

- In the absence of specific flight data, we assume that both ENP and BNP birds spend most of their flight time transiting the airspaces, especially among nest sites, roosting sites, and foraging habitats.
- A related assumption for BNP, in the absence of birds-in-flight data, is that those birds nesting in the coastal and island colonies of BNP that choose to forage or roost in ENP will necessarily have to fly west over greater Miami, crossing the general area containing the transmission corridors under consideration.
- Similarly, those birds nesting within or near to ENP that choose to fly east to feed, or that roost on the shoreline, will necessarily have to cross the general area containing the transmission corridors under consideration, as well as fly over greater Miami to reach maritime shores.
- Although the risk of birds colliding with power lines and towers is known to be generally low and variable (APLIC 2006), we assume nevertheless that collision risk increases with the number of birds crossing over, under, or through any air space that contains power lines and towers.
- Finally, because we lack site-specific data regarding the height of bird flight above the ground in the vicinity of the proposed ROWs, this important variable of collision risk exposure must remain an uncertainty. However, because power lines and associated towers are found typically within <500 ft above the ground, such infrastructure must be considered a collision risk factor to birds that spend a majority of time within this airspace or for any birds that enter this airspace while landing or taking off.

  In a study of the interaction of wading birds, including wood storks, with a similar 500-kV transmission line, Deng and Frederick (2001) reported that 87% flew above wires at night and 82% during the day. They concluded that the percentage of birds at night might be higher than 87%, because radar showed more crossings at greater height. After taking off from nests or foraging sites, wood storks generally use soaring flight to attain a height above the ground of 2,000 ft (Kahl 1964) to as much as 5,000 feet (Mitchell 1999). Descending storks fly at a steep angle and at speeds of 25–33 mph (Kahl 1972). It is during takeoff and landing when storks, waders, and other birds are their greatest risk of collision with power lines, towers, and other structures.

In a two-year study in Australia of the height of flight and collision risk of 22 waterbirds at a 330-kV transmission line, Winning and Murray (1997) found that, from a grand total of 50,979 height-of-flight observations , the percentage of birds observed flying *beneath* the top of transmission towers and lines ranged from a high of 100% to a low of 33% for glossy ibis.

2.4 Maximizing the Distance to Known Risk Factors: Assessing Relative Risks

Because proximity to transmission lines is a known risk factor for birds (APLIC and USFWS 2005; APLIC 2006), our approach to quantifying relative risk among the three corridors was to focus especially on the spatial juxtaposition of avian resources relative to the location of each corridor. Whether an individual bird, a foraging flock of birds, a nesting colony, or a preferred habitat patch, we focused on the following two aspects of proximity. First, we measured the distance from an avian resource (such as a wood stork foraging or nesting location) to the nearest point on each of the three transmission corridors under consideration; and second, we tallied the number of foraging or nesting individuals per mile up to a distance of 30 miles away from each corridor. In this way, a transmission corridor that has the highest proximity to a particular avian resource, such as a multispecies colony, an individual nest of a critical species, or an important foraging habitat, was construed as posing a greater risk of collision or electrocution than a corridor that is further from a resource (APLIC and USFWS 2005; APLIC 2006).

2.4.1 Data-Based Relative Risk Assessment

The data-based relative risk assessment uses the GIS data specified in Section 2.2 above, which includes the number of birds associated with each location surveyed. In this approach to quantifying relative risk among the three proposed transmission lines, risk is a function of the distance from any nest or nesting colony to a particular line segment for each species. The risk of colliding with transmission lines declines with distance. Relative risk for each transmission line alternative can be expressed with the following formula:

$$P_{\mathrm{a}}(S_{\mathrm{i}}) = \sum_{j}^{n} \frac{1}{(D_{\mathrm{aj}})\text{^}2} \times S_{\mathrm{ij}}$$

where $P_a(S_i)$ is the risk from transmission alternative *a* to species S_i as a function of the distance D from colony *j* to line segment L for transmission-line alternative *a*. D is the distance in miles, and S is the number of individuals for species S found in colony j. The assumption is that birds fly out from colony *j* in all directions, and risk is purely a function of the proximity of the avian resource to the transmission-line ROW.

As an example of how relative risk was calculated using these methods, if there was a colony of 100 birds located 1 mile away from a transmission corridor, versus a colony of 1000 birds located 10 miles away from a transmission corridor, the difference in relative risk would be 100 (100 birds x [$1/1^2$]; or 100 x 1) versus 10 (1000 birds x [$1/10^2$]; or 1000 x 0.01). The higher risk would be attributed to the colony of 100 birds located 1 mile away from the transmission corridor.

This exercise was completed for each species for which available GIS and number-of-bird data were accessible. The per-species relative risks calculated for each transmission corridor were then summed to provide comparisons for each corridor. Please note that two of the data sets for wood storks mentioned above [USFWS South Florida Wood Stork Nesting Colonies and Borkhateria (2009)] did not include the number of birds associated with each colony or foraging location. Therefore, each of those GPS locations was conservatively assumed to have at least one bird present. Please note that numbers of wood storks were reported in all other data sets.

For all three corridors under consideration, we quantified the relative risks associated with the entire corridor of each alternative, which included the route sections that were unique to each alternative ***plus*** the sections referred to as "Common to All" (Figure 1-1). The transmission corridors considered in this ARA were very similar in length, totaling the following approximate miles and acreages: FPL West Secondary, 50 miles and 1,998 acres; FPL West Preferred, 51 miles and 2,929 acres; Route A, 50 miles and 2012 acres. The FPL West Preferred Corridor has the greatest acreage associated with it, and the FPL West Secondary Corridor has the least.

There is ample precedent for the notion of striving to maximize the distance between critical avian resources and a variety of hazards in the environment. For example, the Wood Stork Recovery Plan (USFWS 2007) presents management guidelines that recommend buffer zones to reduce human disturbance to breeding, feeding, and roosting habitats. The guidelines were derived from research by Ogden (1990) and Rodgers and Smith (1995 and 1997), which recommended buffers between storks and various sources of human disturbance. Similarly, extensive research in the electric utility industry has been focused on the causes of and solutions to bird collision and electrocution mortality as a result of proximity to transmission lines and distribution systems (APLIC and USFWS 2005; APLIC 2006). This research has prompted many state and federal resource agencies, as well as electric utilities, to adopt specific guidelines for the structural design and siting of new transmission corridors, such that they minimize mortality from collision and electrocution. The key recommendation for minimizing the risk of collision mortality of flying birds, or electrocution from birds landing on wires or tower members, is to avoid siting new transmission lines such that they fall on or near important bird flight paths (APLIC 2006). Finally, throughout the wildlife management literature, there is the nearly ubiquitous prescription of establishing buffers around key wildlife resources, such that known risk factors are kept as far away as possible from such resources.

2.4.2 Habitat-Based Relative Risk Assessment

Wading-bird nesting and foraging habitat outside of the ENP and BNP boundaries was not well documented in the data provided. This is likely because the habitats outside the park boundaries are heavily urbanized, and therefore are not used by wading birds to the same degree that the non-urbanized protected areas are used. Also, many studies are focused within the park boundaries, as opposed to the more urbanized areas. For focal species other than wading birds, survey data were not available for ENP or BNP. Regardless, given this lack of data, there was a need to determine what potential habitat cover types exist for areas outside the park and study boundaries, because these habitats represent areas where birds could potentially nest, breed, roost, or forage for food.

For this ARA, The SFWMD Land Cover Land Use data layer was used to determine the wetland miles crossed by each route. The 2011 data layer was created by review of 2008-2009 aerial photography and serves as an update to the 2004 data layer. The data is classified using the Florida Land Use, Land Cover Classification System (FDOT 1999). Three levels (Levels 1, 2, and 3) of land-use description are provided, based on the FDOT (FDOT) classification schema.

For focal species such as snail kites, wood storks, and wading birds for which actual GIS foraging and nesting locations were provided, an assessment of the most frequented habitat types within the 30-mile boundary were determined in GIS. The numbers of individual foraging birds, flocks of foraging birds, and nesting locations of birds associated with each individual GIS location were recorded. The Level 3 LCLU was then recorded for each individual GIS location. This provided a measure of Level 3 LCLU habitat preferences by the focal species, and is shown graphically in Figure 2-1. These results are presented as figures in the Results section for each species for which data were available.

For the other focal species that did not have data sets associated with them, a more general approach to habitat preferences was taken. The preferred habitat for each species was determined from the Florida Breeding Bird Atlas accounts (http://legacy.myfwc.com/bba/species.asp). If a species did not have an account provided in the Florida Breeding Bird Atlas, then the life history account from the Birds of North America series (http://bna.birds.cornell.edu/bna/) was accessed. The preferred habitats for each focal species, within the 30-mile boundary surrounding the three potential transmission corridors, are identified in Table 2-2. A map of all potential Level 2 LCLU habitat descriptions was created (Figure 2-2). (Note: Level 2 LCLU was used instead of Level 3, because the habitat descriptions in the sources used were not specific enough to identify to Level 3 categories.)

2.5 Measuring Distances from Key Resources for Each Transmission Corridor

Within ArcInfo GIS, we used the NEAR (Analysis) tool to capture the distances between avian resource points and the nearest point along the three potential transmission corridors. The NEAR tool is part of ArcInfo's Proximity tool set, which is used to determine the proximity of spatial features within feature classes or between two feature classes. The Proximity tools

identify features that are closest to one another, calculate the distances around them, and calculate distances between them. The NEAR tool allowed us to extract the distance from any point in our avian feature class to the nearest line or point in the transmission-line feature class (Figure 2-3).

We used NEAR to extract distance measures for the avian resource features listed above, out to a distance of 30 miles from each of the three corridors under consideration. Thirty miles was judged to be a conservative maximum distance to include in the analysis, because few if any of the species at risk from the project are likely to fly farther than that from their nest in a single day (Smith 1995).

3 Results

As described in the Methods section, two types of relative risk assessments were conducted. The data-based relative risk assessment used actual locations and numbers of nests and nesting colonies associated with each location within the 30-mile boundary of the study area. Because the survey data are biased for within-Park boundaries, an additional habitat-based relative risk assessment was conducted using the data for preferred habitats that were available in the GIS data sets. However, as mentioned above, these specific multi-year data were available only for snail kites, wood storks, and some waterbirds.

For all other species for which GIS data were not available, only a habitat-based relative risk assessment was conducted. For these species, the Florida Breeding Bird Atlas was used to determine which types of habitats are preferred by each species (Table 2-2). The average distance of each preferred habitat to each potential transmission corridor was calculated and compared. The results of the relative risk assessments, in addition to the land use for each focal species, are presented below.

3.1 Relative Risk Assessment Results

3.1.1 Family Pelecanidae

This family was represented by the brown pelican, which is considered a Florida State Species of Special Concern. This species was noted previously to have been electrocuted due to contact with transmission lines. There was no difference in relative risk among the three potential transmission corridors to brown pelicans (Figure 3-1). This species is exclusively coastal and, in the study area, was noted to be associated with embayments opening directly to the Gulf of Mexico or the Atlantic Ocean (Figure 3-2). The nearest preferred habitat for the brown pelican was equidistant from the three potential transmission corridors (Figure 3-3).

3.1.2 Family Phalacrocoracidae

This family is represented by the double-crested cormorant, which is not state or federally listed. However, this seabird species has been noted to collide with transmission lines in the past. There was no difference in relative risk to double-crested cormorants among the three potential transmission corridors (Figure 3-1). Based on the data provided for cormorants in the data sets described above in Section 2, the cormorant was noted to be associated most with mangrove swamps, embayments, mixed shrubs, and freshwater marshes (sawgrass) (Figure 3-4). The risk in terms of distance of preferred cormorant habitat from the three transmission corridors to the freshwater sawgrass marshes and mixed shrub habitats was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-5).

3.1.3 Family Anhingidae

This family was represented by the Anhinga, which is not state or federally listed. However, this aquatic bird has been noted to have been electrocuted due to contact with transmission lines in the past. Relative risk to anhingas was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-1) (Figure 3-1). Based on the data provided for anhingas in the data sets above, the anhinga was noted to be associated most with freshwater marshes (sawgrass and graminoid prairies), mixed shrubs, and mangrove swamps (Figure 3-6). The risk in terms of distance of preferred cormorant habitat from the three transmission corridors was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-7).

3.1.4 Family Ardeidae

This family was represented by 10 species, most of which had specific abundance and location data provided in the GIS data sets described above. Relative risk to black-crowned night herons, great blue herons, great egrets, snowy egrets, and tricolored herons was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-1). There were no differences in relative risk for the great white heron, little blue heron, or reddish egret based on the data provided for cormorants in the data sets above (Figure 3-1).

The preferred habitat for the black-crowned night heron was mixed shrubs, followed by freshwater sawgrass and graminoid marshes (Figure 3-8). Relative risk to black-crowned night herons, based on distance of preferred habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-9).

The preferred habitat for the great blue heron was freshwater sawgrass marsh, followed by mangrove swamps, freshwater marshes, mixed shrubs, embayments, tidal flats, saltwater marshes, cypress stands, and wet prairie (Figure 3-10). Relative risk to great blue herons, based on distance of preferred habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-11).

The preferred habitat for the great white heron was mangrove swamps, followed by freshwater marshes, embayments, tidal flats, saltwater marshes, mixed shrubs, freshwater marshes, natural waterways, wet prairies, and cypress stands (Figure 3-12). Relative risk to great white herons, based on distance of preferred habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-13).

The preferred habitat for the great egret was freshwater marshes, followed by mangrove swamps, freshwater marshes, mixed shrubs, tidal flats, tidal flats, saltwater marshes, embayments, cypress stands, enclosed salt water holding ponds, and wet prairies (Figure 3-14). Relative risk to great egrets, based on distance of preferred habitats from the transmission

corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-15).

The preferred habitat for the little blue heron was mixed shrubs, followed by freshwater marshes, ornamentals, mangrove swamps, and reservoirs (Figure 3-16). Relative risk to little blue herons, based on distance of preferred habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-17).

The preferred habitat for the snowy egret was mixed shrubs, followed by enclosed salt water ponds within marshes, freshwater marshes, saltwater marshes, golf courses, embayments, tidal flats, upland hardwood forests, and mangrove swamps (Figure 3-18). Relative risk to snowy egrets, based on distance of preferred habitats from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-19).

The preferred habitat for the tricolored heron was mixed shrubs, followed by mangrove swamps, freshwater marshes, cypress stands, ornamentals, and embayments (Figure 3-20). Relative risk to tricolored herons, based on distance of preferred habitats to the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-21).

The preferred habitat for the reddish egret was mangrove swamp (Figure 3-22). Relative risk to reddish egrets, based on distance of the preferred habitat to the transmission corridors, was greatest for the Route A, intermediate for the FPL West Preferred Corridor, and least for the FPL West Secondary Corridor (Figure 3-23).

The American and least bittern are solitary marsh birds that are both designated as U.S. Fish and Wildlife Service nongame migratory species of concern. Neither species has had documented interactions with transmission lines. The preferred habitats for least bittern were vegetated wetlands and forested wetlands (Table 2-2). The preferred habitats for the American bittern were the same as for the least bittern, with the addition of bays and estuaries and streams and waterways (Table 2-2). Analysis of preferred habitats for both species of bitterns suggested that, based on distance from transmission lines, risk was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figures 3-24 and 3-25).

3.1.5 Family Threskiornithidae

This family was represented by the white ibis and roseate spoonbill, both of which are considered Florida State species of special concern, and the glossy ibis which is not state or federally listed. All three species have been reported injured or killed due to power line interactions. There was no difference in relative risk among the three potential transmission corridors to glossy ibis (Figure 3-1), but for both white ibis and roseate spoonbill, but for both ibis species, Route A posed the least risk, followed by the FPL West Preferred Corridor, and the most risk was associated with to the FPL West Secondary Corridor (Figure 3-1).

The preferred habitat for the white ibis was freshwater marshes, followed by mangrove swamps, mixed shrubs, tidal flats, saltwater marshes, cypress stands, and wet prairies (Figure 3-26). Relative risk to white ibis, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-27).

The preferred habitat for the glossy ibis was similar to that for white ibis, including freshwater marshes, followed by mangrove swamps, mixed shrubs, wet prairies, tidal flats, saltwater marshes, embayments, and cypress stands (Figure 3-28). Relative risk to white ibis, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-29).

The preferred habitat for the roseate spoonbills was mangrove swamps, followed by freshwater marshes, tidal flats, saltwater marshes, embayments, and wet prairies (Figure 3-30). Relative risk to roseate spoonbills, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-31).

3.1.6 Family Ciconiidae

This family was represented by the wood stork, which is classified as a federally and Florida State endangered species that has been injured or killed previously due to interactions with power lines. Relative risk to wood storks was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-1).

The preferred habitat for the wood stork was freshwater marshes, followed by mangrove swamps, mixed shrubs, embayments, saltwater marshes, tidal flats, cypress stands, wet prairies, natural waterways, and mixed wetland hardwoods (Figure 3-32). Relative risk to wood storks, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-33).

3.1.7 Family Gruidae

This family was represented by the Florida sandhill crane, which is classified as threatened in the State of Florida and also has been injured or killed previously due to interactions with power lines. Preferred habitats of the Florida sandhill crane include freshwater herbaceous wetlands. Relative risk to cranes, based on distance of the preferred focal habitats from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-31).

3.1.8 Family Aramidae

This family was represented by the limpkin, which is considered a special-concern species, both federally and in the State of Florida. The limpkin is a wetland species that prefers bays and estuaries, non-vegetated wetlands, streams and waterways, vegetated non-forested wetlands, and wetland hardwood forests (Table 2-2). Relative risk to the limpkins, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-35).

3.1.9 Family Rallidae

This family was represented by the black and yellow rail, both of which are secretive wetland birds. They are both designated as U.S. Fish and Wildlife Service nongame migratory species of concern. While other rail species have been reported injured or killed by interactions with power lines, the yellow and black rails have not. The preferred habitats of both rails include vegetated non-forested wetlands, streams and waterways, and bays and estuaries (Table 2-2). Relative risk to the rails, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figures 3-36 and 3-37).

3.1.10 Family Accipitridae

This family was represented by the snail kite, which is considered a federally and Florida State endangered species, while the northern harrier, short-tailed hawk, and swallow-tailed kite are designated as U.S. Fish and Wildlife Service nongame migratory species of concern. The osprey is also included in this family, and is considered a species of special concern in Monroe County, Florida. The snail kite and the short-tailed hawk have not been reported killed or injured due to interactions with power lines, while the swallow-tailed kite, osprey, and northern harrier have been.

The snail kite habitat preferences include freshwater marshes, lakes, emergent aquatic wetlands, mixed shrubs, and cypress stands (Figure 3-38). Relative risk to snail kites, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-39).

The preferred habitat for the short-tailed hawk included herbaceous dry prairies, upland hardwood forests, upland mixed forests, upland shrub and brushlands, and wetland forests (Table 2-2). Relative risk to white ibis, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-40).

The preferred habitat for the swallow-tailed kite included bays and estuaries, non-vegetated wetlands, streams and waterways, upland forests, non-forested wetlands, and wetland forests (Table 2-2). Relative risk to swallow-tailed kite, based on distance of the preferred habitat from

the transmission corridors, was greatest for the FPLWest Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-41).

The preferred habitat for the northern harrier included croplands and pasturelands, mixed rangelands, upland shrubs and brushland, herbaceous dry prairies, and vegetated non-forested wetlands (Table 2-2). Relative risk to northern harrier based on distance of the preferred habitat to the transmission corridors was generally greatest for Route A, intermediate for the FPL West Preferred Corridor, and least for the FPL West Secondary Corridor (Figure 3-42).

The preferred habitat for the osprey includes ocean, reservoirs, lakes, streams and waterways, and bays and estuaries (Table 2-2). Relative risk to osprey, based on distance of the preferred habitat from the transmission corridors, was the same for all routes (Figure 3-43).

3.1.11 Family Falconidae

This family was represented by the crested caracara, which is federally threatened, and also considered threatened in the state of Florida, and the American kestrel, which is considered threatened in the State of Florida. Both species have been reported killed or injured due to interactions with power lines. The caracara prefers dry upland habitats, including croplands and pasturelands, mixed rangelands, upland shrubs and brushlands, and herbaceous dry prairies (Table 2-2). Relative risk to caracara, based on distance of the preferred habitats from the transmission corridors, was generally greatest for the Route A, intermediate for the FPL West Preferred Corridor, and least for the FPL West Secondary Corridor (Figure 3-44).

The kestrel also prefers dry upland habitats, including croplands and pasturelands, upland shrubs and brushlands, upland mixed forests, upland hardwood forests, and upland coniferous forests (Table 2-2). Relative risk to kestrels, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-45).

3.1.12 Family Columbidae

This family was represented by the white-crowned pigeon, which is designated as U.S. Fish and Wildlife Service nongame migratory species of concern, and threatened in the State of Florida. This species has not been reported killed or injured due to power-line interactions, but other Columbid species have been. The preferred habitats of the white-crowned pigeon include upland hardwood forests and wetland forests (Table 2-2). Relative risk to white-crowned pigeons, based on distance of the preferred habitats from the transmission corridors, was generally greatest for FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-46).

3.1.13 Family Cuculidae

This family was represented by the yellow-billed, cuckoo which is designated as a U.S. Fish and Wildlife Service nongame migratory species of concern. The cuckoo has not been reported killed or injured by power lines. The preferred habitats of the yellow-billed cuckoo include

streams and waterways, uplands hardwood forests, non-forested wetlands, forested wetlands, and bays and estuaries (Table 2-2). Relative risk to yellow-billed cuckoos, based on distance of the preferred habitats from the transmission corridors, was generally greatest for Route A, intermediate for the FPL West Preferred Corridor, and least for the FPL West Secondary Corridor (Figure 3-47).

3.1.14 Family Tytonidae

This family was represented by the barn owl, which is designated as a U.S. Fish and Wildlife Service nongame migratory species of concern. It has been reported killed or injured by power lines. The preferred habitats of the barn owl include croplands and pasturelands, dry prairies, mixed rangeland, and upland shrublands (Table 2-2). Relative risk based on distance of the preferred upland habitats from the transmission corridors was generally greatest for Route A, intermediate for the FPL West Preferred Corridor, and least for the FPL West Secondary Corridor (Figure 3-48).

3.1.15 Family Picidae

This family was represented by the northern flicker, which is designated as a U.S. Fish and Wildlife Service nongame migratory species of concern. It has been reported killed or injured by power lines. Upland forests and tree plantations are the preferred habitats of the northern flicker (Table 2-2). Relative risk, based on distance of preferred habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least risk for the Route A (Figure 3-49).

3.1.16 Family Laniidae

This family was represented by the loggerhead shrike, which is designated as a U.S. Fish and Wildlife Service nongame migratory species of concern. It has not been reported killed or injured by power lines. The preferred habitats of the loggerhead shrike include croplands and pasturelands, mixed rangelands, dry prairies, and upland shrublands (Table 2-2). Relative risk, based on distance of those preferred habitats from the transmission corridors, was generally greatest for Route A, intermediate for the FPL West Preferred Corridor, and least for the FPL West Secondary Corridor (Figure 3-50).

3.1.17 Family Vireonidae

This family was represented by the black-whiskered vireo, which is designated as a U.S. Fish and Wildlife Service nongame migratory species of concern. This species has not been reported killed or injured by interactions with power lines. The preferred habitats of the vireo are wetland hardwood forests (Table 2-2). Relative risk, based on distance of the preferred habitats from the transmission corridors, was highest for FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-51).

3.1.18 Family Troglodytidae

This family was represented by the marsh wren, which is a special-concern species in Florida, and the sedge wren, a species designated by the U.S. Fish and Wildlife Service as a nongame migratory species of concern. Neither species has been reported killed or injured by power lines. The preferred habitats of the marsh wrens are vegetated non-forested wetlands (Table 2-2). The relative risk, based on distance of that preferred habitat from the transmission corridors, was greatest for FPL West Secondary Corridor Route A, intermediate for the FPL West Preferred Corridor, and least for the Route A (Figure 3-52). The preferred habitats of the sedge wren include non-vegetated wetlands and vegetated nonforested wetlands. Relative risk, based on distance vegetated non-forested wetlands from the transmission corridors, was greatest for FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-53).

3.1.19 Family Turdidae

This family was represented by the wood thrush and veery, both of which are designated as U.S. Fish and Wildlife Service nongame migratory species of concern. Neither has been reported killed or injured by power-line interactions. The preferred habitats of both species include upland and wetland forests (coniferous, hardwoods, and mixed; Table 2-2). Relative risk, based on distance of vegetated non-forested wetlands from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figures 3-54 and 3-55).

3.1.20 Family Parulidae

This family was represented by the black-throated blue warbler, prairie warbler, worm-eating warbler, Swainson's warbler, and Louisiana waterthrush. All species are designated as U.S. Fish and Wildlife Service nongame migratory species of concern. None has been reported killed or injured by power lines. The preferred habitats of the parulids are very similar, including wetlands forests (Table 2-2), except for the worm-eating warbler prefers upland forests. Relative risk for all parulids, based on distance of these preferred habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figures 3-56, 3-57, 3-58, 3-59, and 3-60.).

3.1.21 Family Icteridae

This family was represented by the bobolink and eastern meadowlark, which are designated as U.S. Fish and Wildlife Service nongame migratory species of concern. The eastern meadowlark has been reported killed or injured by power lines. The preferred habitats of the bobolink and eastern meadowlark include croplands and pasturelands, herbaceous dry prairies, and upland shrubland and brushlands (Table 2-2). The relative risk to bobolinks and eastern meadowlarks, based on distance of prairies and upland crop and pasturelands from the transmission corridors, was greatest for Route A, intermediate for the FPL West Preferred Corridor, and least for the

FPL West Secondary Corridor (Figure 3-61 and 3-62). However in contrast, relative risk based on upland coniferous forests, shrublands and brushlands, and non-forested wetlands, was greatest for the FPL West Secondary Corridor, intermediate for the West Preferred Corridor, and least for Route A (Figures 3-61 and 3-62).

3.1.22 Family Cardinalidae

This family was represented by the painted bunting, which is designated as U.S. Fish and Wildlife Service nongame migratory species of concern. It has not been reported killed or injured by power lines. The preferred habitats of the painted bunting are upland shrubs and brushlands (Table 2-2). The relative risk based on distance of these habitats to the transmission corridors was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-63).

3.1.23 Family Emberizidae

This family was represented by the field sparrow, which is considered a federal species of special concern. It has not been reported killed or injured by power lines. The preferred habitats of the field sparrow are upland shrubs and brushlands (Table 2-2). The relative risk, based on distance of these habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-64).

3.2 Amount of Potential Avian Habitat Associated with Each Potential Corridor

The number of acres of potential avian habitat included within the three corridors includes the following:

- FPL West Preferred Corridor: 2647 acres
- FPL West Secondary Corridor: 1990 acres
- Route A: 1984 acres.

The acreages of the Level 3 LULC categories that are located under each corridor are shown in Figure 3-65. It should be noted that the corridor widths vary. In particular, the West Preferred Corridor expands to about 900 feet in width in some places, and so the acres figures for this corridor reflect that greater area, and a direct comparison cannot be made to the other corridors that are not of the same width.

4 Discussion

The focal species for this ARA were selected because they are classified as endangered, threatened, or special concern either federally or in the State of Florida. Additional waterbird species were included, because multi-year survey data were opportunistically available in the data sets that were already being examined. The selected focal receptors represent different guilds of birds, including raptors, wading birds, passerines, wetland birds, waterbirds, grassland birds, residents, migrants, and other groups of birds that are potentially present in the area of the transmission corridors. They serve as surrogates of risk due to the potential transmission corridors for other birds with similar life histories, habitat requirements, and behavioral patterns.

Of the 230 species that have been noted to use or breed in the vicinity of the transmission corridors, 78 have been reported to have had interactions with power lines that resulted in death or injury through either electrocution or collision (Table 2-1).

4.1 Relative Risks of the Three Proposed Transmission Corridors

In this ARA, the relative risk of three potential transmission lines to 47 species from 23 different avian families was compared. The transmission lines occur in the vicinity of ENP and BNP. The study area was defined by a 30-mile boundary surrounding the three transmission lines (Figure 1-1). Some focal species had multi-year survey data available, which included locations and number of birds either nesting or foraging (snail kite, wood stork, multiple waterbird species). For these species, relative risk was determined based on the available GIS data, comparing the average distance and number of birds associated with each location to the three potential corridors. A habitat-based risk assessment was also conducted based on the GIS data, such that average distances from preferred foraging habitats, as identified by the GIS data, to each potential transmission corridor, was calculated.

4.1.1 Data-Based Relative Risk Assessment Results

Results of the data-based relative risk assessment are shown in Table 4-1. For all 16 species included in this portion of the ARA, the Route A Corridor presented the least risk to birds, and the FPL West Secondary Corridor posed the most risk. Individual figures that show the data geospatially that were used to assess relative risk are as follows: brown pelican (Figures 4-1), anhinga (Figure 4-2), black-crowned night heron (Figure 4-3), great blue heron (Figure 4-4), great white heron (Figure 4-5), great egret (Figure 4-6), little blue heron (Figure 4-7), snowy egret (Figure 4-8), tricolored herons (Figure 4-9), reddish egret (Figure 4-10), white ibis (Figure 4-11), glossy ibis (Figure 4-12) roseate spoonbill (Figure 4-13), wood stork (Figure 4-14), and snail kite (Figure 4-15). However, for brown pelican (Figure 4-1), double crested cormorant, and reddish egret (Figure 4-10), there were no differences in relative risk between the three lines, because only one data point was available for each. Therefore, the data-based relative risk assessments were not reliable for these three species.

The data-based relative risk assessment results were based on past survey data that included both locations and number of birds present at each location. This data set was limited, however, to ENP and BNP areas—very few studies included data outside the park boundaries, although potential habitat does exist in those places. To address this lack of data outside park boundaries, the historical survey data set was linked in GIS to Level 3 LULC data (Figure 2-1). Each location was counted, to determine in which preferred habitats each species was found most often; these data are presented in Figures 3-2, 3-4, 3-6, 3-8, 3-10, 3-12, 3-14, 3-16, 3-18, 3-20, 3-22, 3-26, 3-28, 3-30, 3-32, and 3-38. The results based on preferred habitats were similar to those discussed above, such that for all focal species, the Route A Corridor posed the least risk to birds, while the FPL West Secondary Corridor posed the most risk. The exception was the reddish egret, for which the limited data suggested that the FPL West Secondary Corridor posed the least risk, and the Route A Corridor posed the most risk.

This analysis is robust, because it considers all potential habitats within the 30-mile radius of the transmission corridors (Figure 2-1). By encompassing this large area, and averaging results of distance to each corridor, the bias due to lack of samples from areas outside of park boundaries is reduced. This ARA examined relative risk for 47 avian species; two of those species, the wood stork and the snail kite, are considered both state and federally endangered. Both the data-based and habitat-based risk assessments suggest that the Route A corridor presents the least risk to those two endangered species. As can be seen on Figure 4-14 for the wood stork, and Figure 4-15 for the snail kite, there have been nests of both species that are located directly in the FPL West Preferred and the FPL West Secondary Corridors, as well as between the two corridors. However, no nests have been noted to be located within the Route A Corridor, or east of the FPL West Secondary and FPL West Preferred Corridors.

Because these two species nest within the 5-mile radius of the transmission corridors, their anticipated flight patterns put them in closer proximity to transmission ROWs, and therefore they are at greater risk of being harmed by lines and towers than are birds foraging, nesting or flying further away (Deng and Frederick 2001). Therefore, the snail kites and wood storks within 5-miles are construed as being exposed to higher collision and electrocution risk from the FPL Corridors than from the Route A Corridor.

4.1.2 Habitat-Based Relative Risk Assessment Results

The remaining 31 focal species did not have specific data sets available for analysis, so instead, a habitat-based approach to relative risk was used. This analysis is robust, because it considers all potential habitats within the 30-mile radius of the transmission corridors (Figure 2-2). Species accounts that described preferred habitats for the different species were summarized in Table 2-2, and then the average distance of preferred habitats to each of the transmission corridors was calculated in GIS.

Results of the habitat-based risk assessment are presented in Table 4-1. For 25 of the 31 focal species, the habitat-based assessment indicated that the Route A corridor posed the least risk, and the FPL West Secondary Corridor posed the most risk. For the remaining 6 birds (bobolink, eastern meadowlark, loggerhead shrike, barn owl, crested caracara, and northern harrier), the opposite was true: the FPL West Secondary Corridor posed the least risk, the FPL West Preferred Corridor posed intermediate risk, while Route A posed the most risk.

Species that use wetlands and associated water-based habitats end up being closer to the FPL West Secondary Corridor, and therefore experience higher risk as a result. In contrast, birds that use upland habitats to a greater extent would be at higher risk due to the proximity of the Route A Corridor to those types of habitats. In all instances, the FPL West Preferred Corridor posed the intermediate in risk to all species.

4.2 Amount of Potential Avian Habitat Affected in Each Potential Corridor

Another method for addressing risk to habitat used by avian species includes an assessment of the amount of potential habitat within each potential transmission corridor. It is hypothesized that the land within each transmission corridor either would become unusable following construction of the transmission corridor, or would present extremely high risk for birds that use the habitat, due to its extremely close proximity to the power lines. Using GIS, the acreage of each type of habitat found under each potential transmission corridor was calculated, and is presented in Figure 3-65. However, as can be seen in Figure 3-65, some land development types may not be ideal for the focal species of concern. These types of land development include commercial and services areas, electrical power transmission lines, educational facilities, fixed single-family units, medium-density areas under construction, multiple dwelling units, roads and highways, and rock quarries. Therefore, these habitats were removed from analysis, and only potential avian habitats are presented in Figure 4-16.

The number of acres of potential avian habitat under the three corridors was greatest for the FPL West Preferred Corridor (2647 acres), intermediate for the FPL West Secondary Corridor (1990 acres) and least for Route A Corridor (1984). However, as previously noted, the West Preferred Corridor expands to about 900 feet in width in some places, and so the acres figures for this corridor reflect that greater area, and a direct comparison cannot be made to the other corridors that are not of the same width. It is not yet known where the transmission lines would be located within the corridor. Some habitats are more important to the focal species considered in the risk assessment than others and therefore warrant additional discussion. For example, Australian pine (*Casuarina equisetifolia*) and Brazilian pepper (*Schinus terebinthifolius*) stands are non-native to Florida, and considered aggressive invasive plants that displace native highly productive plant communities (http://plants.ifas.ufl.edu/node/18). Although these habitats may sometimes be used by birds, they are generally of lower quality than native habitat. Therefore, the habitats shown in Figure 4-16 that are likely more preferred by the focal species include the following:

- Channelized waterways
- Freshwater marshes
- Herbaceous dry prairies
- Mixed shrubs
- Mixed wetland hardwoods
- Open land
- Upland shrubs and brushlands
- Wet prairies.

Of these habitats, the most acreage would be affected by the FPL West Preferred Corridor, and the least by the Route A Corridor, assuming full corridor width. However, wet prairies and mixed shrublands are more likely to be affected by the Route A corridor, and least by the FPL West Secondary Corridor.

4.3 Risks to Other Unlisted Species

There is ample habitat for both migratory and resident songbirds in both Everglades and Biscayne National Parks, as well as in the vicinity of the transmission corridors under consideration. And as with waders and raptors, both resident and migratory passerines and other birds can be expected to be crossing transmission corridors in south Florida when moving between nesting, resting and foraging sites and to be exposed to collision and electrocution risk in the process. Regarding migratory birds, Florida is located within a major migratory pathway, the Atlantic Flyway (U.S. Fish and Wildlife Service 1999) that seasonally hosts multiple bird groups such as waterfowl, raptors, waders and songbirds. Birds whose migratory flight path cross transmission lines can be expected to have higher injury and mortality rates than will birds outside of migratory flyways. Indeed, there are confirmed accounts of songbird and other non-wading bird colliding with power lines (Deng 1998, Faanes 1987, Malcolm 1982).

It is likely that additional resident breeding species of birds that occur in the area have also been injured or killed by power lines, but have not been reported. To address these additional bird species that might be present in the study area, the USGS North American Breeding Bird Survey (BBS) route data were examined (https://www.pwrc.usgs.gov/bbs/RouteMap/Map.cfm#). There are five USGS BBS routes in the vicinity of the study area that includes the 30-mile boundary surrounding the proposed power-line routes (Figure 4-17). BBS data that were available on the Redlands, Homestead, Pinelands, Card Sound, and Pinecrest routes for multiple years provide information on the relative abundance of species that may also aggregate in the study area.

In this qualitative analysis of BBS data, we focus on those species that have the paired attributes of ranking high in BBS abundance (scores greater than 10) and are known to form large flocks, and thereby to be behaviorally prone to collision with vertical and horizontal structures such as towers and power lines. In the Homestead BBS route, the species that meet the criteria of higher risk of collision are white ibis, mourning dove, northern mockingbird, boat-tailed and common grackle, American crow, laughing Gull, red-winged blackbird, and cattle egret. In the Pinelands route, the birds that scored high in abundance and are known flocking species include the common grackle, American crow, and mourning dove. In the Redlands route, we identified black vultures, purple martin, white ibis, cattle egret, boat-tailed and common grackle, mourning dove, and red-winged blackbirds as being at risk. In Card Sound, the red-winged blackbird, common grackle, mourning dove, and laughing gull may be at risk. Finally, in Pinecrest, we identified both species of grackle, red-winged blackbird, mourning dove, and black vulture as possibly being at heightened risk due to their abundance and proximity to power lines and towers.

4.4 Collision and Electrocution Mitigation Plan

Appendix E of the EIS (Construction and Operation of Electric Power Transmission Facilities) addresses both collision and electrocution risk mitigation very thoroughly. For example, regarding special-status species (including non-avian taxa), Appendix E states the following:

1. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) or FDACS or FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts to species within the respective agencies' jurisdiction.
2. FPL will comply with any federal permit conditions regarding wood stork colonies.
3. FPL will work with USFWS/FFWCC to mitigate any potential impacts to Florida panther habitat once a corridor is certified and a specific right-of-way is designed.
4. Appropriate erosion control measures will be used to prevent impacts to aquatic species habitat. The transmission lines will span water bodies where manatees could occur.
5. Maintenance activities will be in conformance with FPL's Threatened and Endangered Species Evaluation and Management Plan, which was submitted as Appendix 10.7.1 of the FPL SCA for Turkey Point Units 6 & 7.
6. FPL will construct, operate, and maintain the transmission line in compliance with its Avian Protection Plan (FPL 2007).

Regardless of what corridor is constructed, birds and other species will benefit from FPL ensuring that the absolute best methods and practices are implemented to protect against collision and electrocution. According to APLIC (2006), collision risk mortality from utility lines and towers is best minimized by optimal siting coupled with tower and line design optimization. Regarding siting, two key components are cited by APLIC (2006): first, locating lines and towers *farthest* from known flight paths being used by birds while feeding, breeding, resting, and migrating; and second, locating lines and towers (where possible), such that they are shielded by over-topping vegetation. For example, locating lines and towers in proximity to rows of tall trees enables birds to detect and avoid collision by helping to direct their flight path up and over lines and towers.

On the design side, it is desirable to both minimize the total number of lines and strive to group lines together in as few horizontal layers as possible. Minimizing the total number of lines and grouping them together on the same horizontal plane greatly reduces the risk of collision (Podolsky et al. 1998).

While we recognize that many factors go into the siting of transmission-line corridors, we have considered the three corridor alternatives from the standpoint of avian resources. Given this frame of reference, we conclude that the Route A corridor would expose fewer birds to collision

risk than either the FPL West Secondary or FPL West Preferred corridors. This finding is supported for a wide range of species and based upon a consideration of both colony and foraging locations, as well as the habitat types that are important to these species.

The approach to reducing electrocution risk is detailed in the various guidance documents provided by APLIC and USFWS and thoroughly addressed in Appendix E of the EIS. Generally speaking, reducing electrocution risk entails first minimizing the number of birds perching and nesting on lines and towers, and second, designing the energized components of electrical infrastructure as described in EIS Appendix E, such that the chance of electrocution is minimized. Therefore, regardless of which corridor under consideration is carried forward, all parties are encouraged to implement the best practices articulated by APLIC and USFWS for minimizing the risk of electrocution.

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Figures

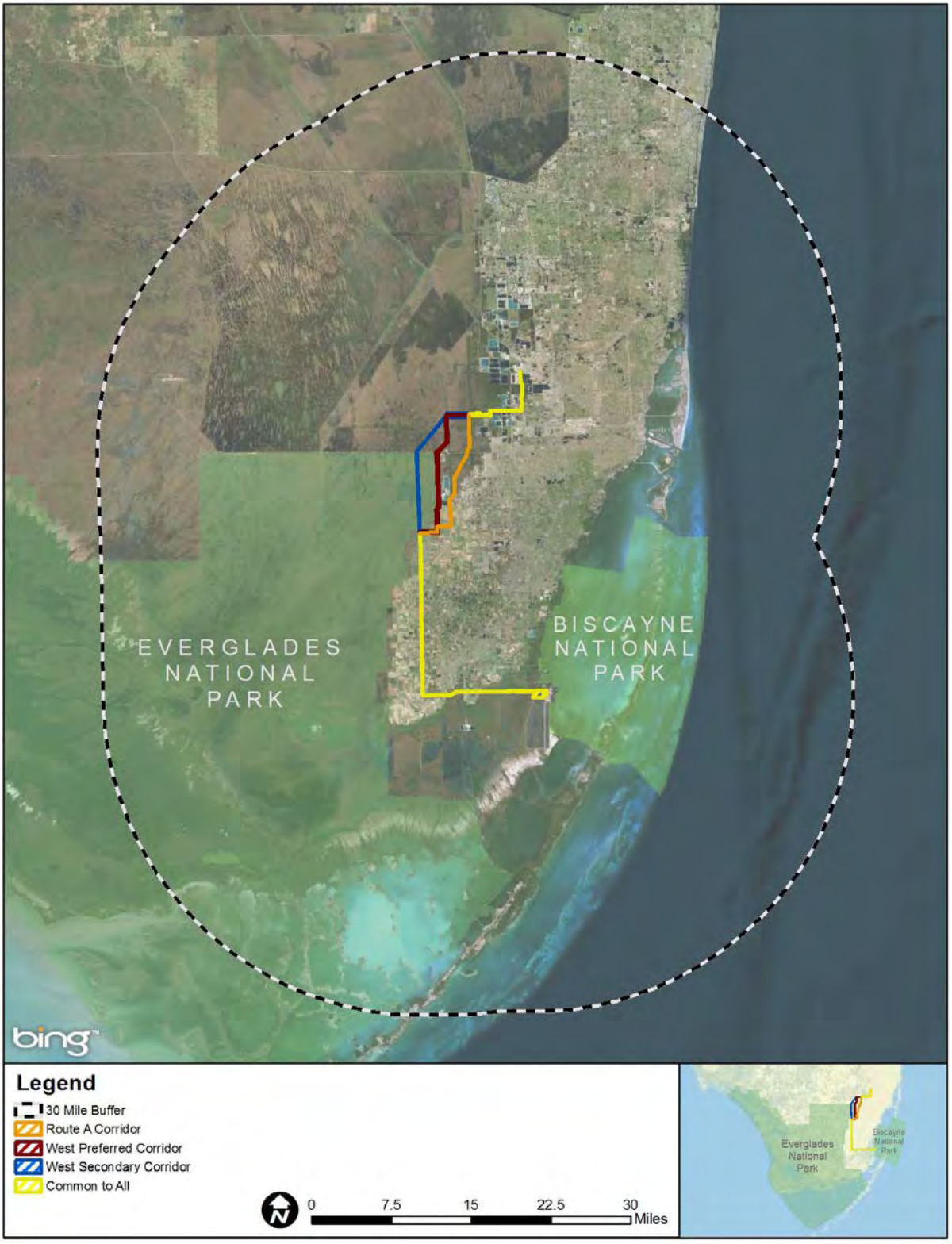


Figure 1-1. Everglades and Biscayne National Park locations, with 30-mile boundary around the study area that surrounds the three potential transmission corridors

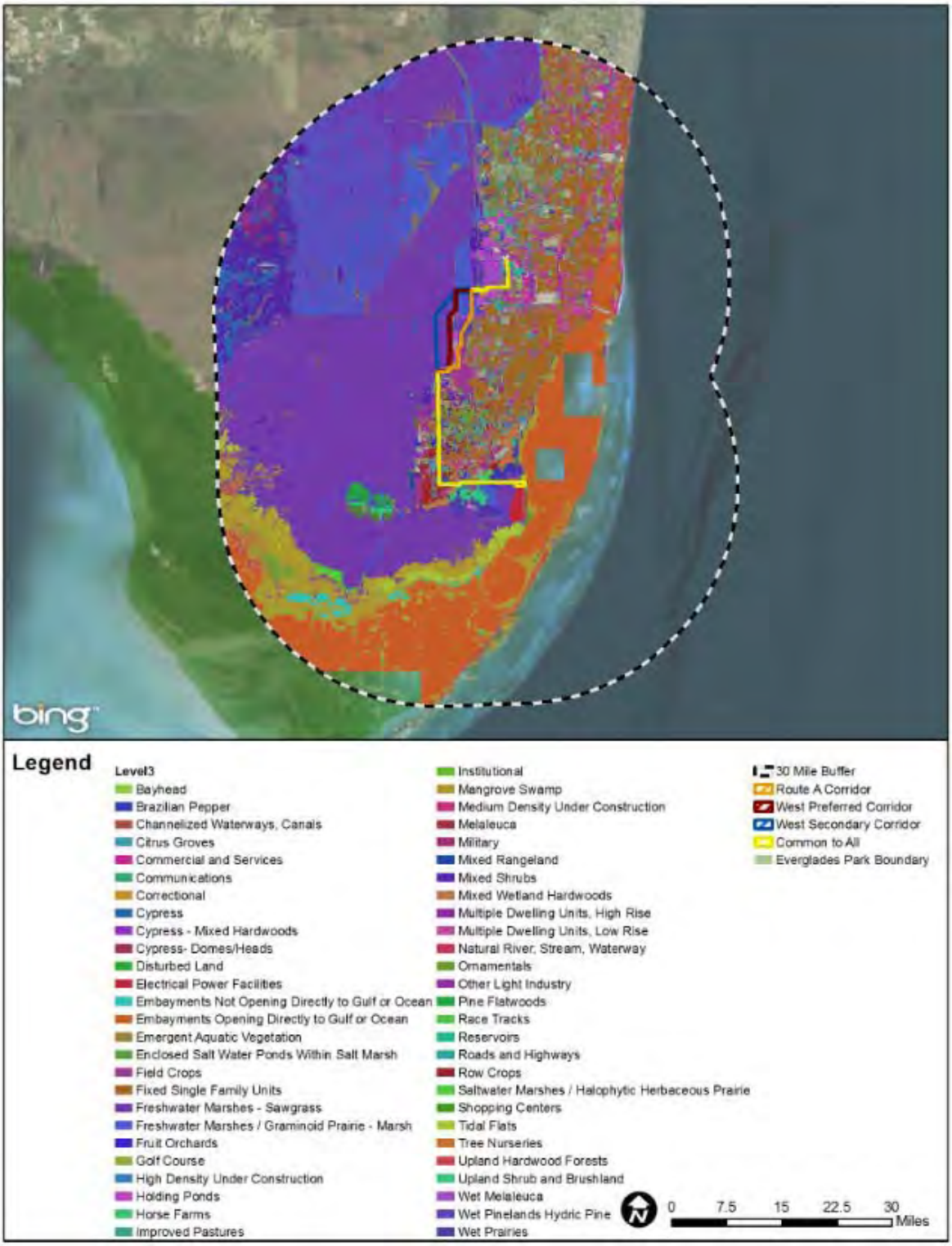


Figure 2-1. Level 3 land use land cover in the 30-mile boundary of the study area.

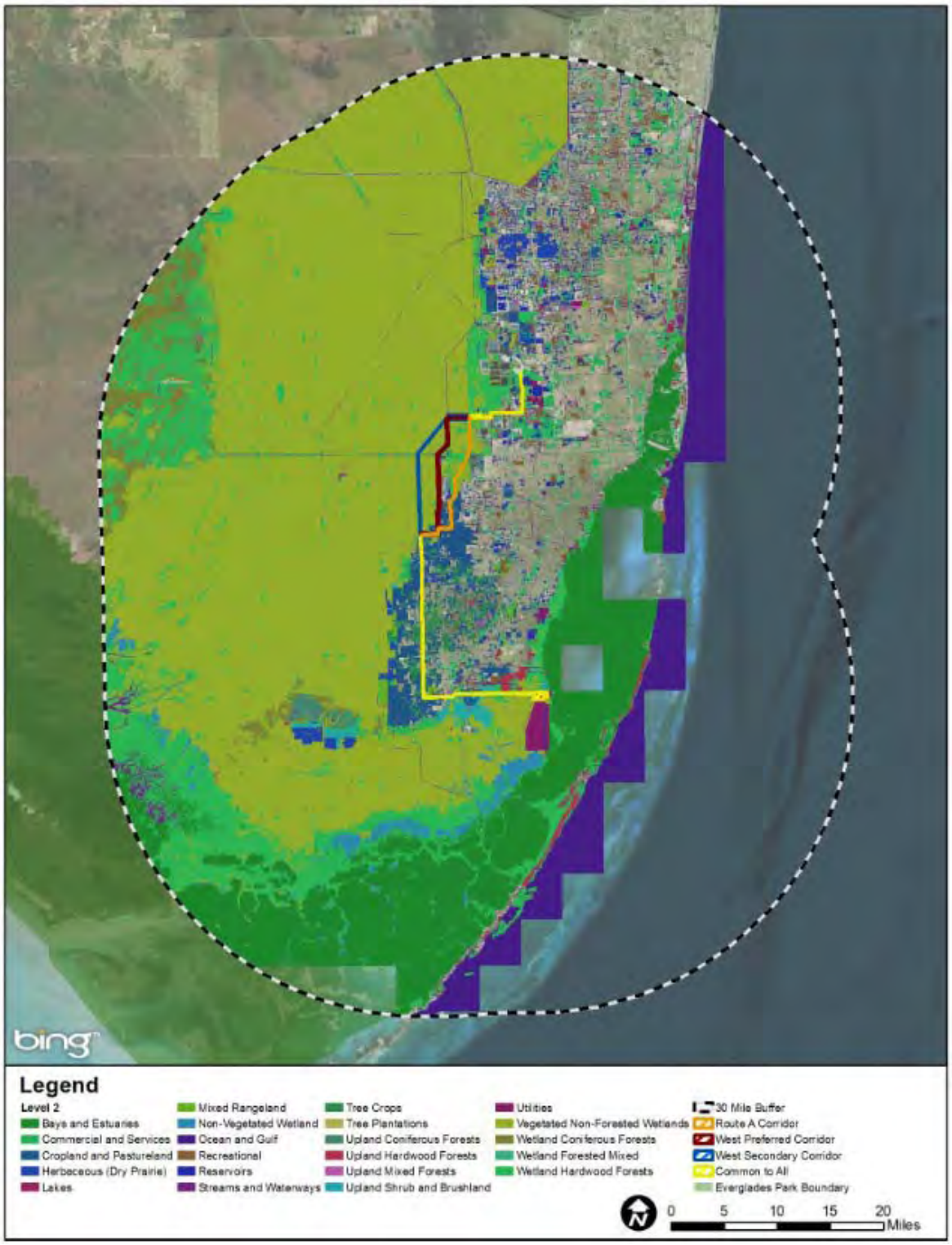


Figure 2-2. Level 2 land use land cover in the 30-mile boundary of the study area.

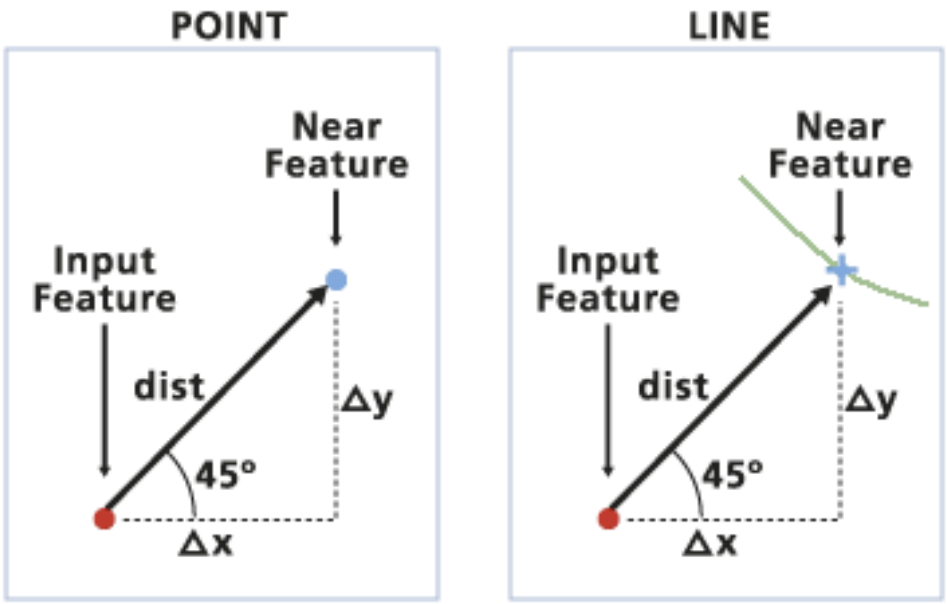


Figure 2-3. NEAR (Analysis) tool outputs a distance from an input feature such as a foraging individual or nesting colony to a point or to the nearest point on a line.

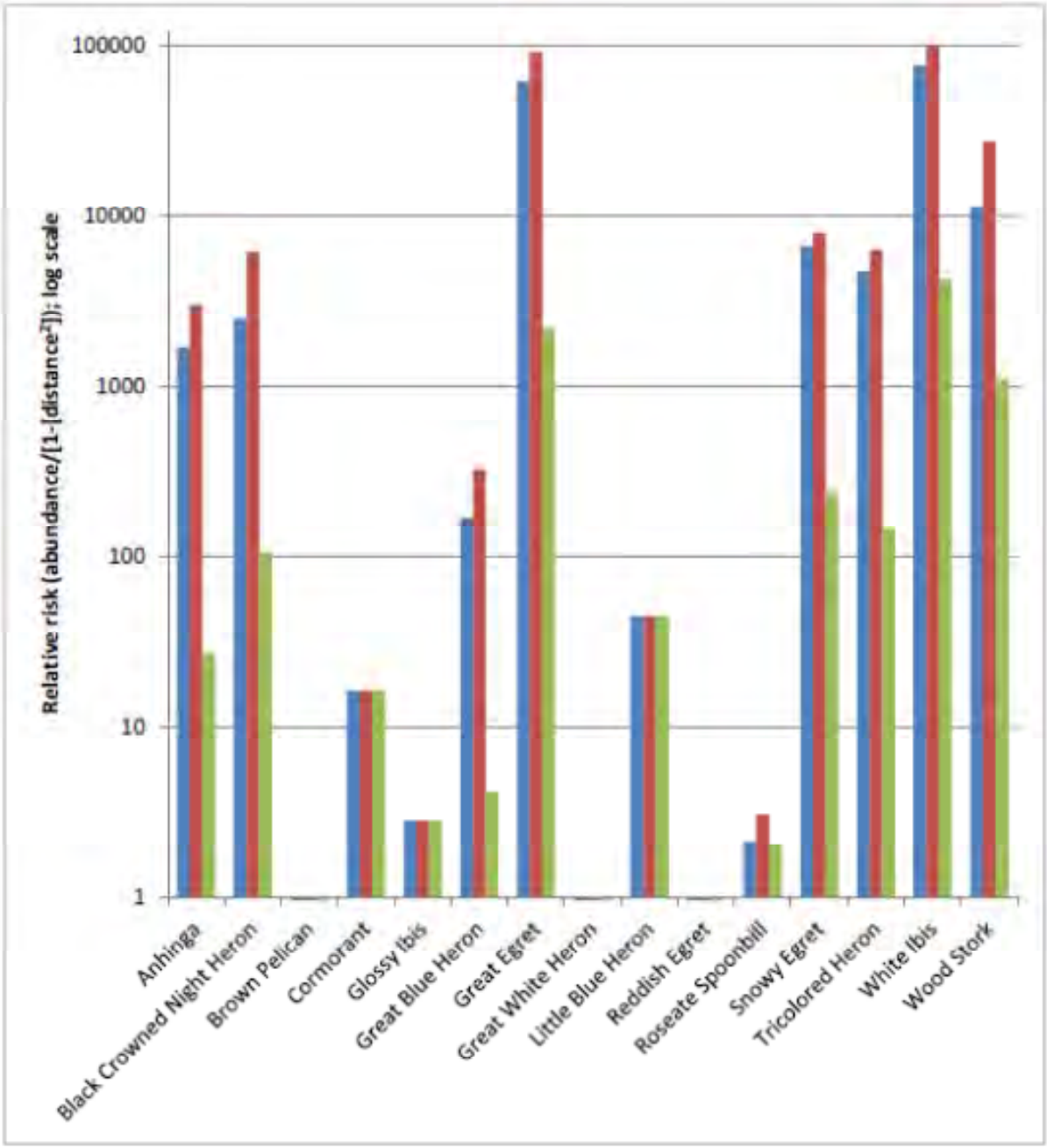


Figure 3-1. Relative risk of number of birds located at distances from the three potential transmission corridors, based on location and co-located abundance data provided in historical surveys for the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

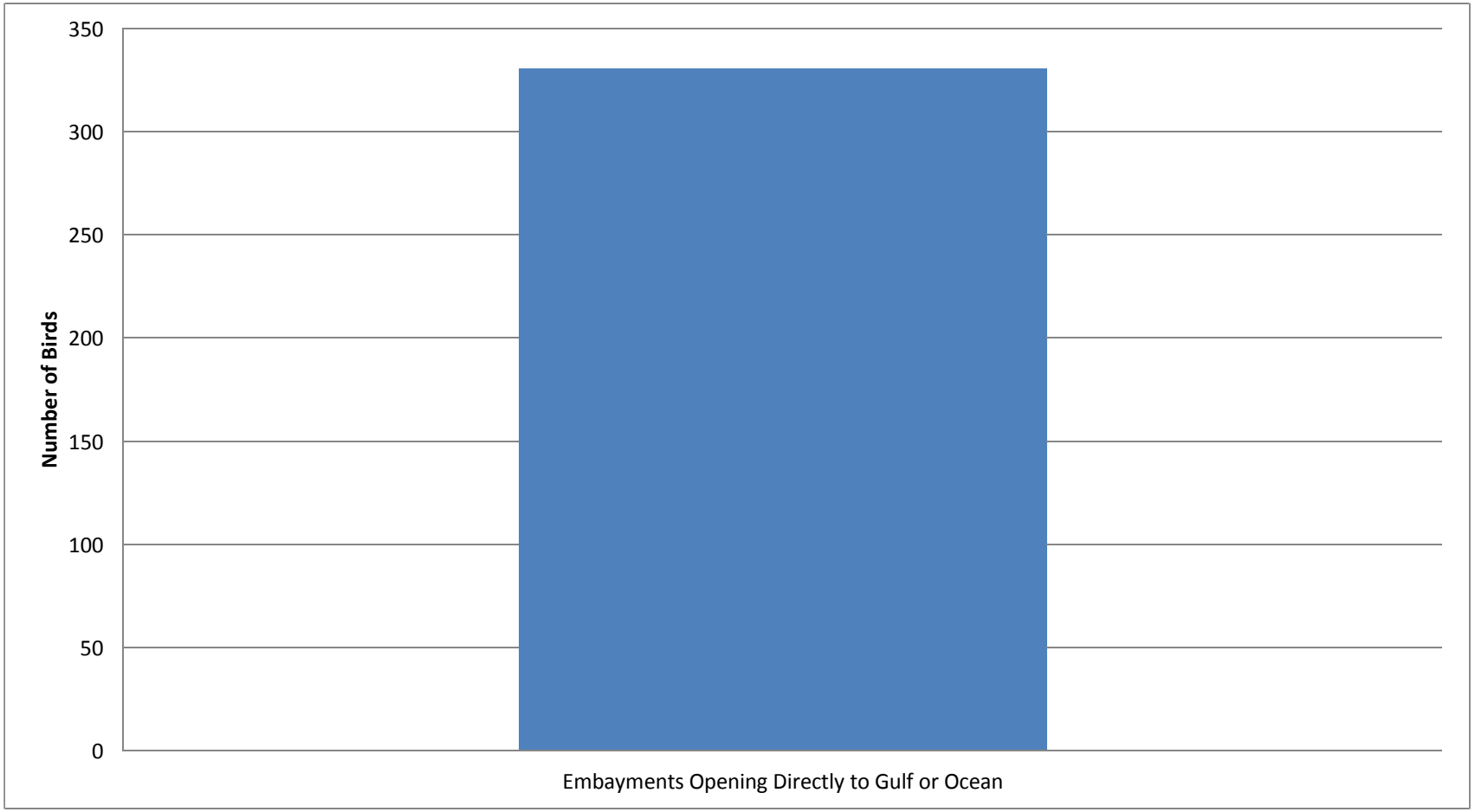


Figure 3-2. Number of brown pelicans associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

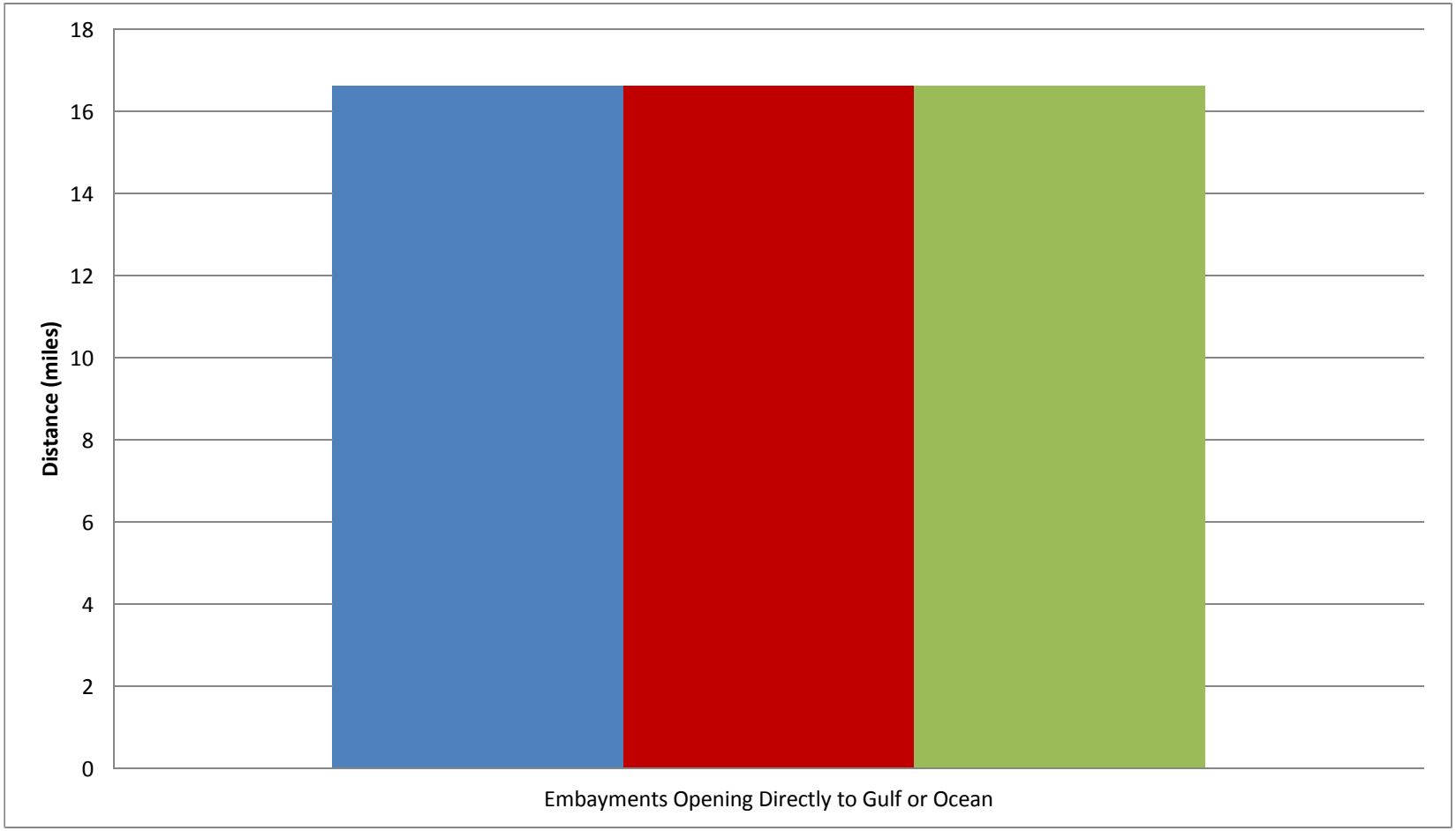


Figure 3-3. Relative risk in terms of distance of brown pelican preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

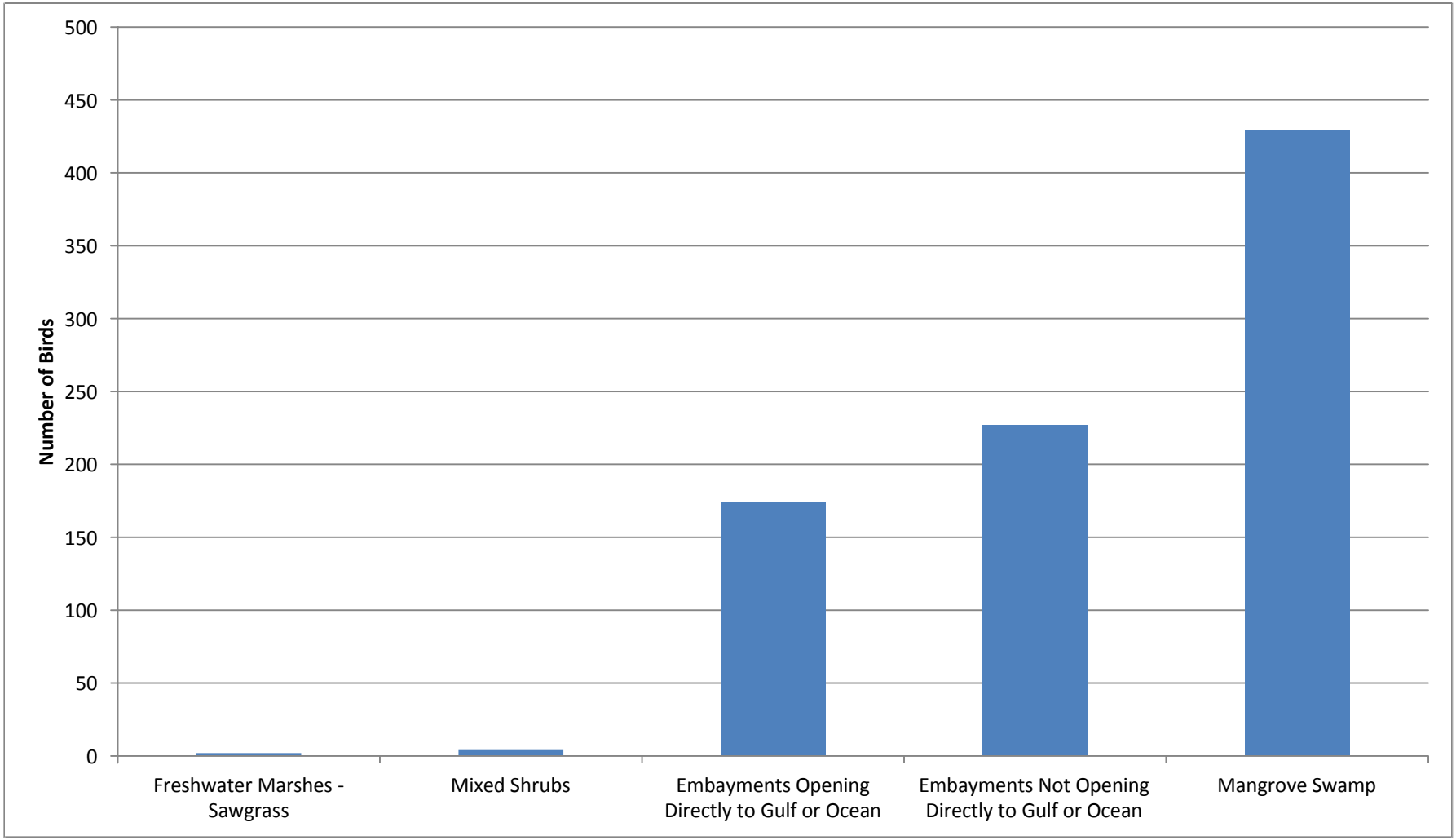


Figure 3-4. Number of double crested cormorants associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

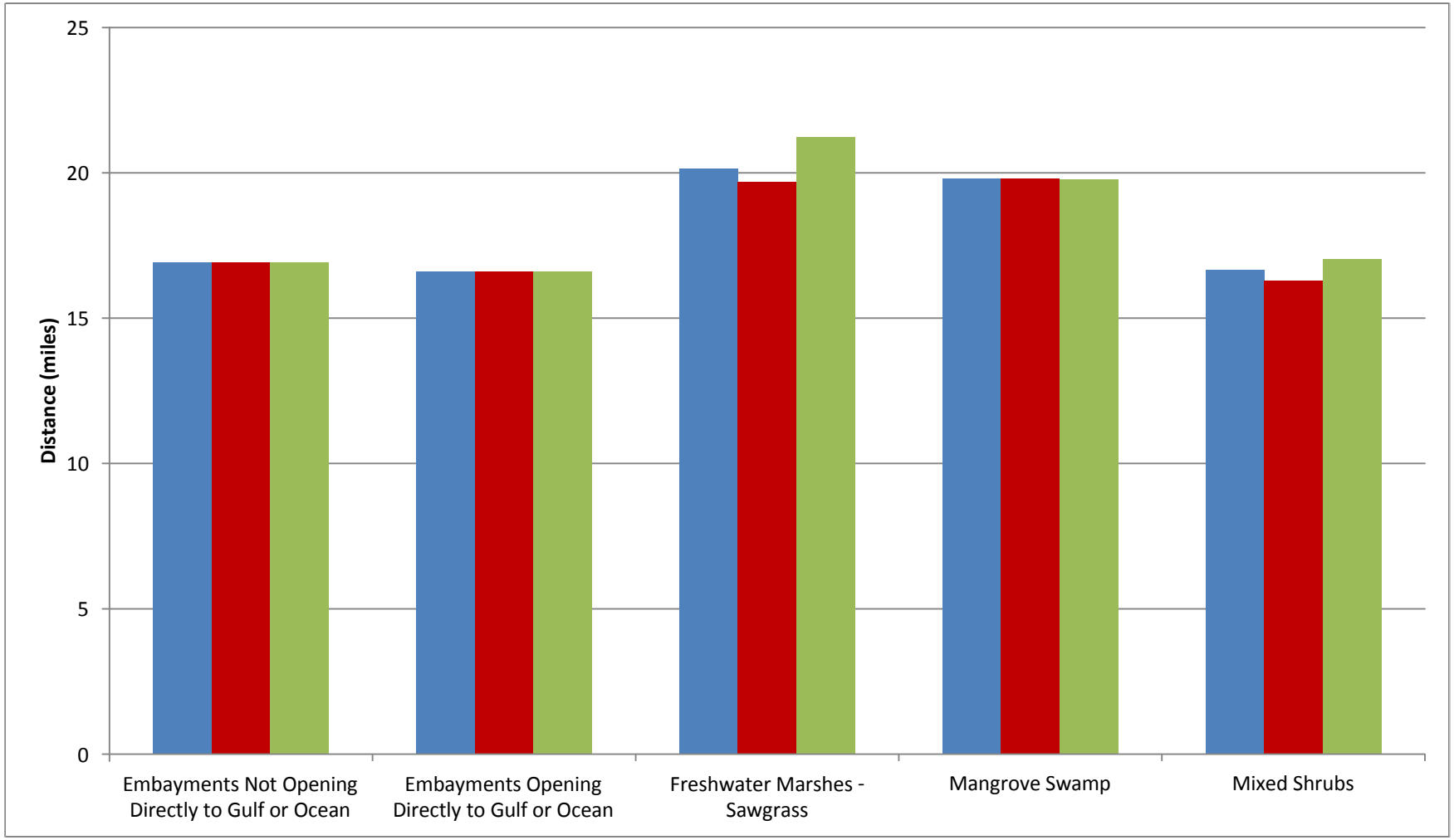


Figure 3-5. Relative risk in terms of distance of double crested cormorant preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

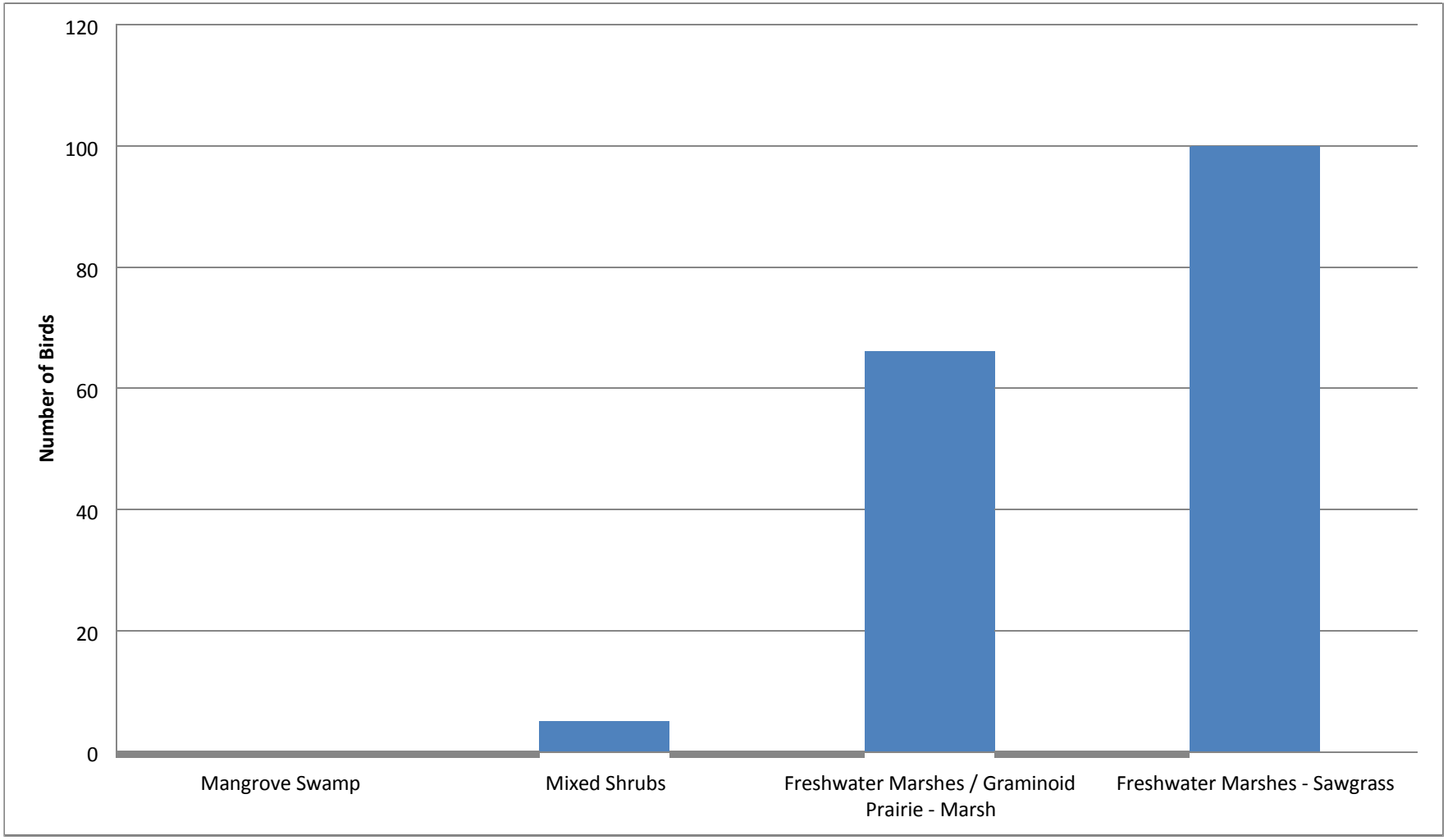


Figure 3-6. Number of anhinga associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

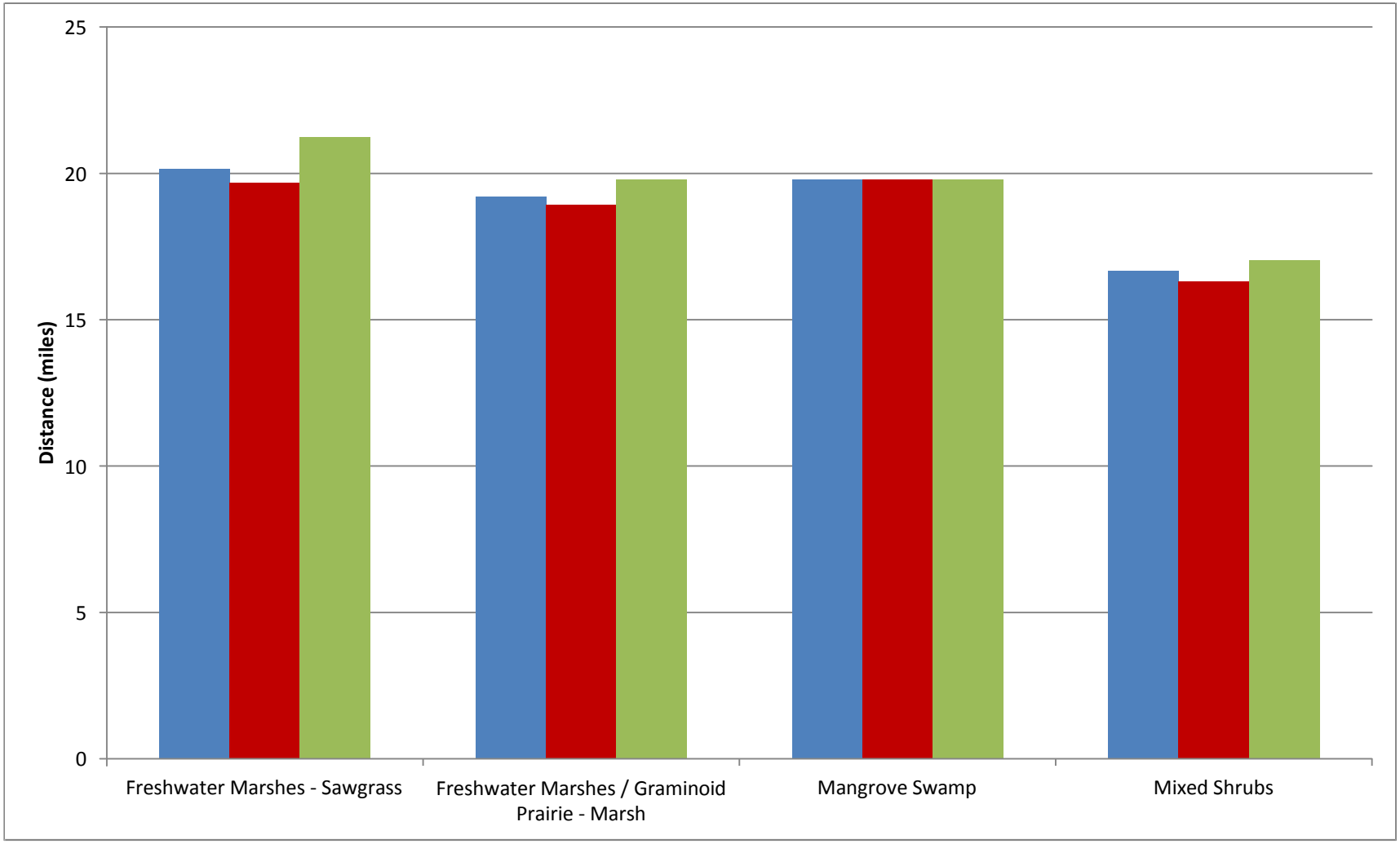


Figure 3-7. Relative risk in terms of distance of anhinga preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

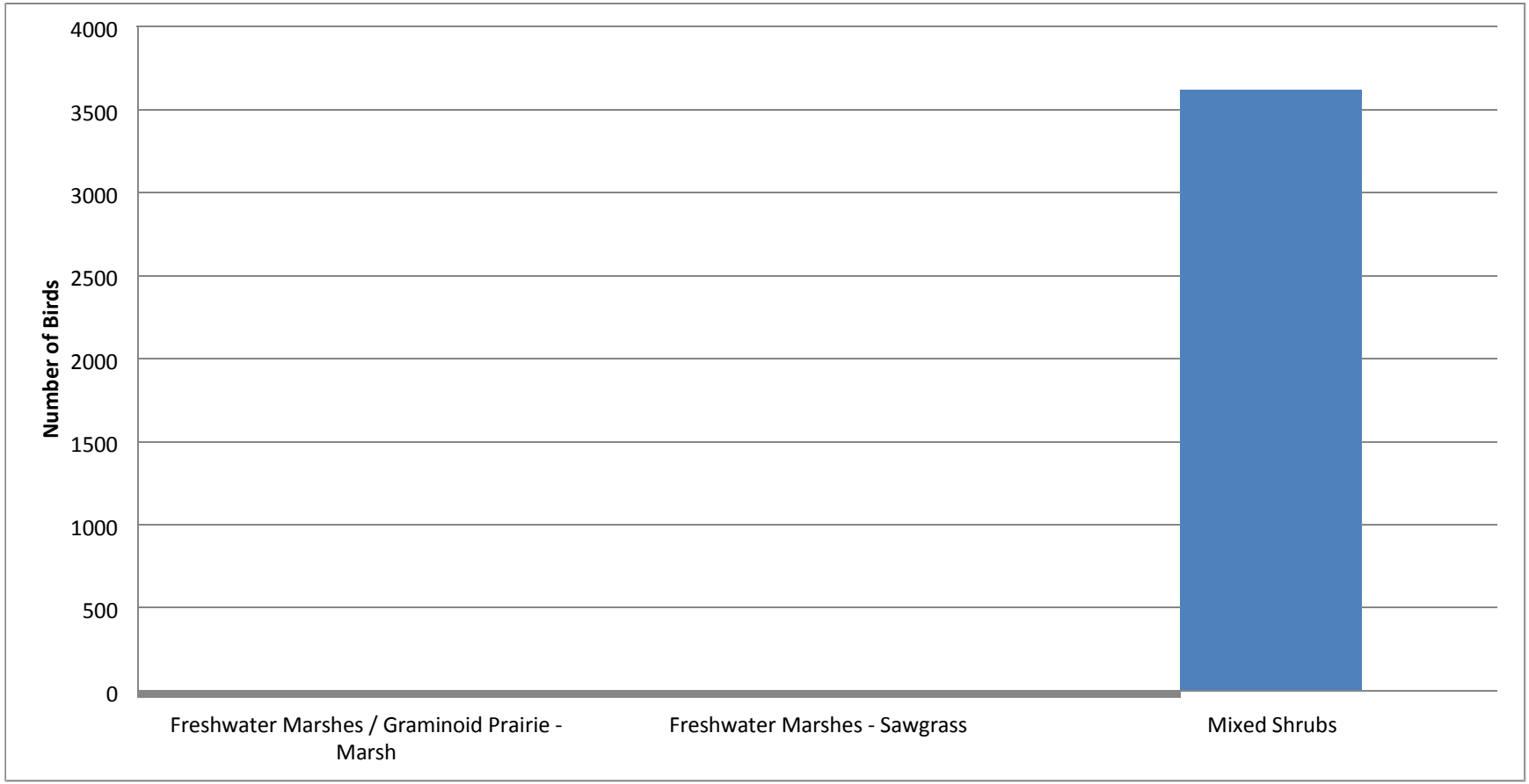


Figure 3-8. Number of black-crowned night herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

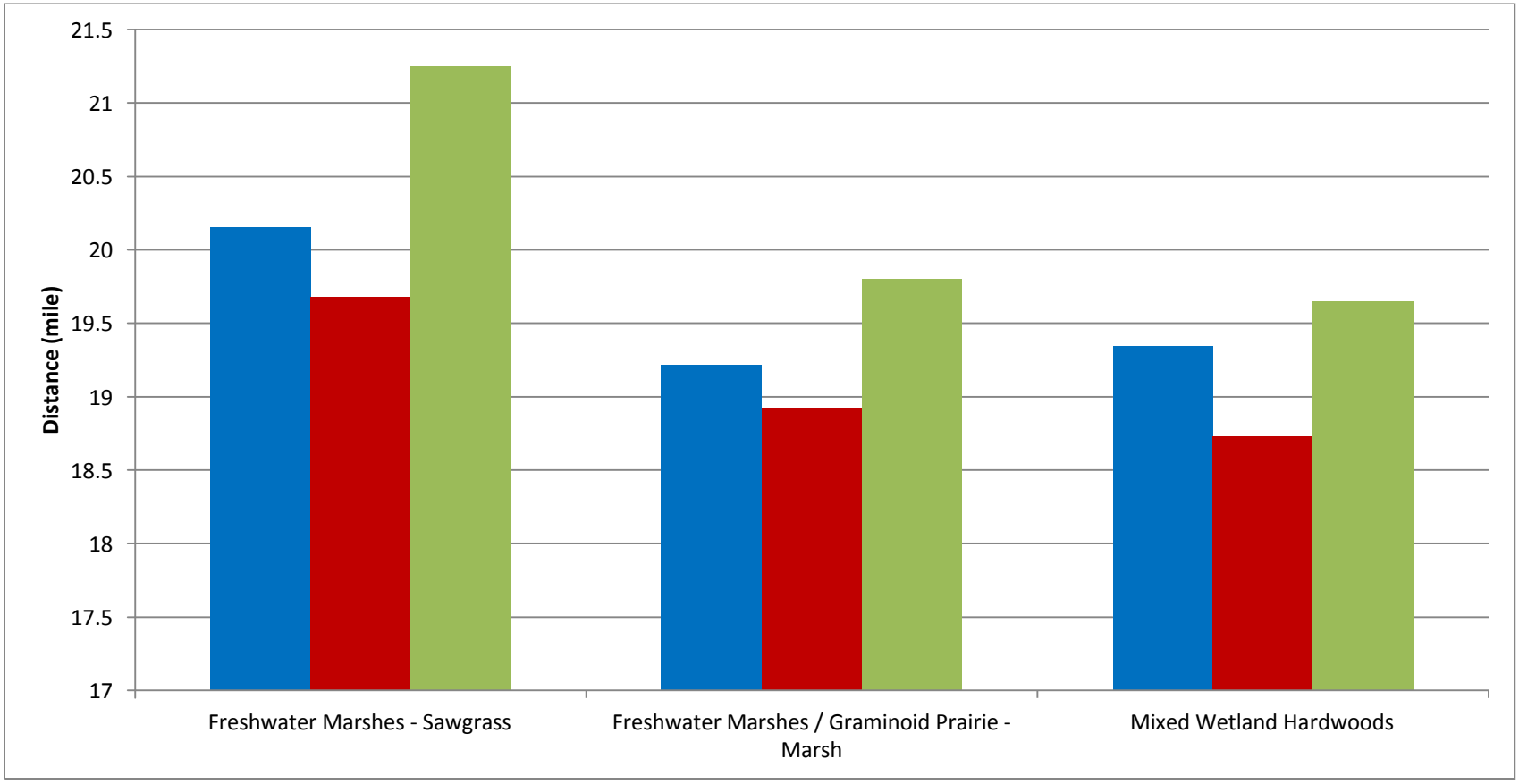


Figure 3-9. Relative risk in terms of distance of black-crowned night heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

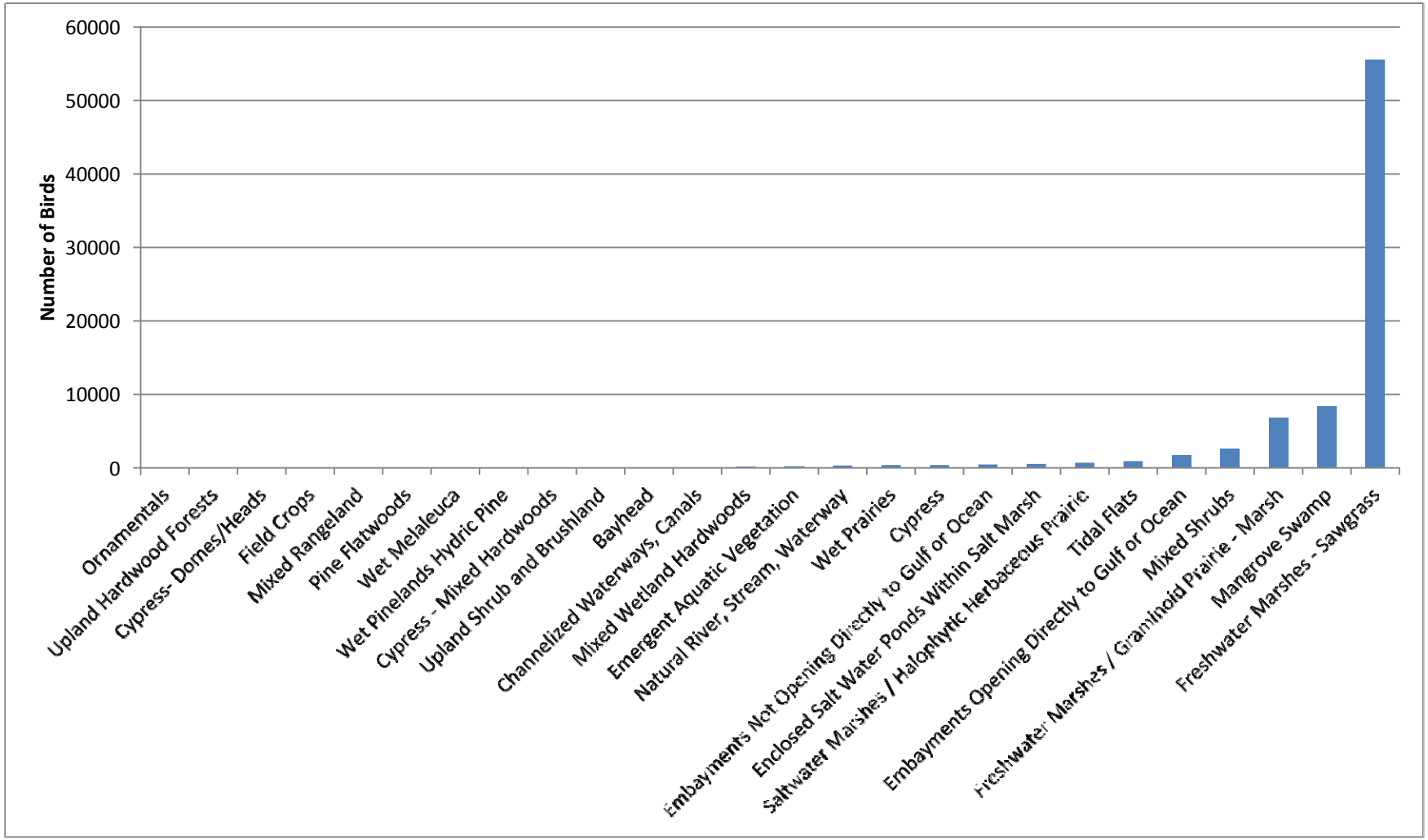


Figure 3-10. Number of great blue herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

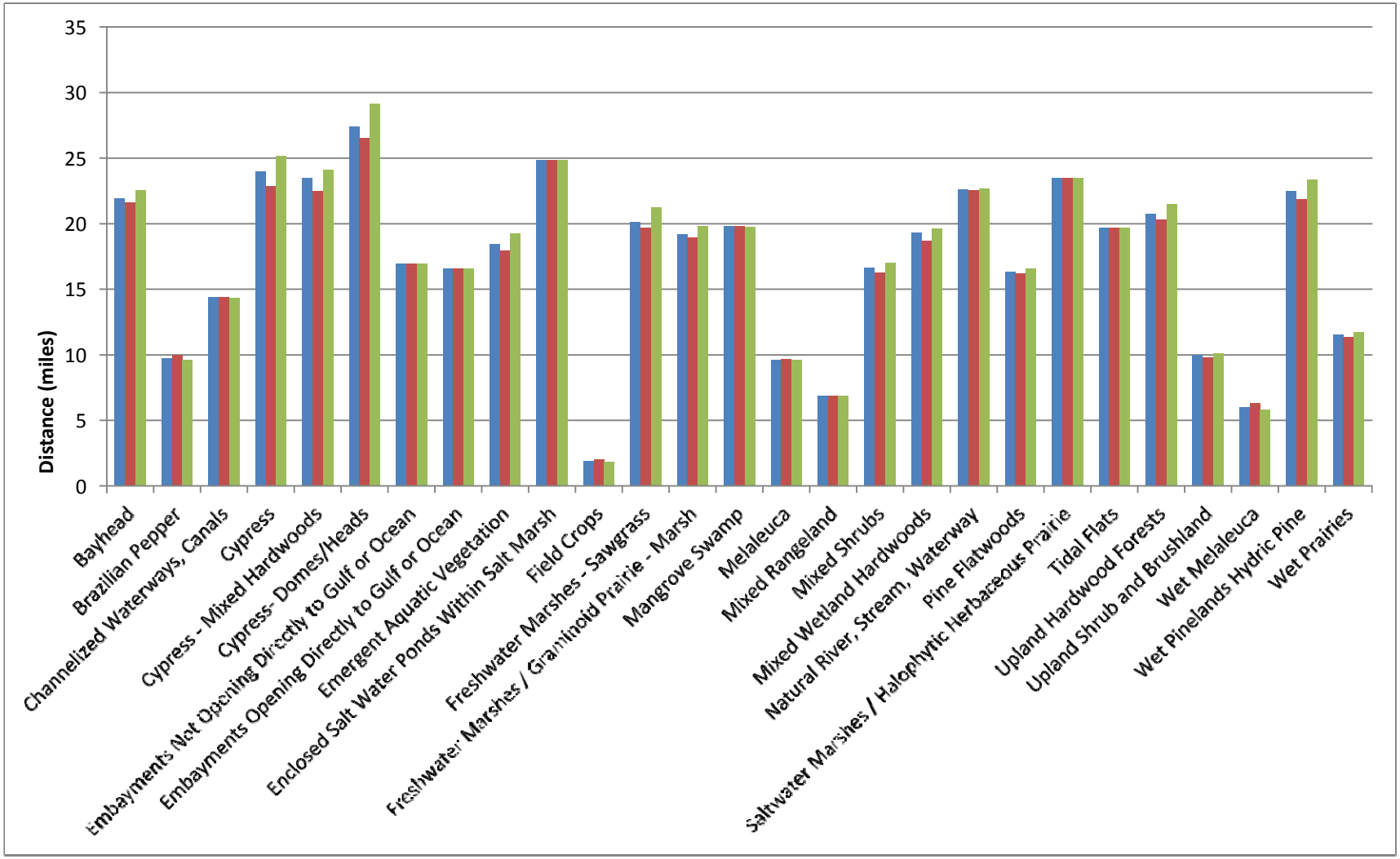


Figure 3-11. Relative risk in terms of distance of great blue heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

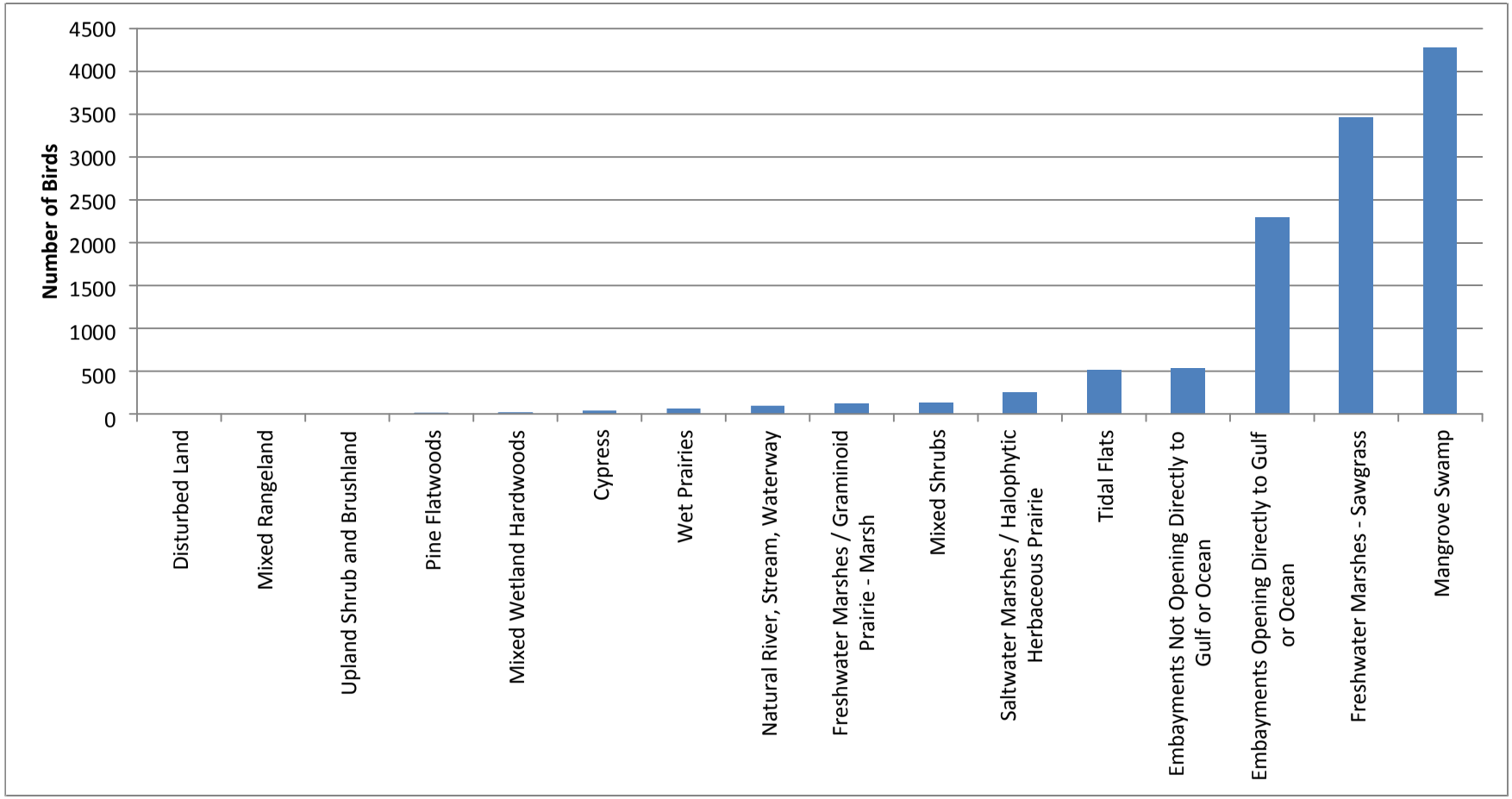


Figure 3-12. Number of great white herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

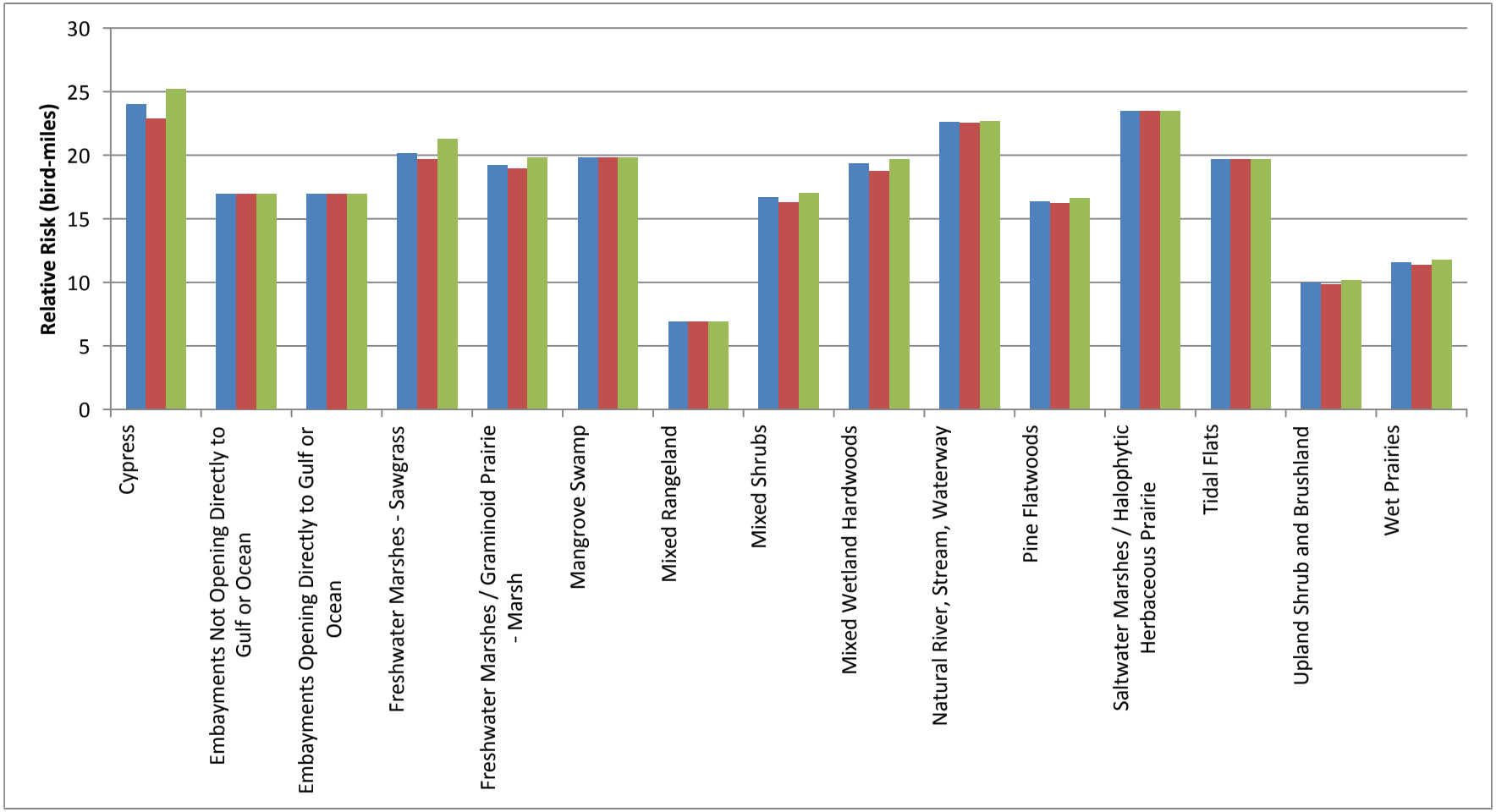


Figure 3-13. Relative risk in terms of distance of great white heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

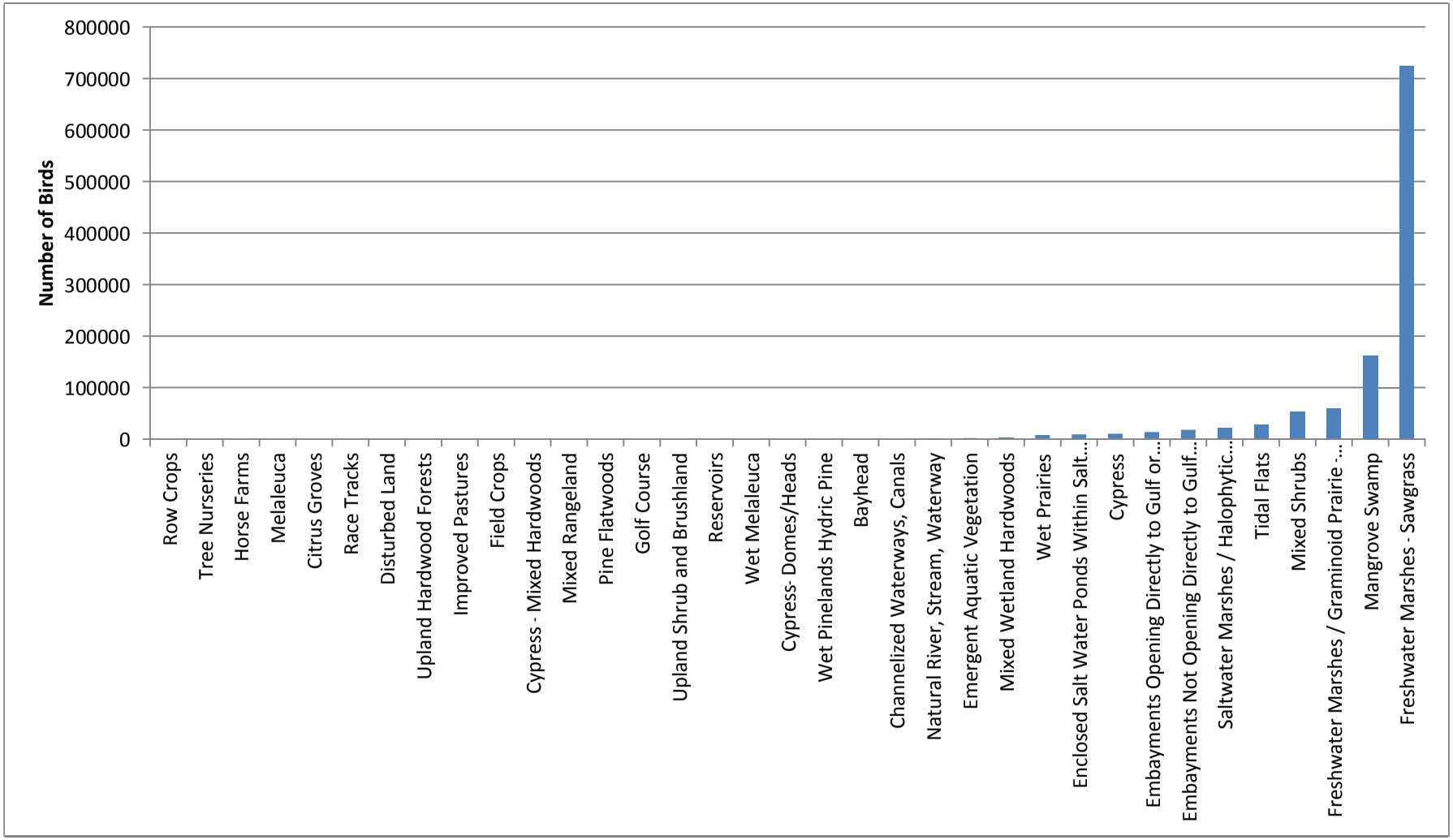


Figure 3-14. Number of great egrets associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

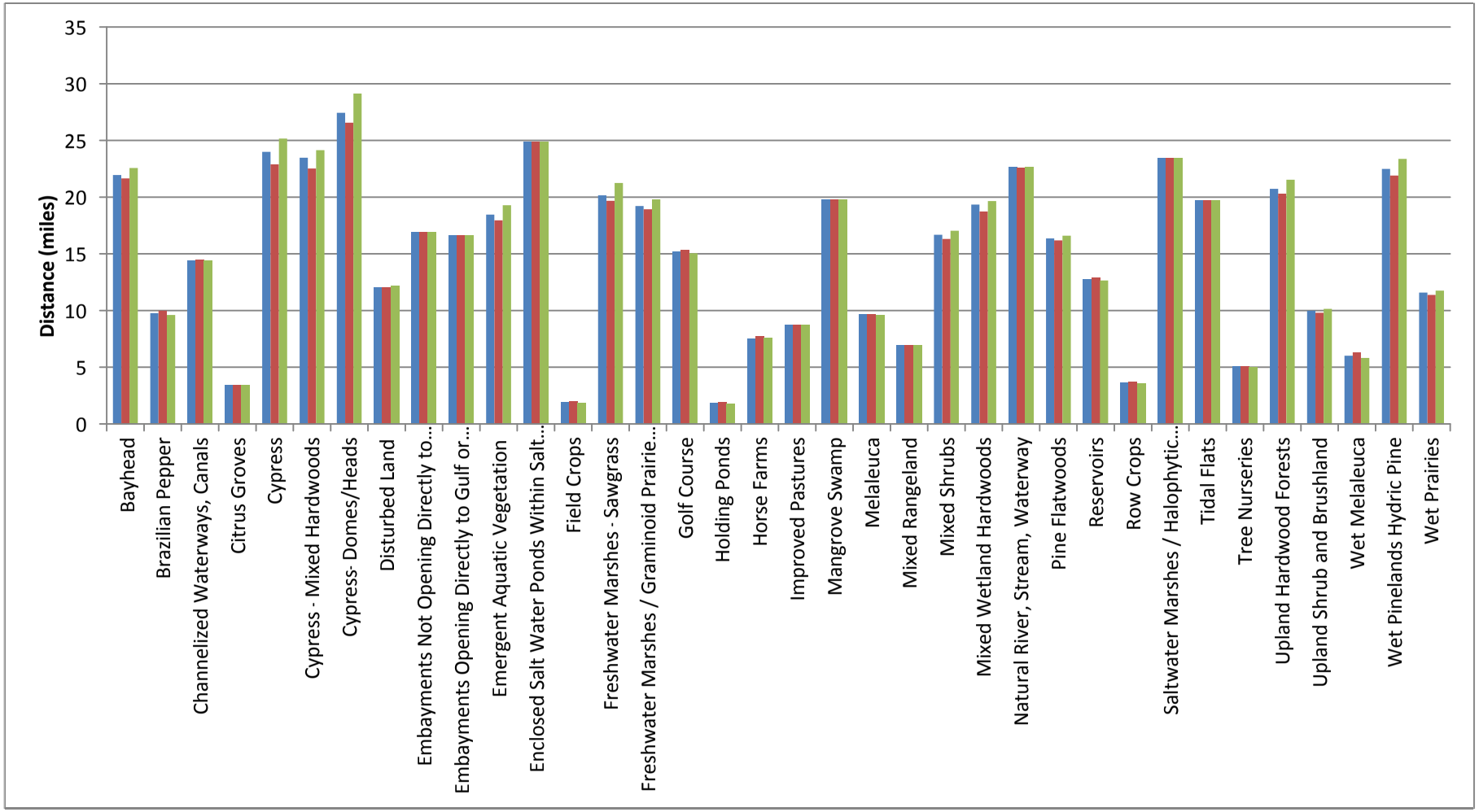


Figure 3-15. Relative risk in terms of distance of great egret preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

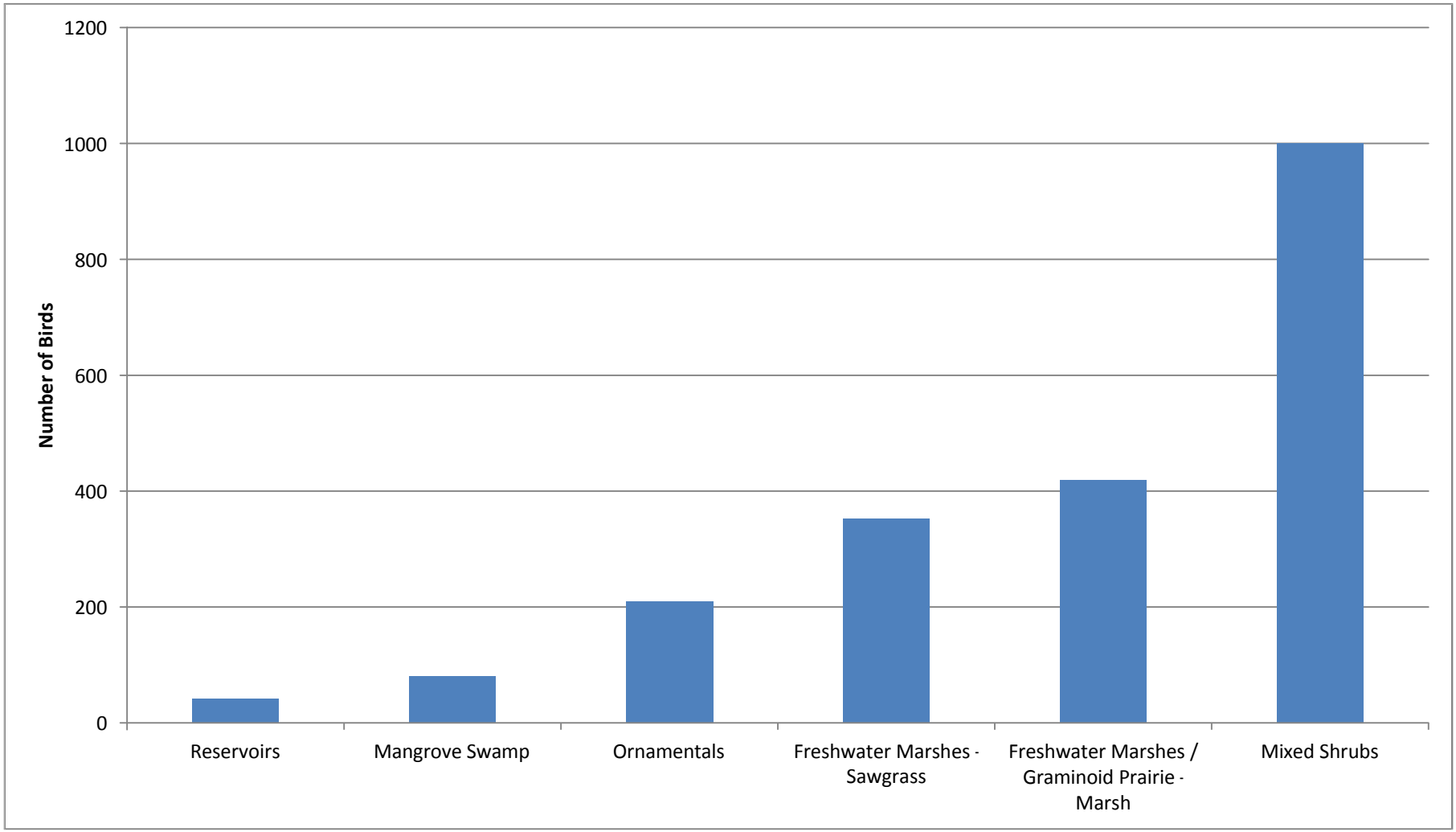


Figure 3-16. Number of little blue herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

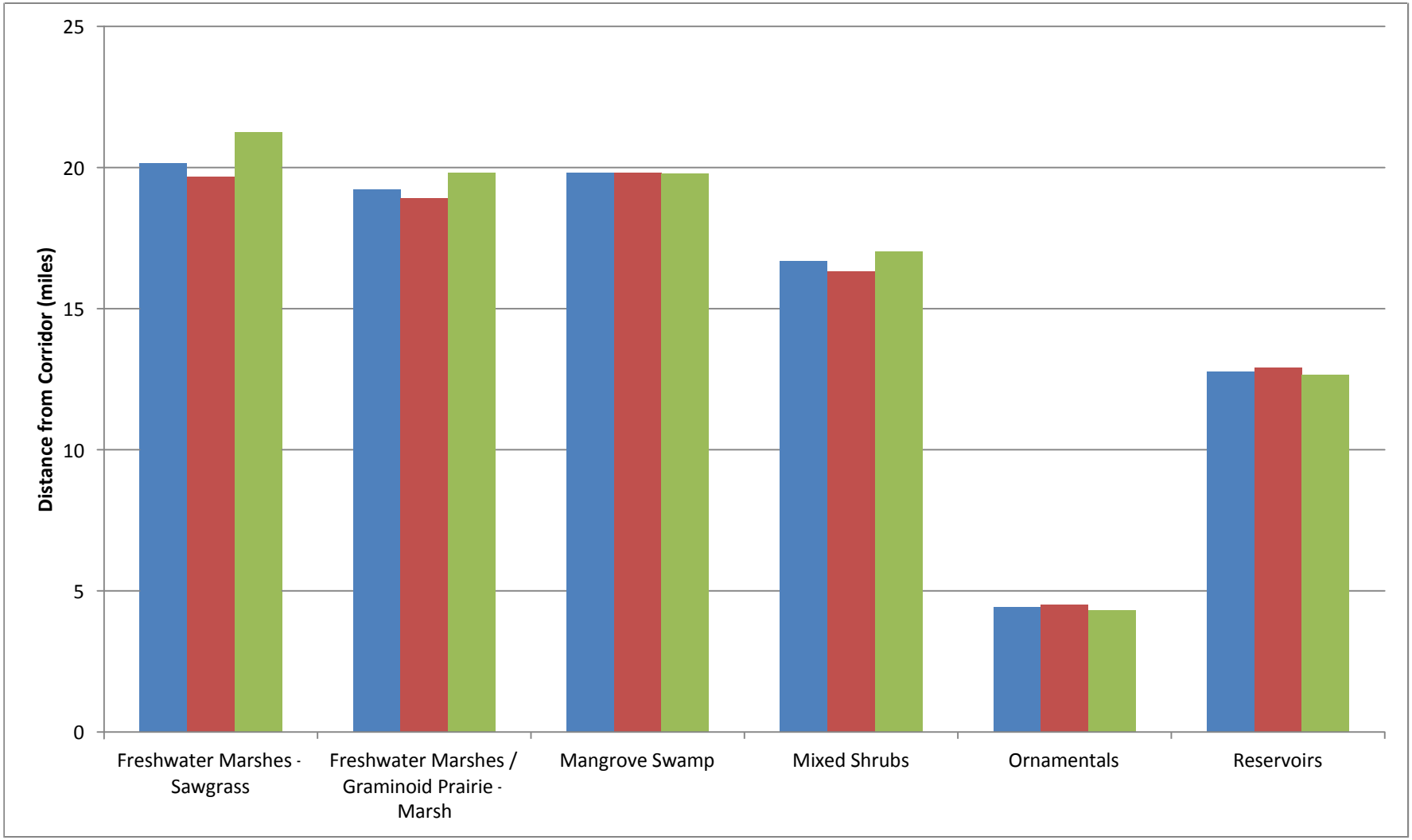


Figure 3-17. Relative risk in terms of distance of little blue heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

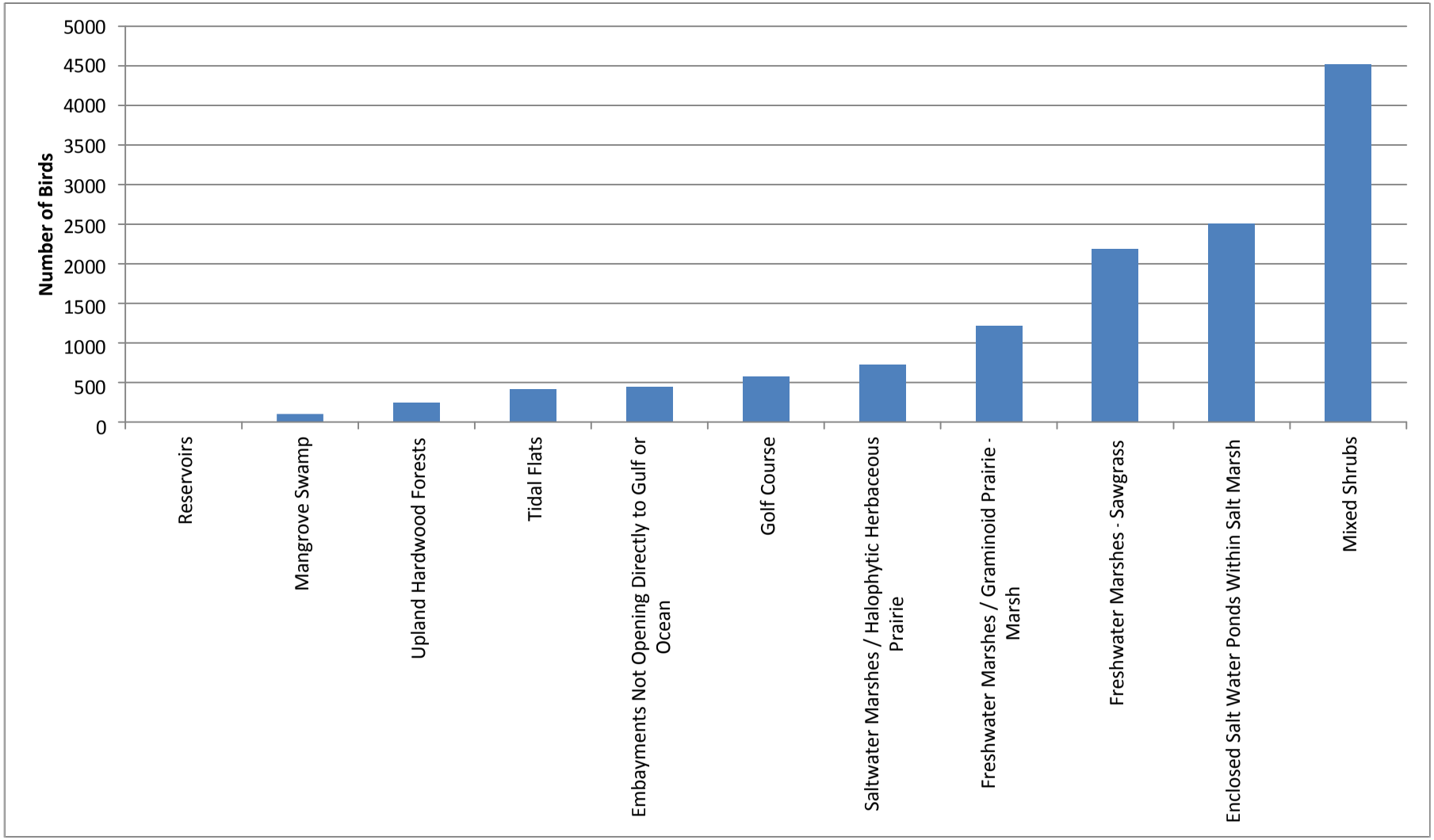


Figure 3-18. Number of snowy egrets associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

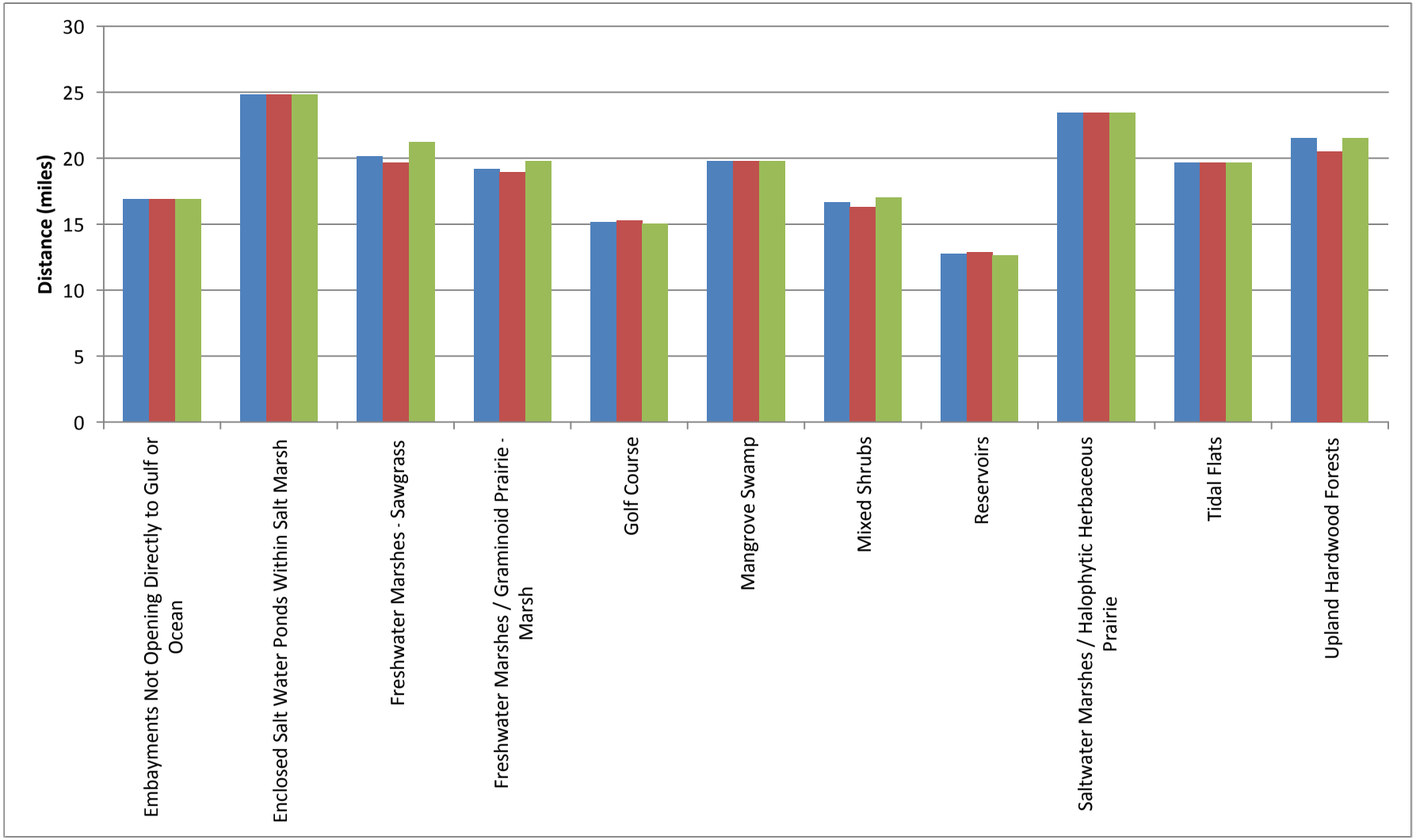


Figure 3-19. Relative risk in terms of distance of snowy egret preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

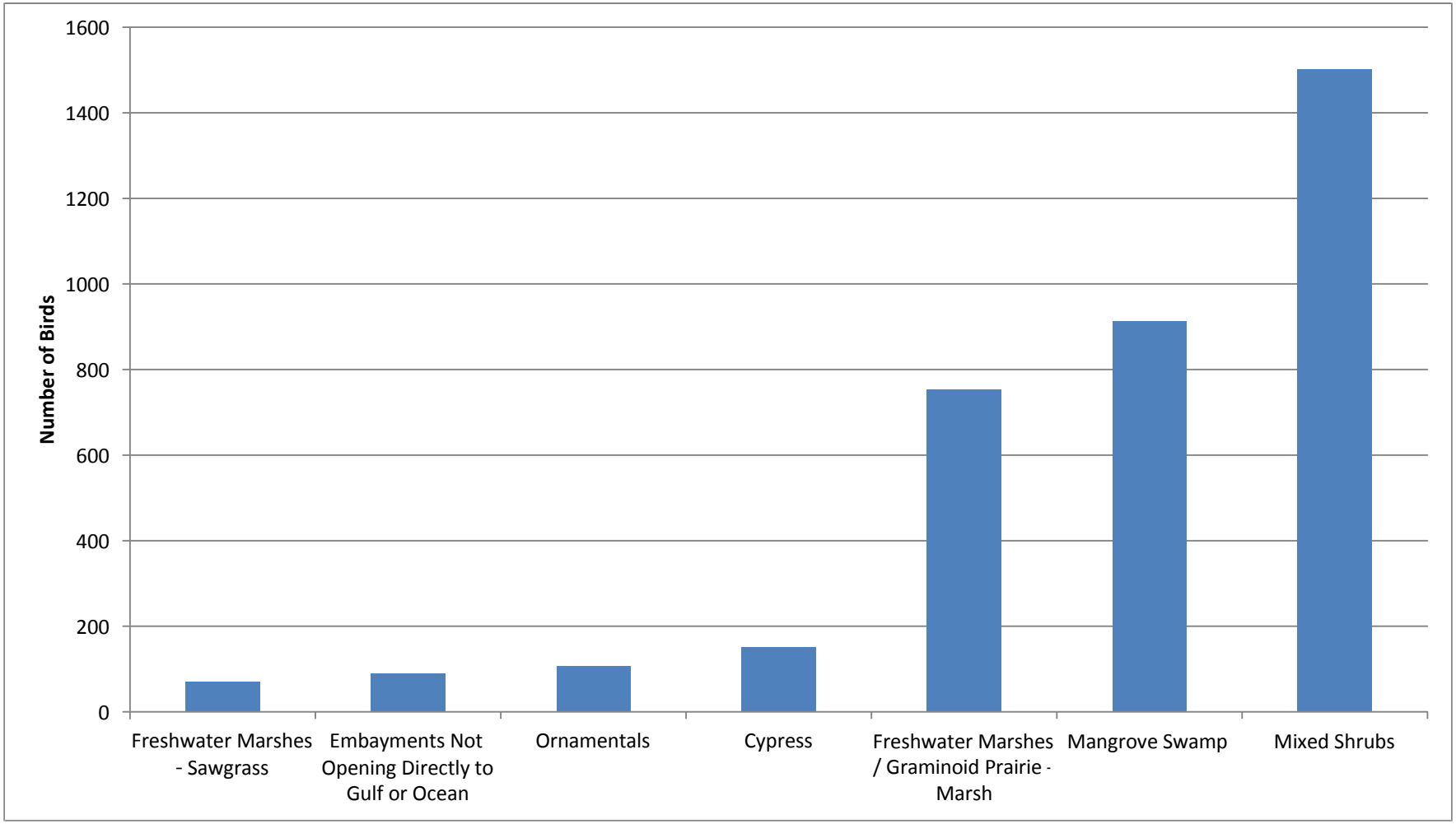


Figure 3-20. Number of tricolored herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

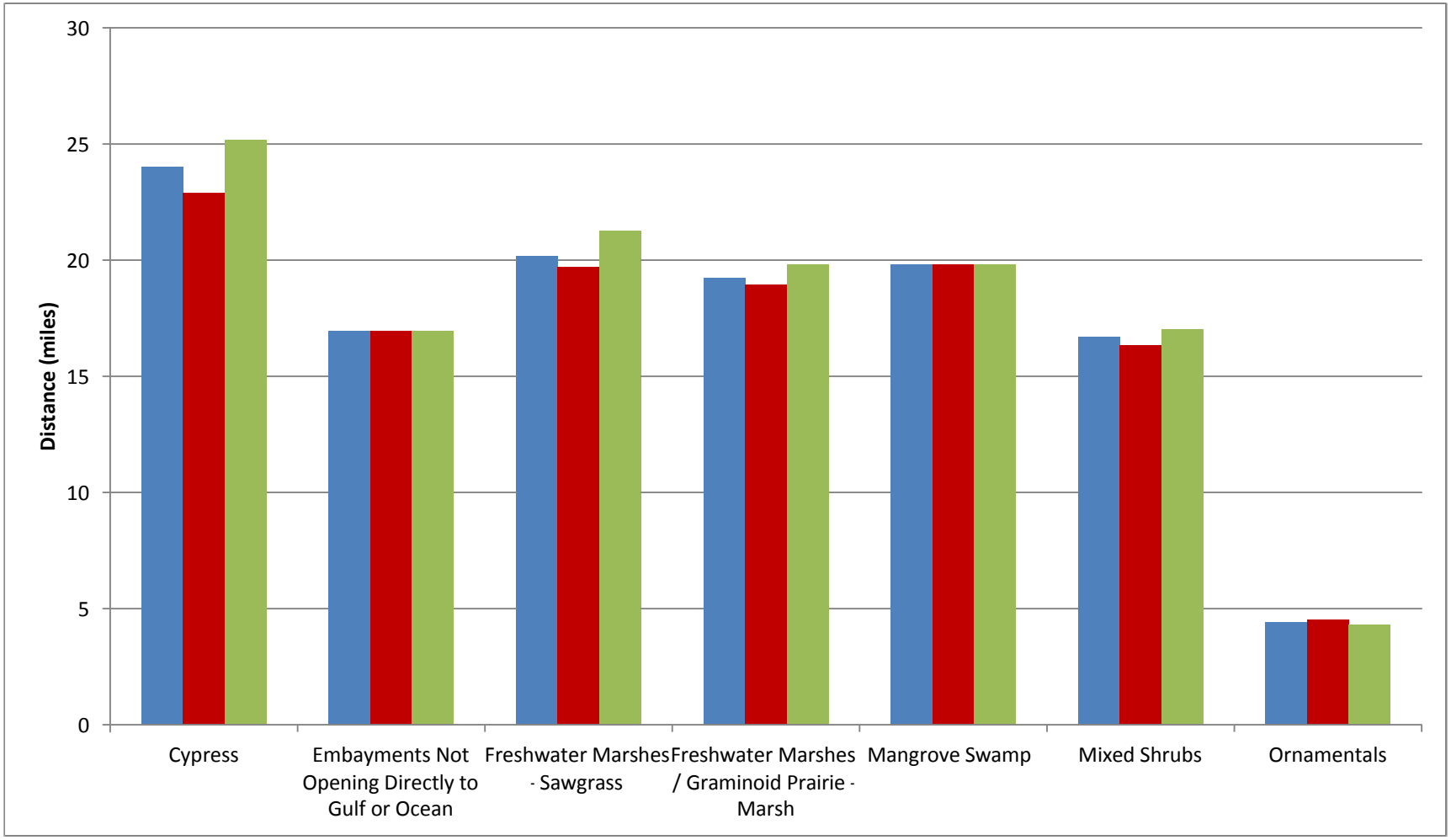


Figure 3-21. Relative risk in terms of distance of tricolored heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

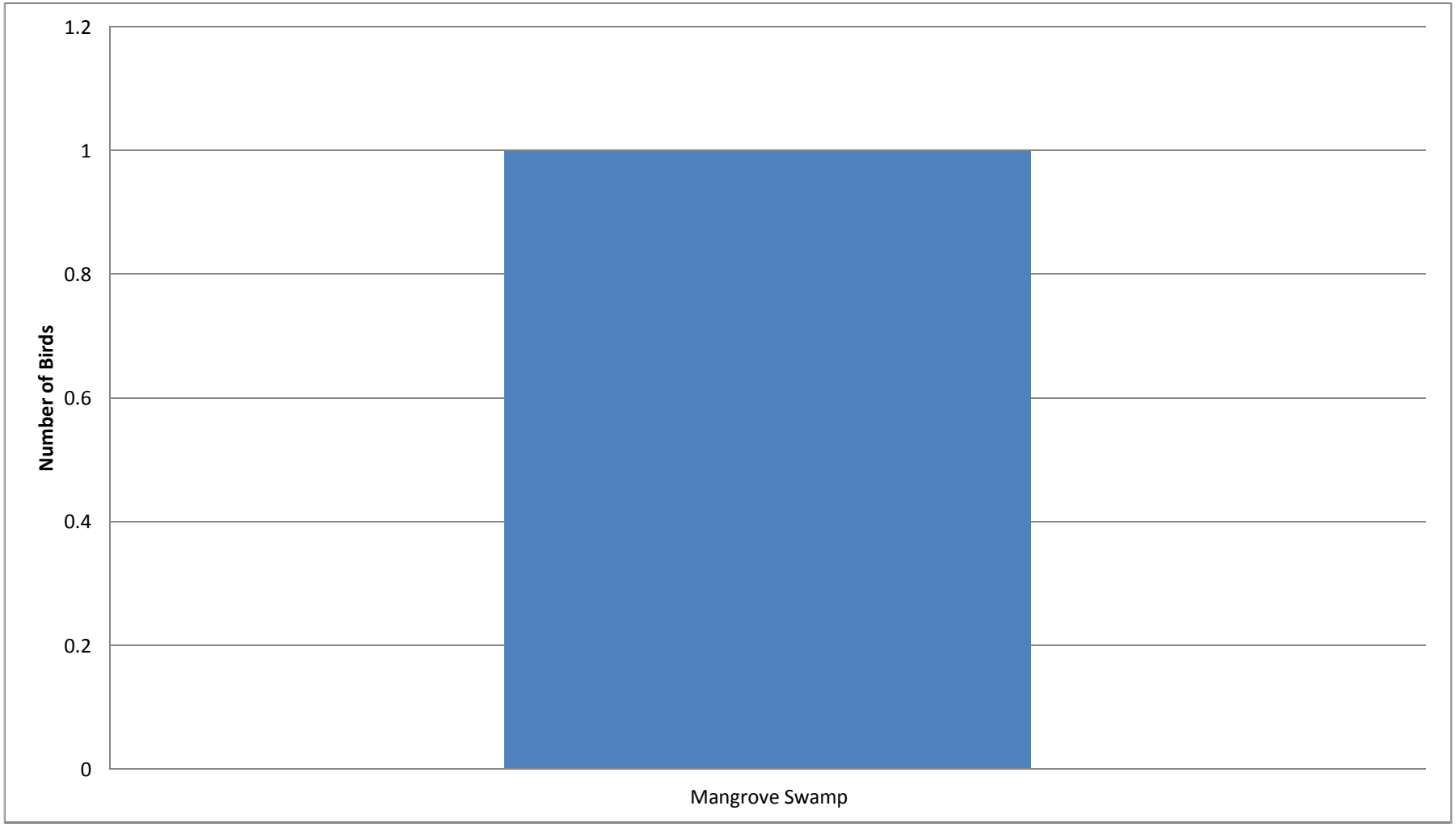


Figure 3-22. Number of reddish egrets associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

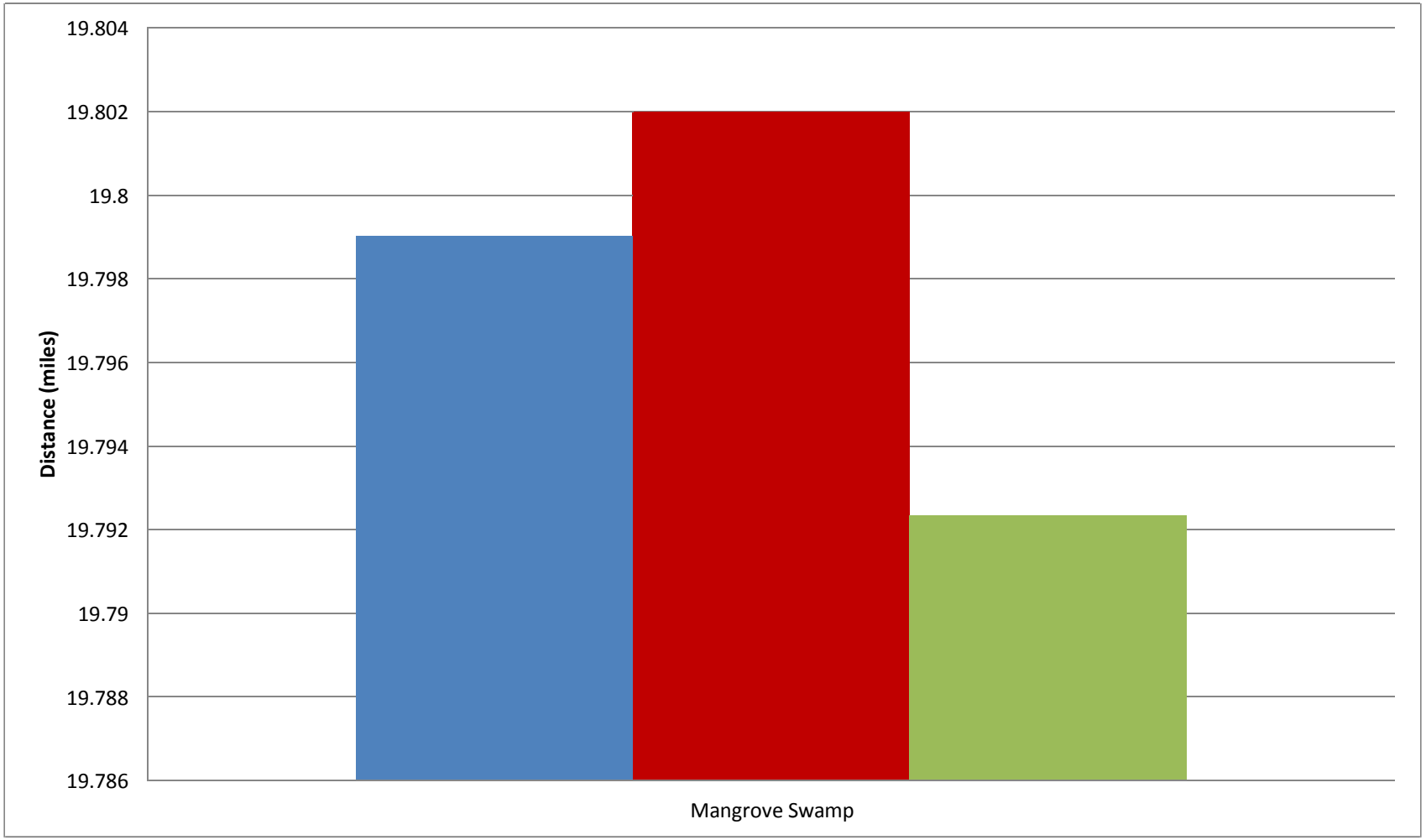


Figure 3-23. Relative risk in terms of distance of reddish egret preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

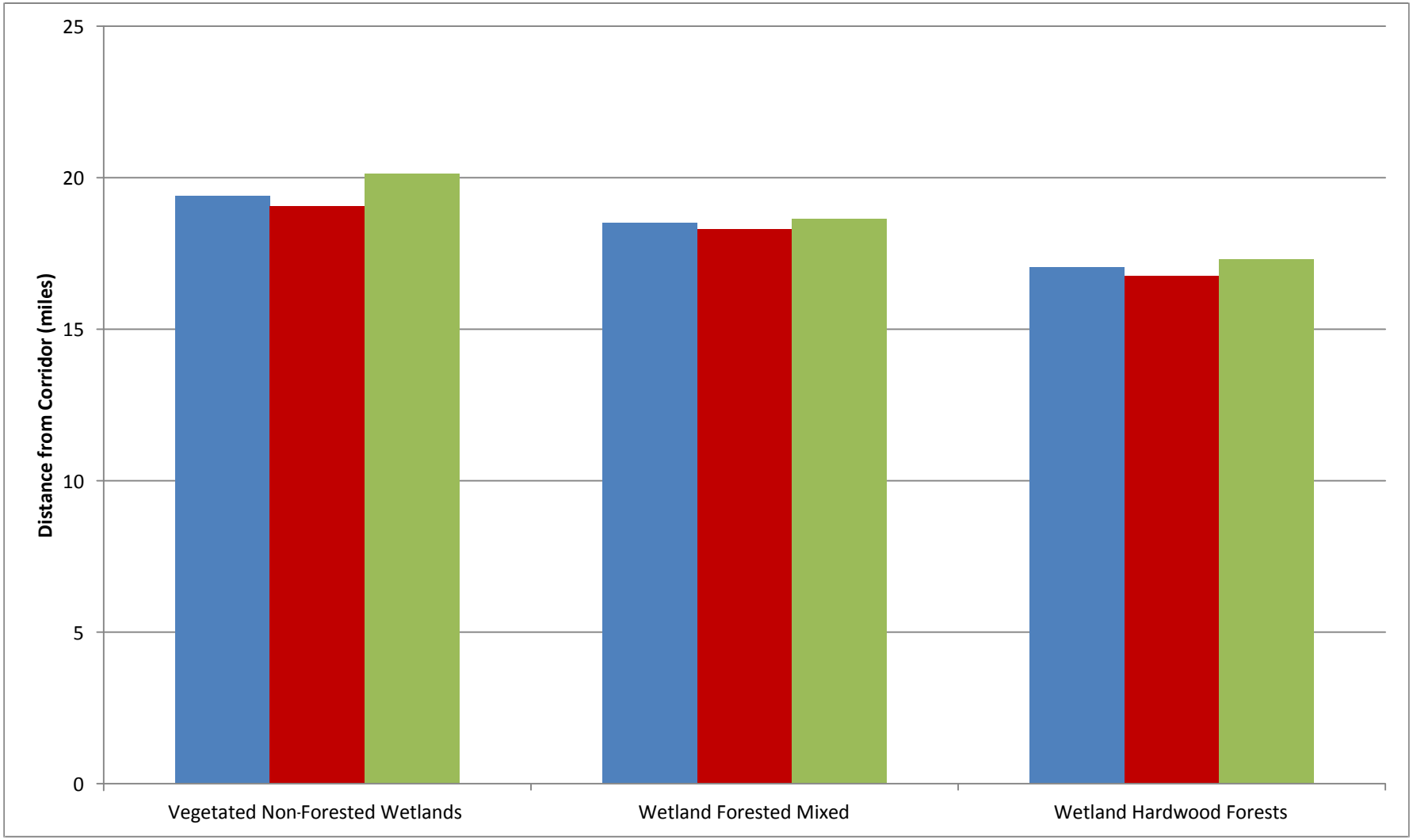


Figure 3-24. Relative risk in terms of distance of least bittern preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

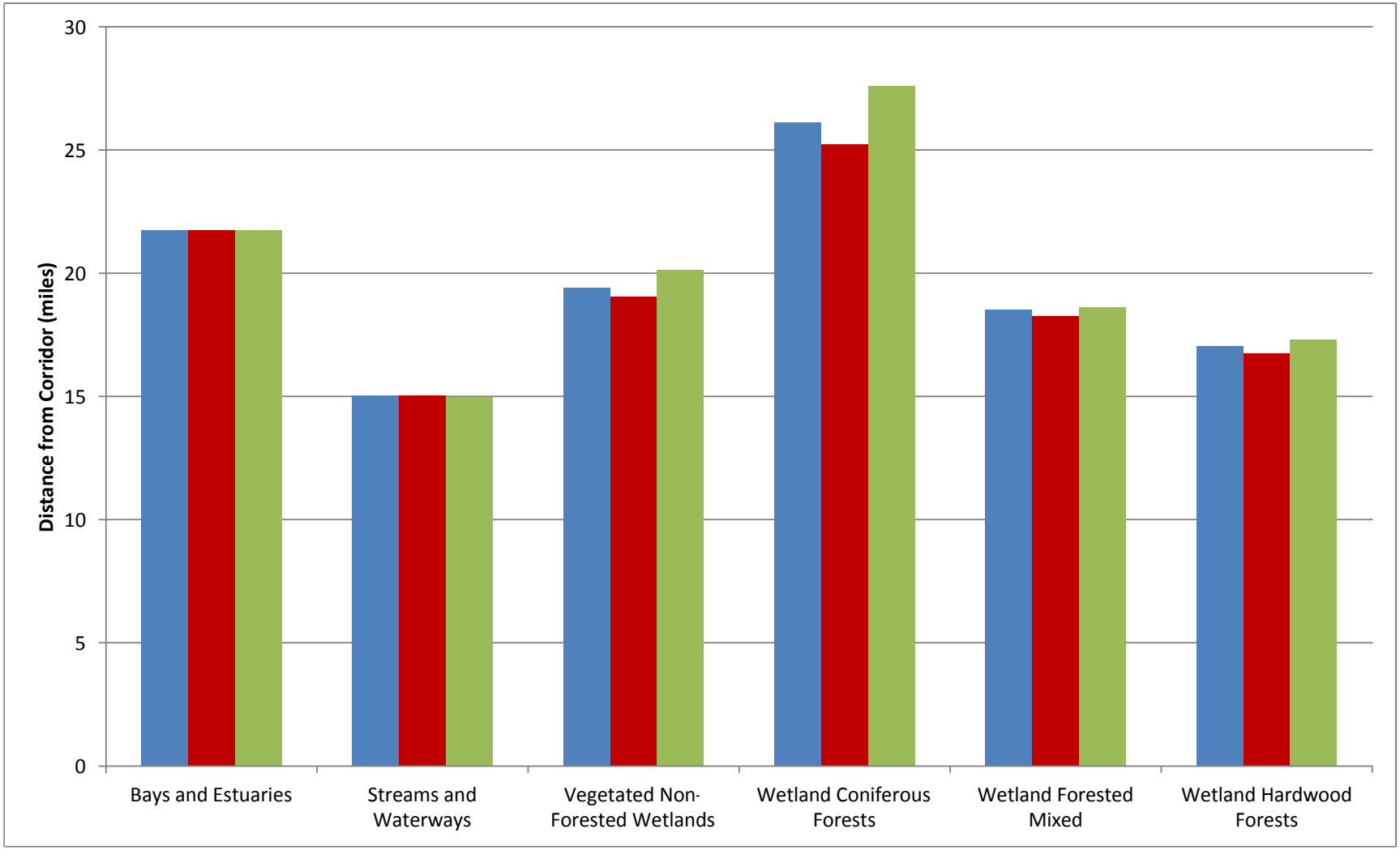


Figure 3-25. Relative risk in terms of distance of American bittern preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

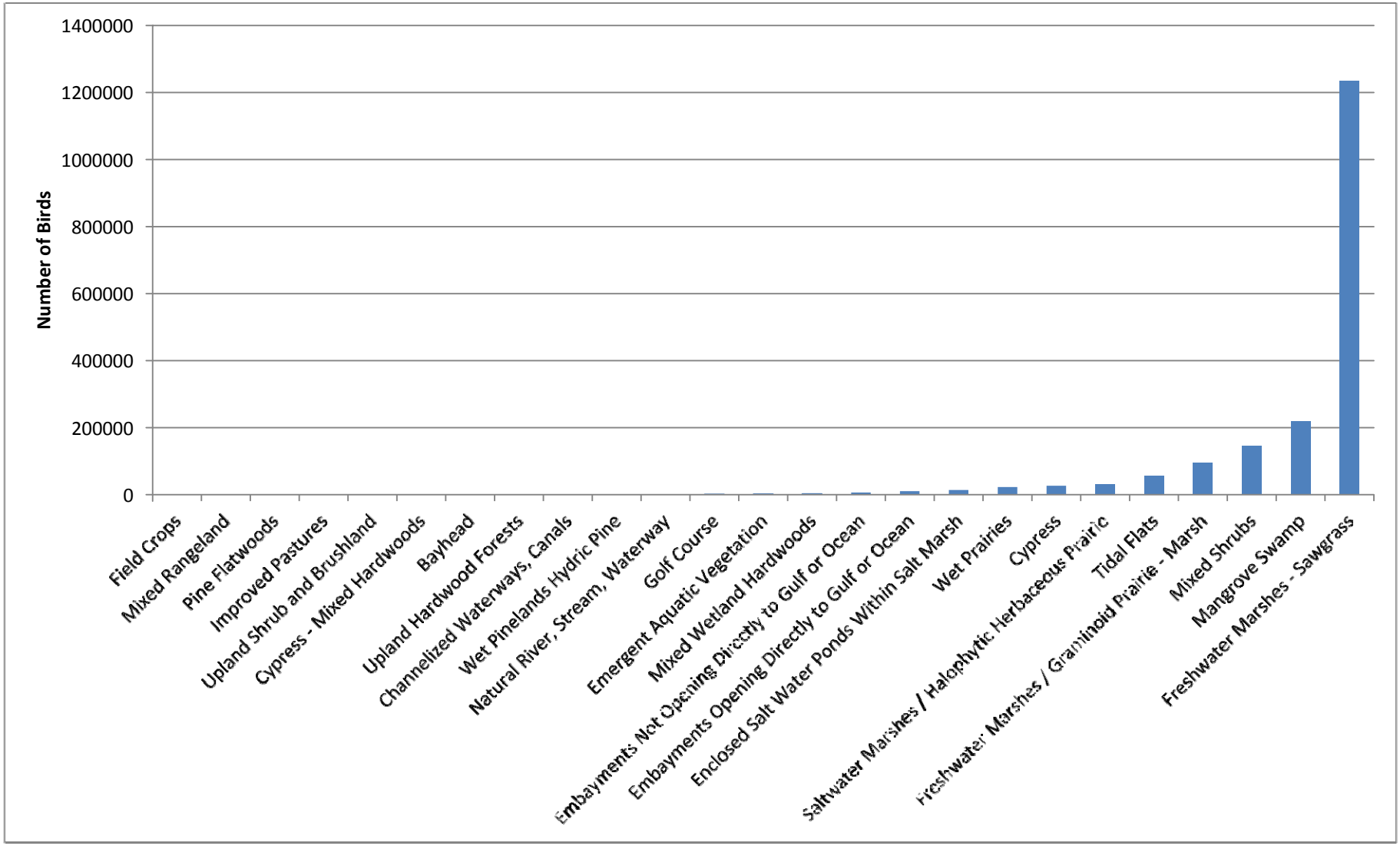


Figure 3-26. Number of white ibis associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

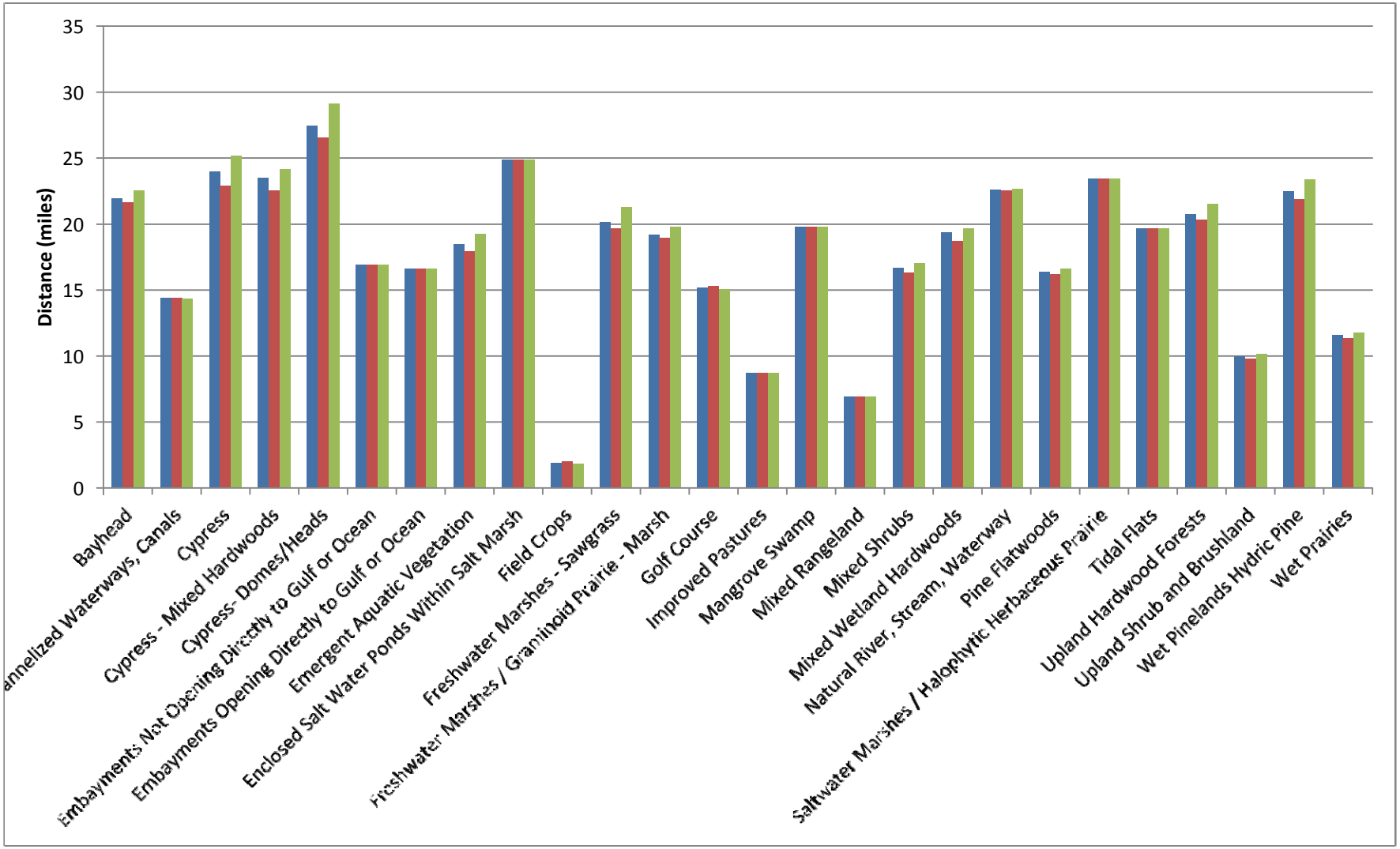


Figure 3-27. Relative risk in terms of distance of white ibis preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

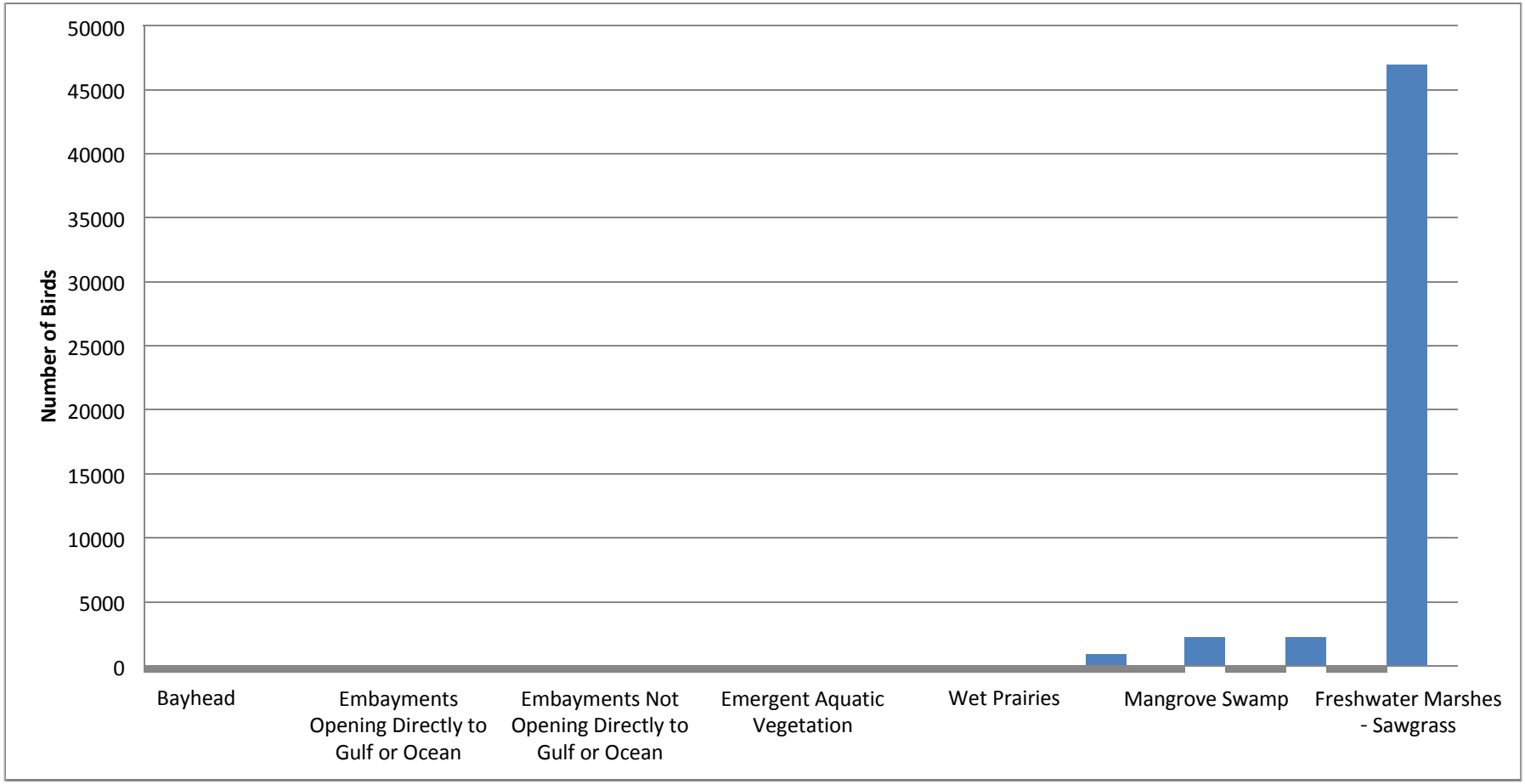


Figure 3-28. Number of glossy ibis associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

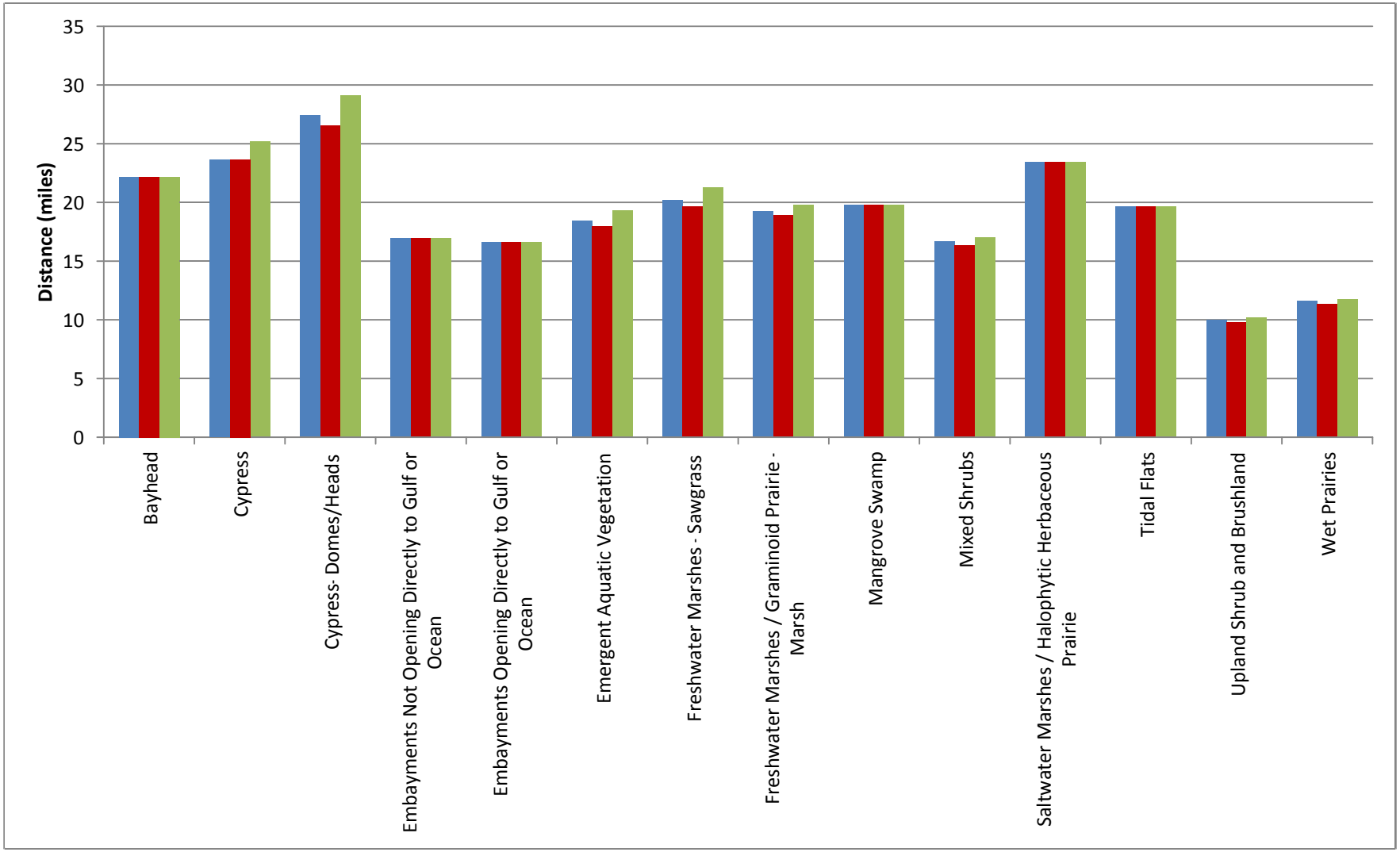


Figure 3-29. Relative risk in terms of distance of glossy ibis preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

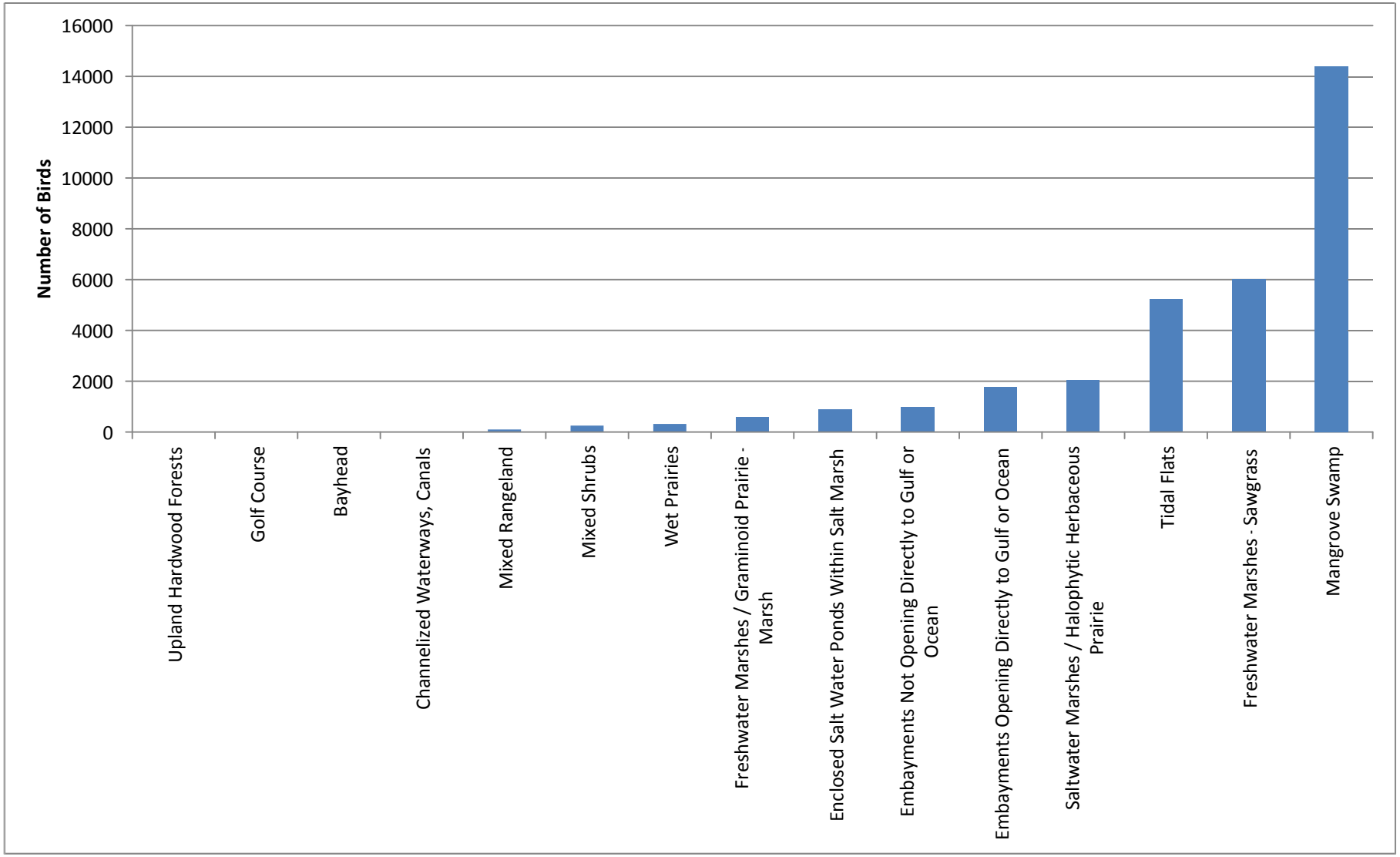


Figure 3-30. Number of roseate spoonbills associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

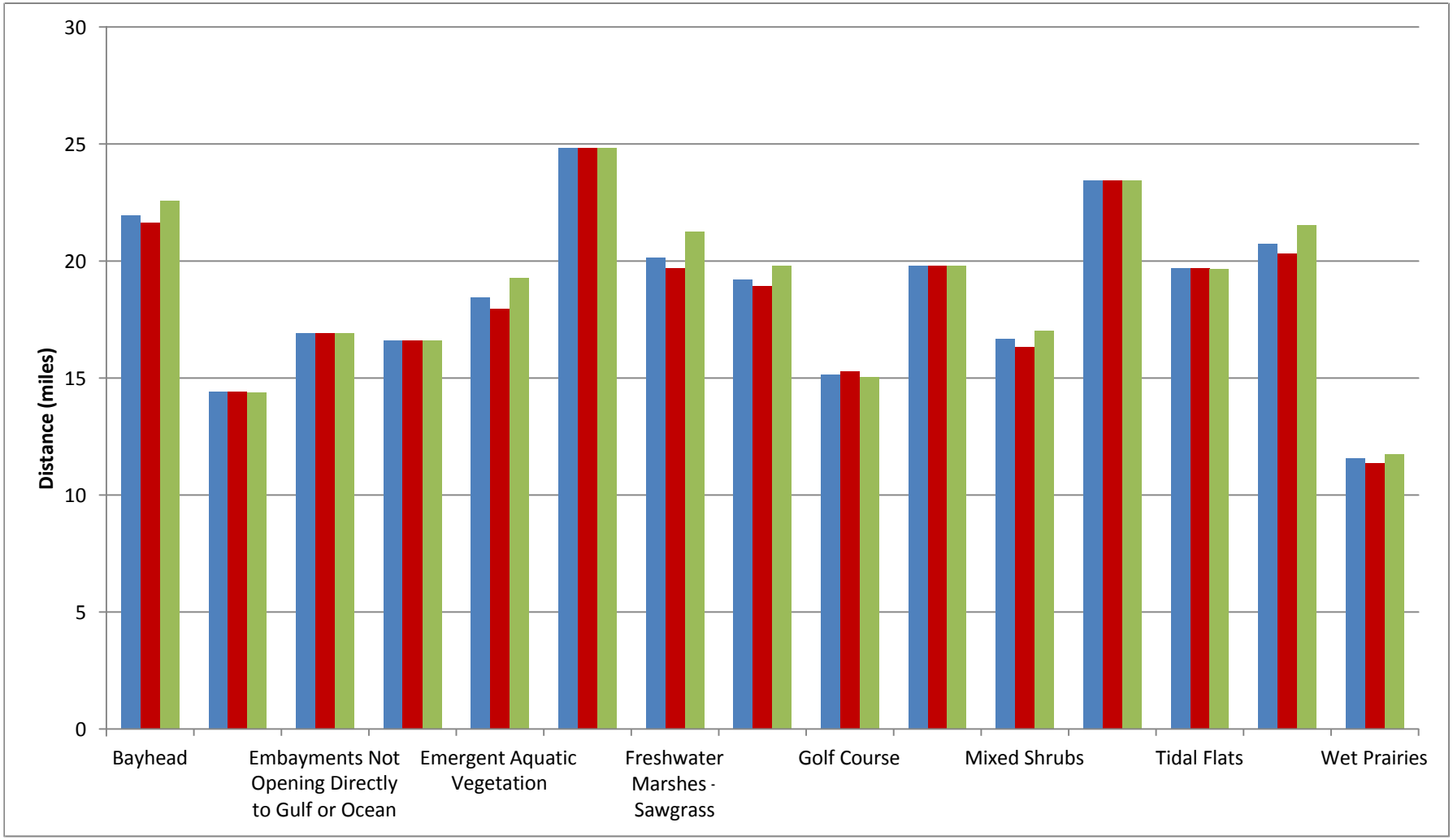


Figure 3-31. Relative risk in terms of distance of roseate spoonbill preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

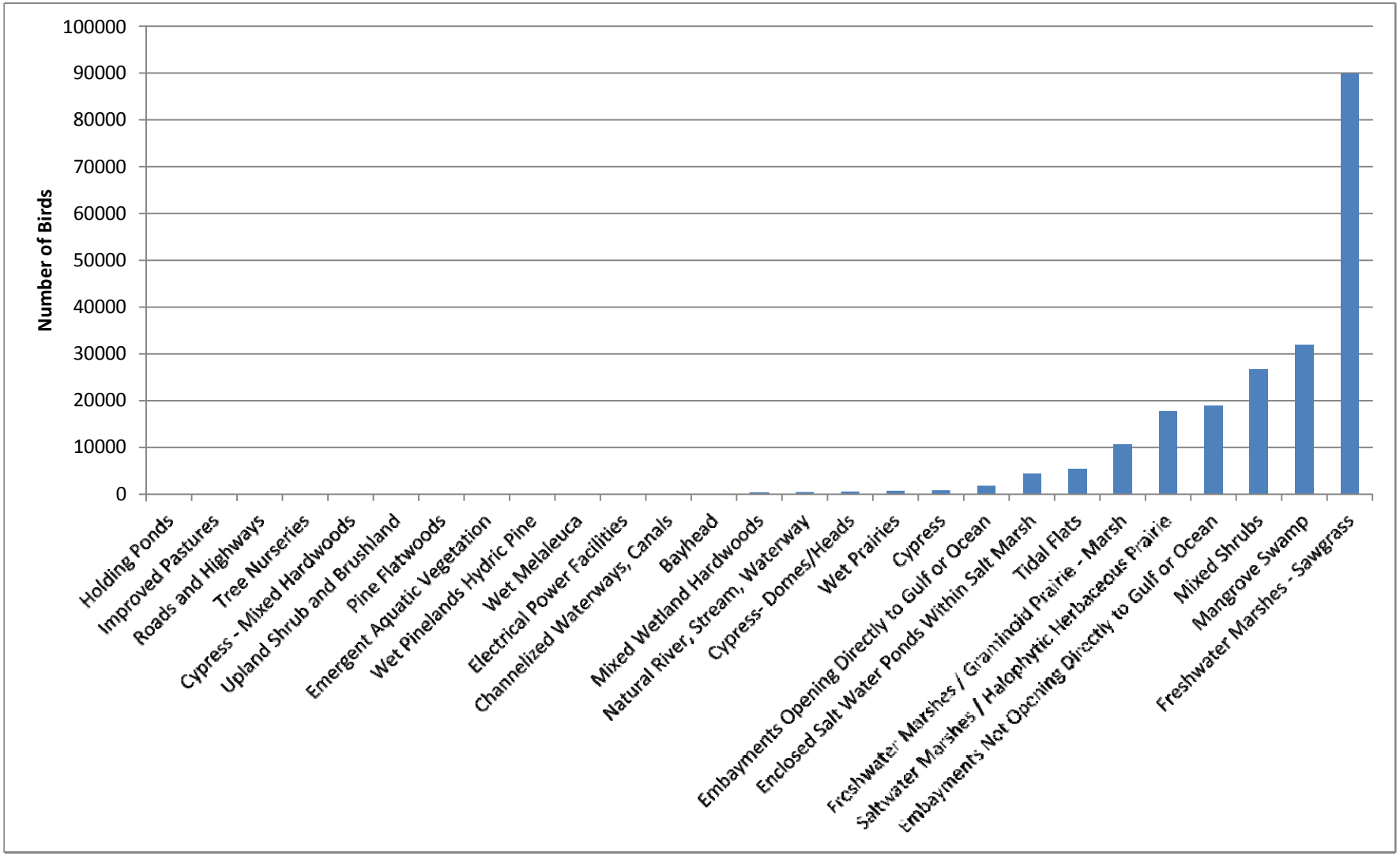


Figure 3-32. Number of wood storks associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

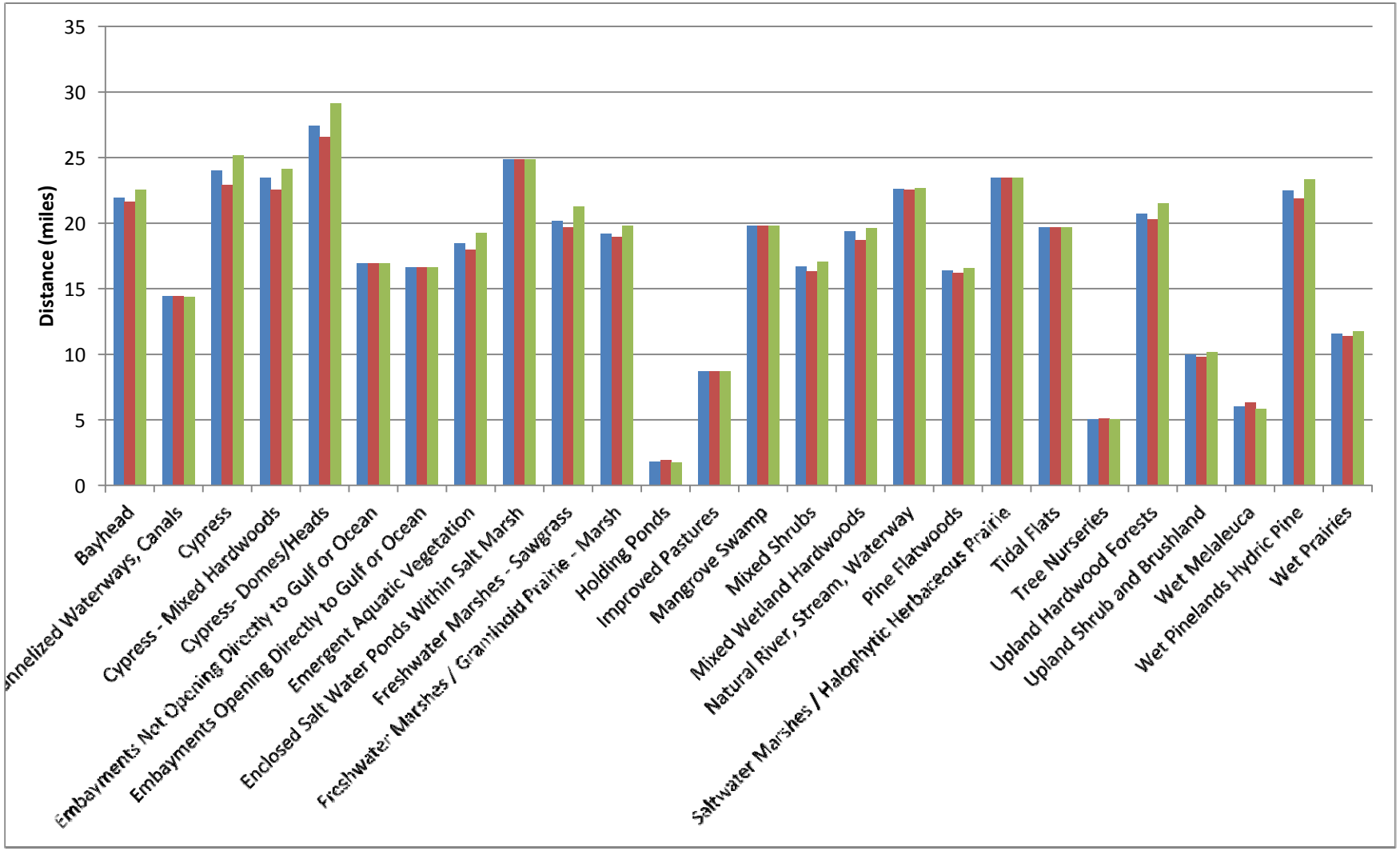


Figure 3-33. Relative risk in terms of distance of wood stork preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

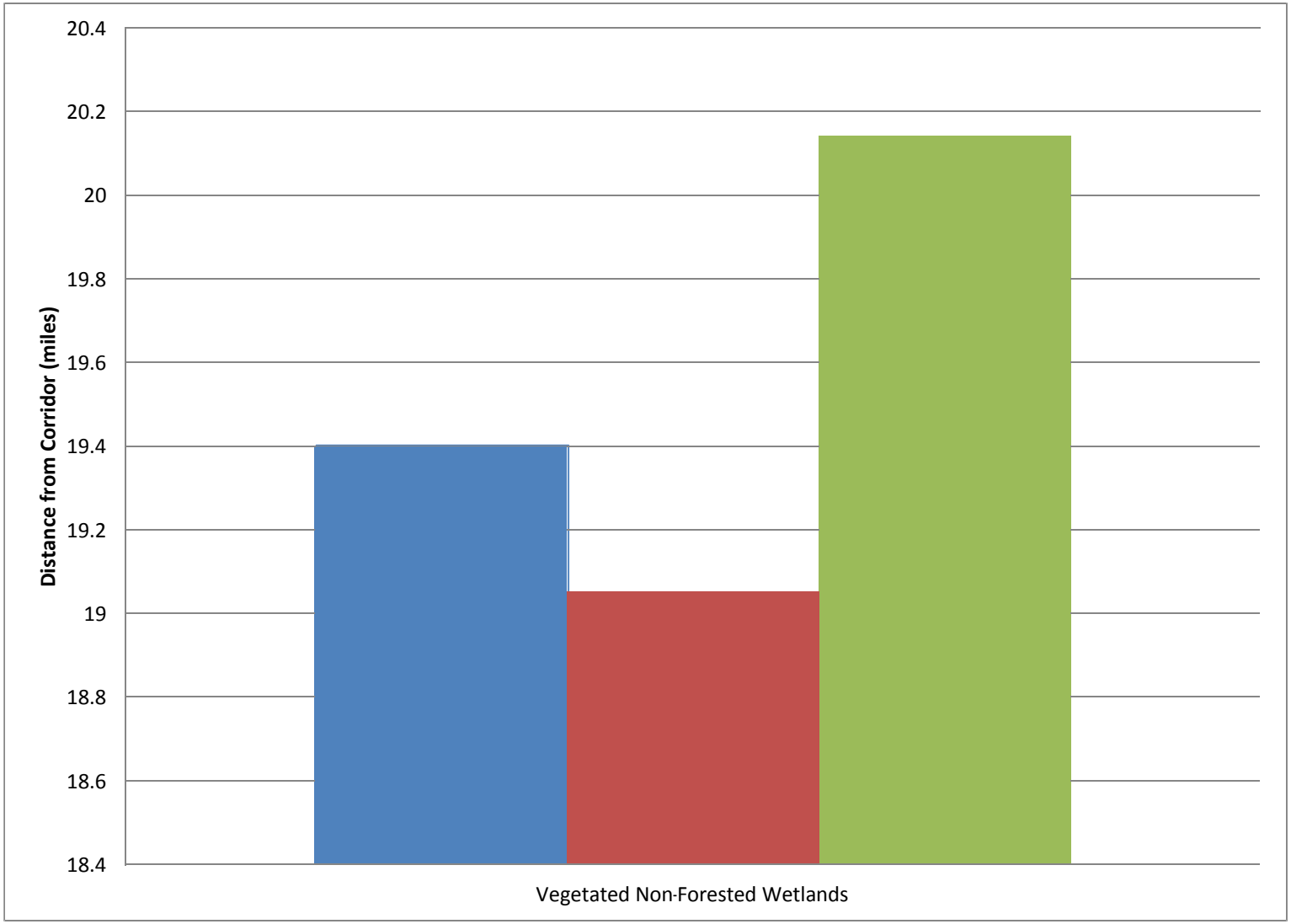


Figure 3-34. Relative risk in terms of distance of Florida sandhill crane preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

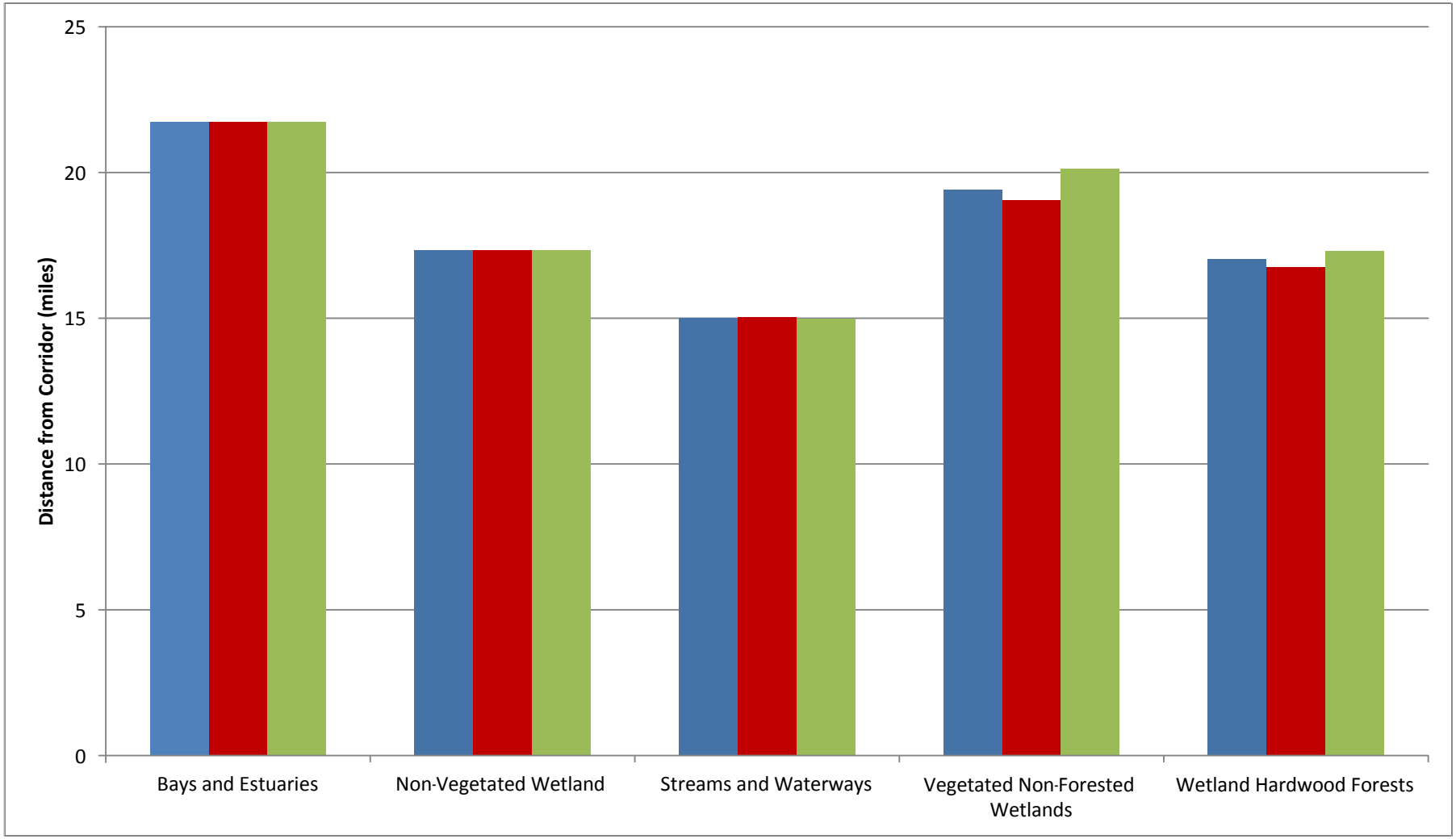


Figure 3-35. Relative risk in terms of distance of limpkin preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

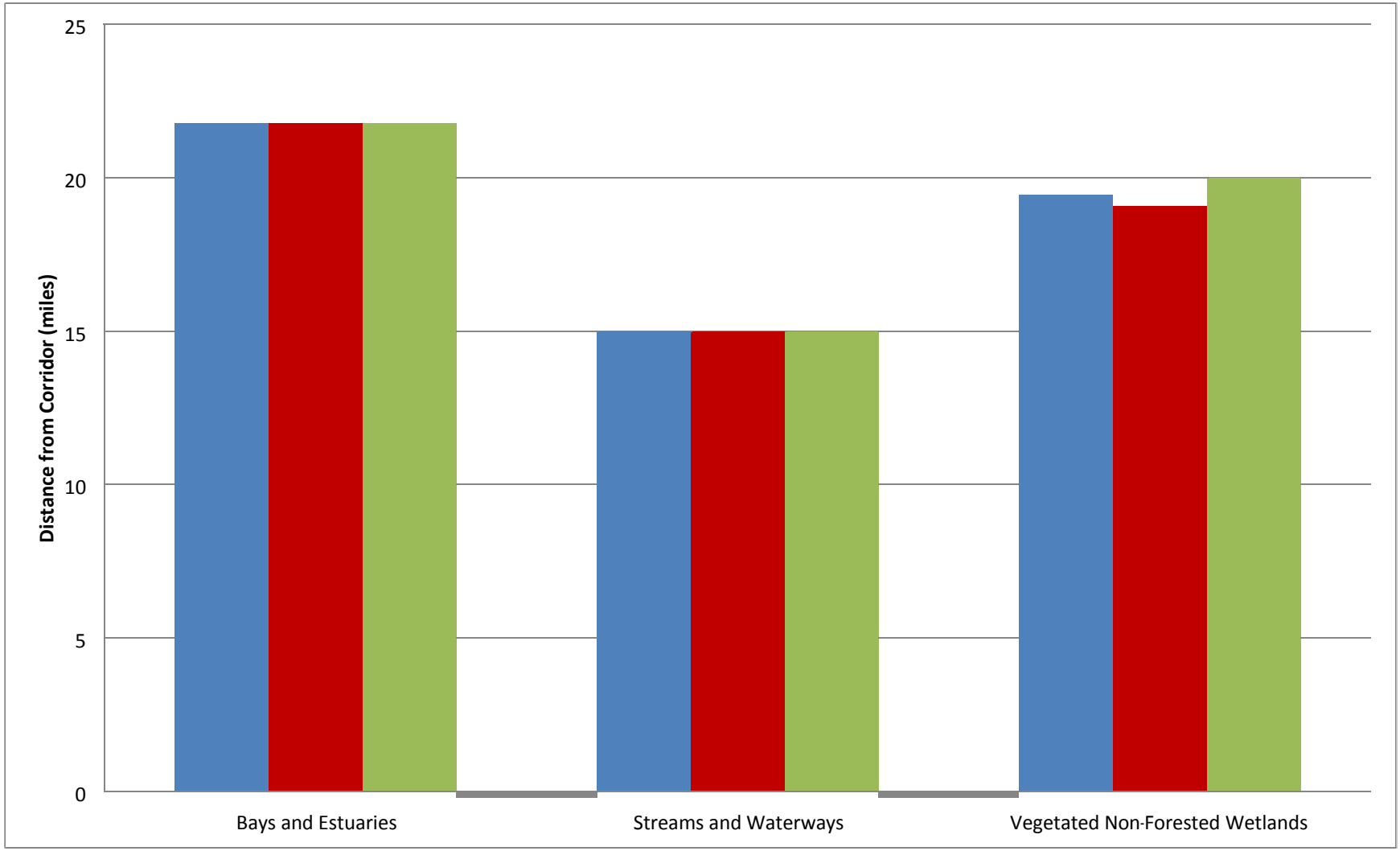


Figure 3-36. Relative risk in terms of distance of black rail preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

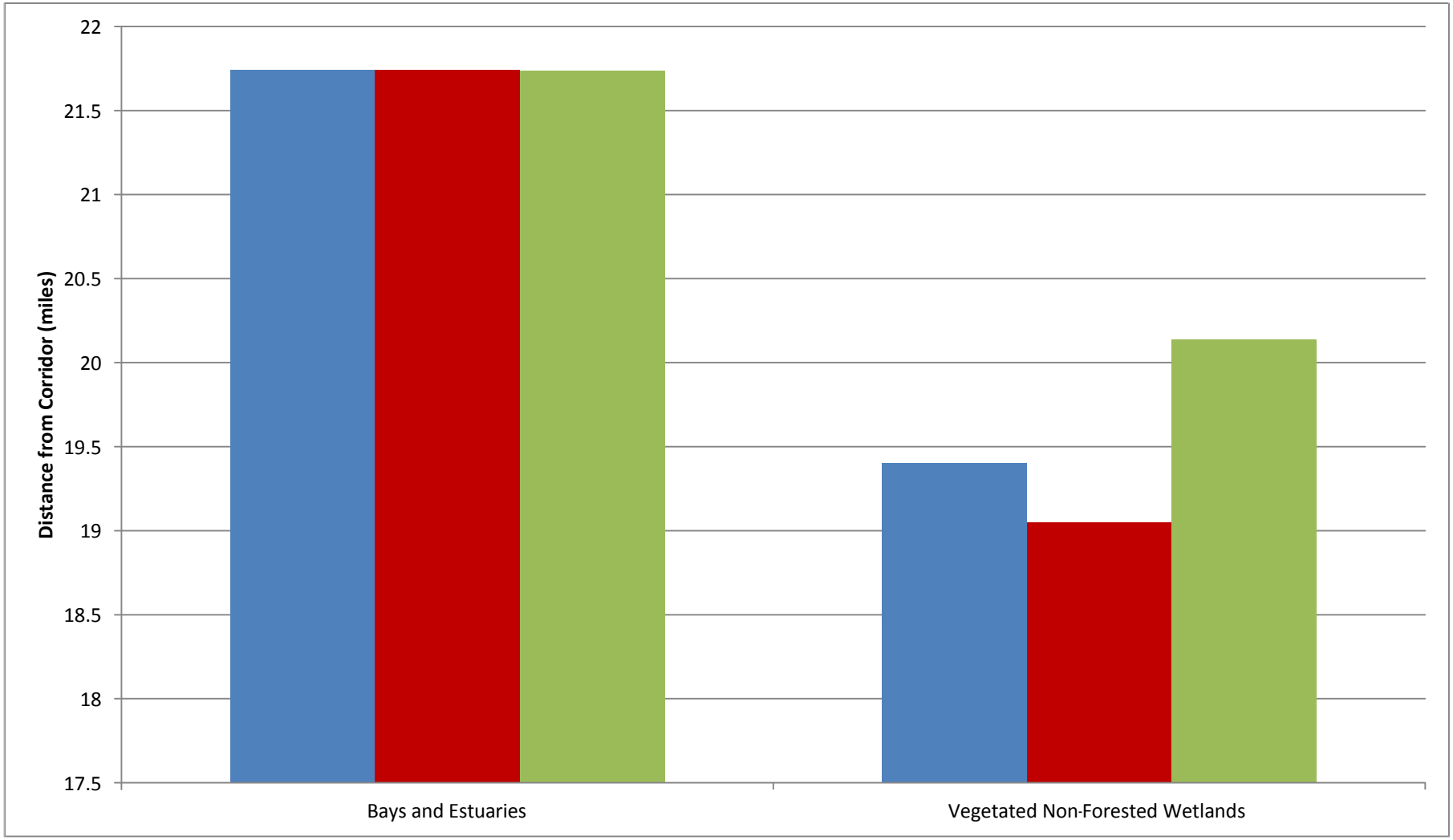


Figure 3-37. Relative risk in terms of distance of yellow rail preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

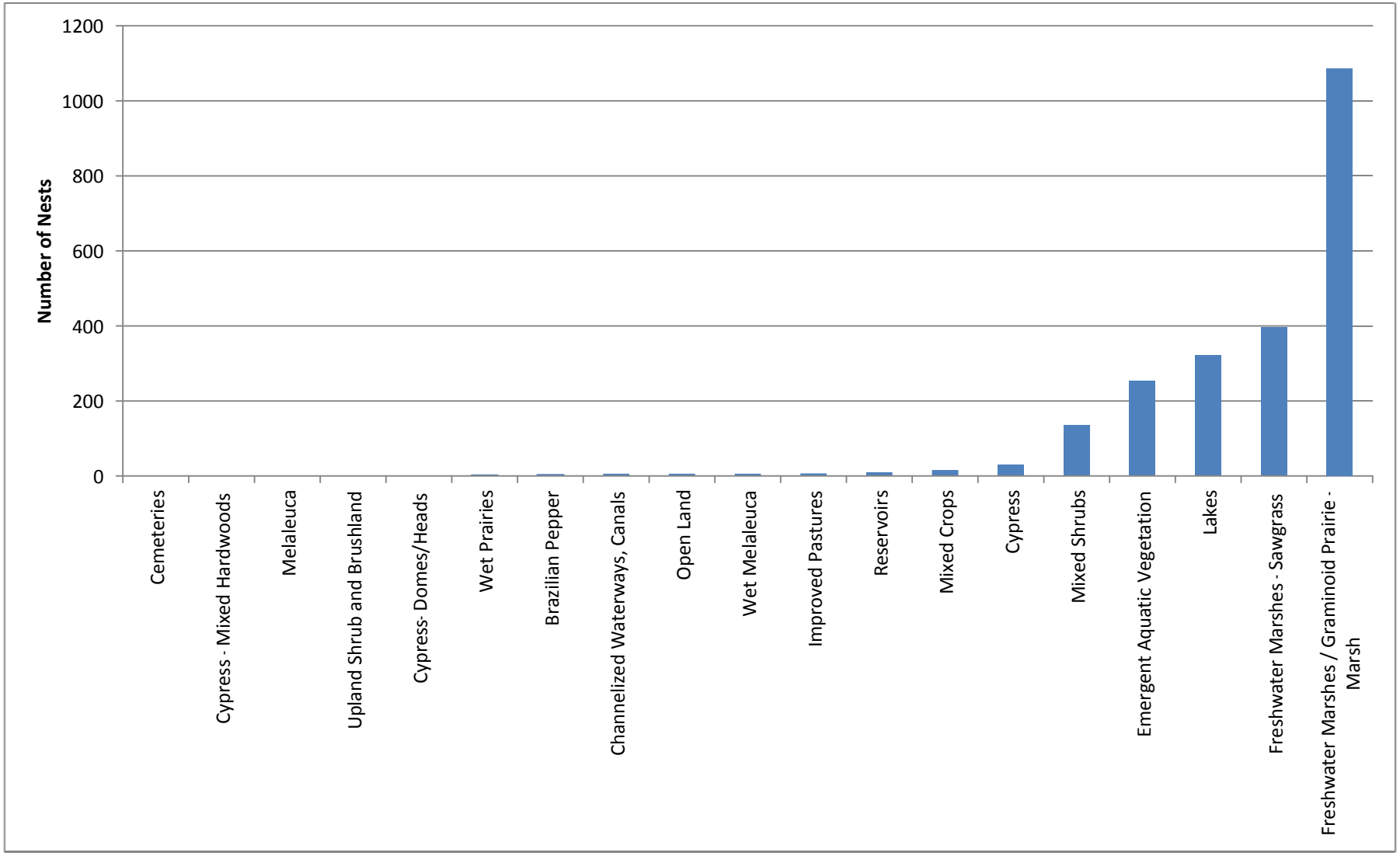


Figure 3-38. Number of snail kites associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

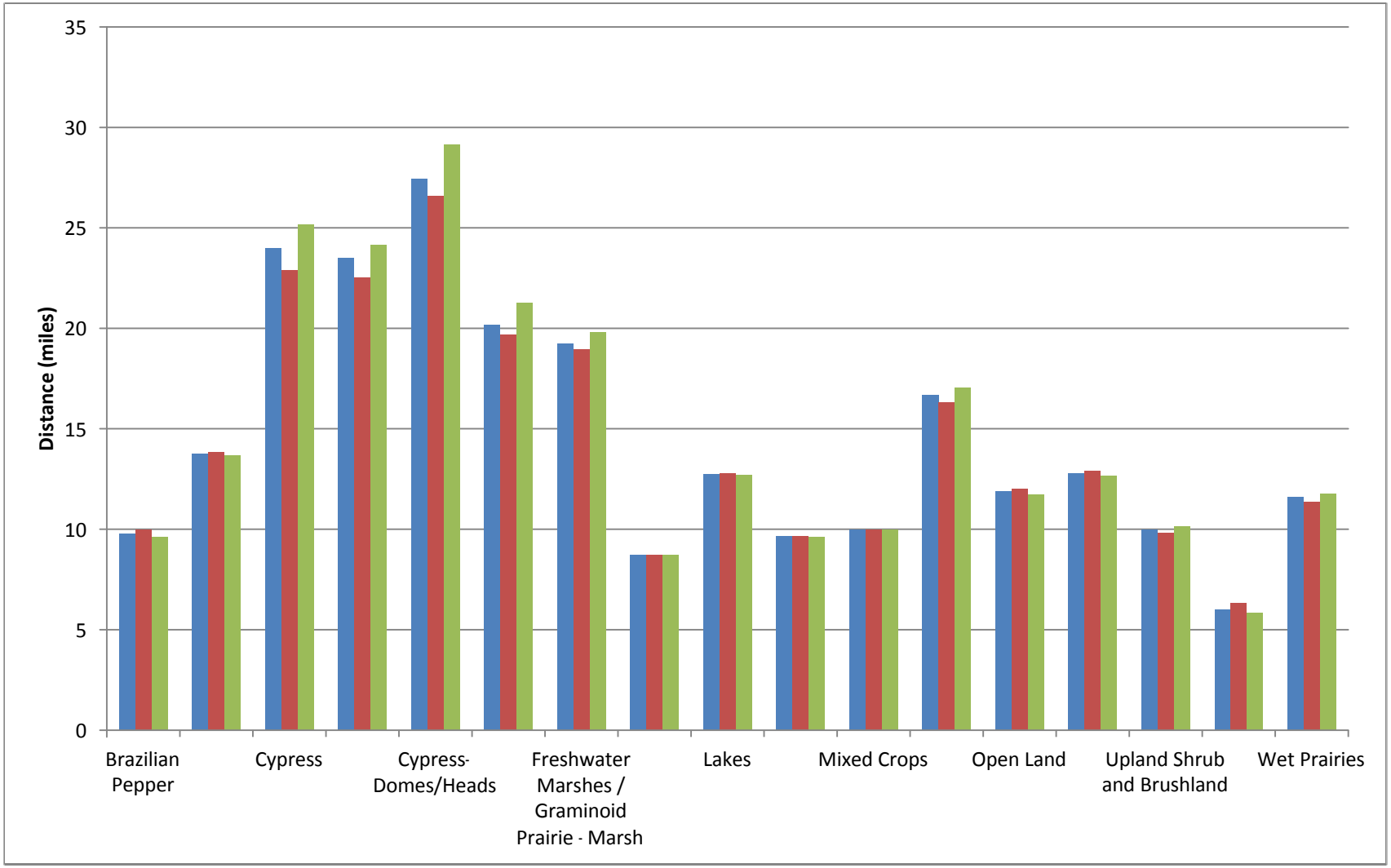


Figure 3-39. Relative risk in terms of distance of snail kite preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

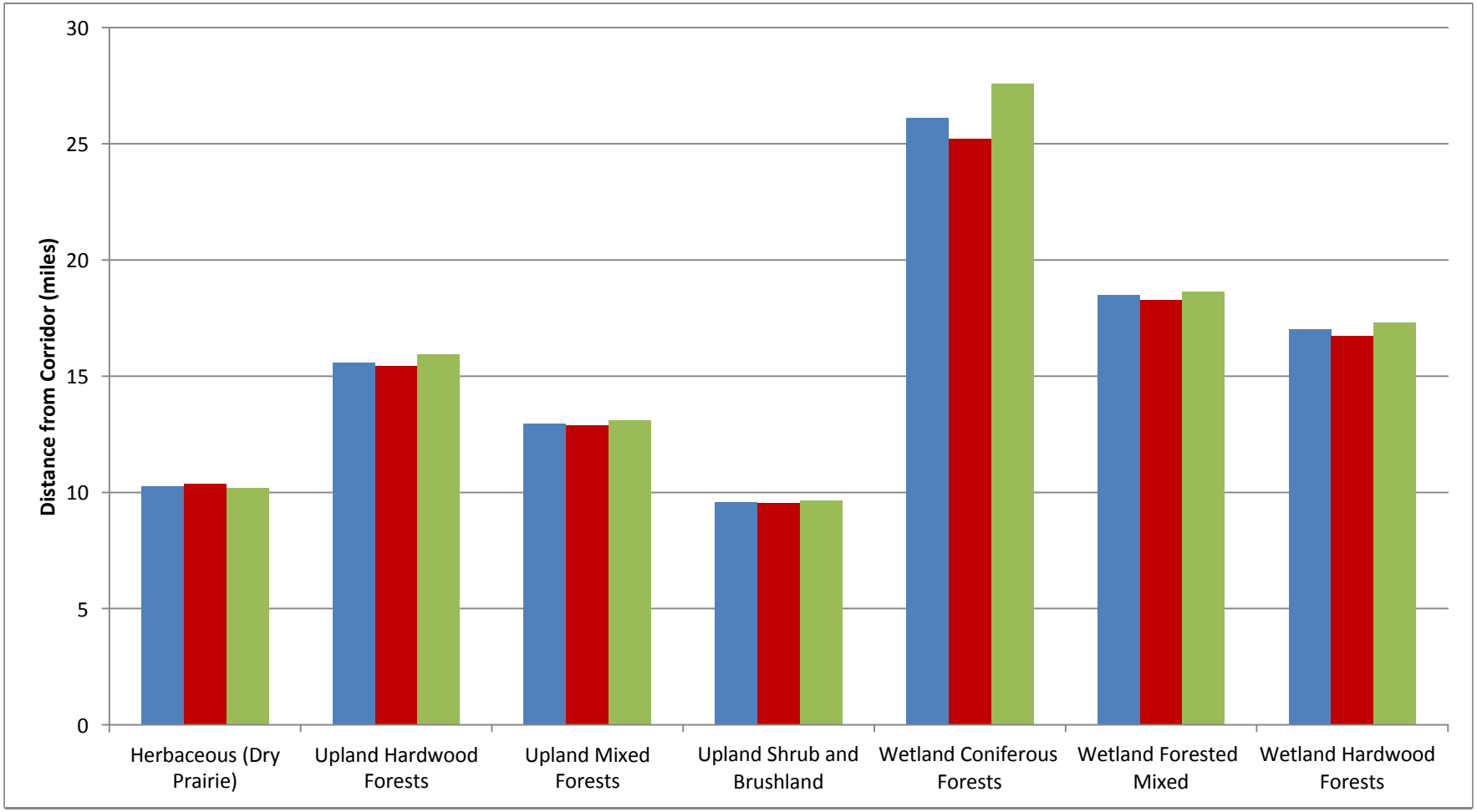


Figure 3-40. Relative risk in terms of distance of short tailed hawk preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

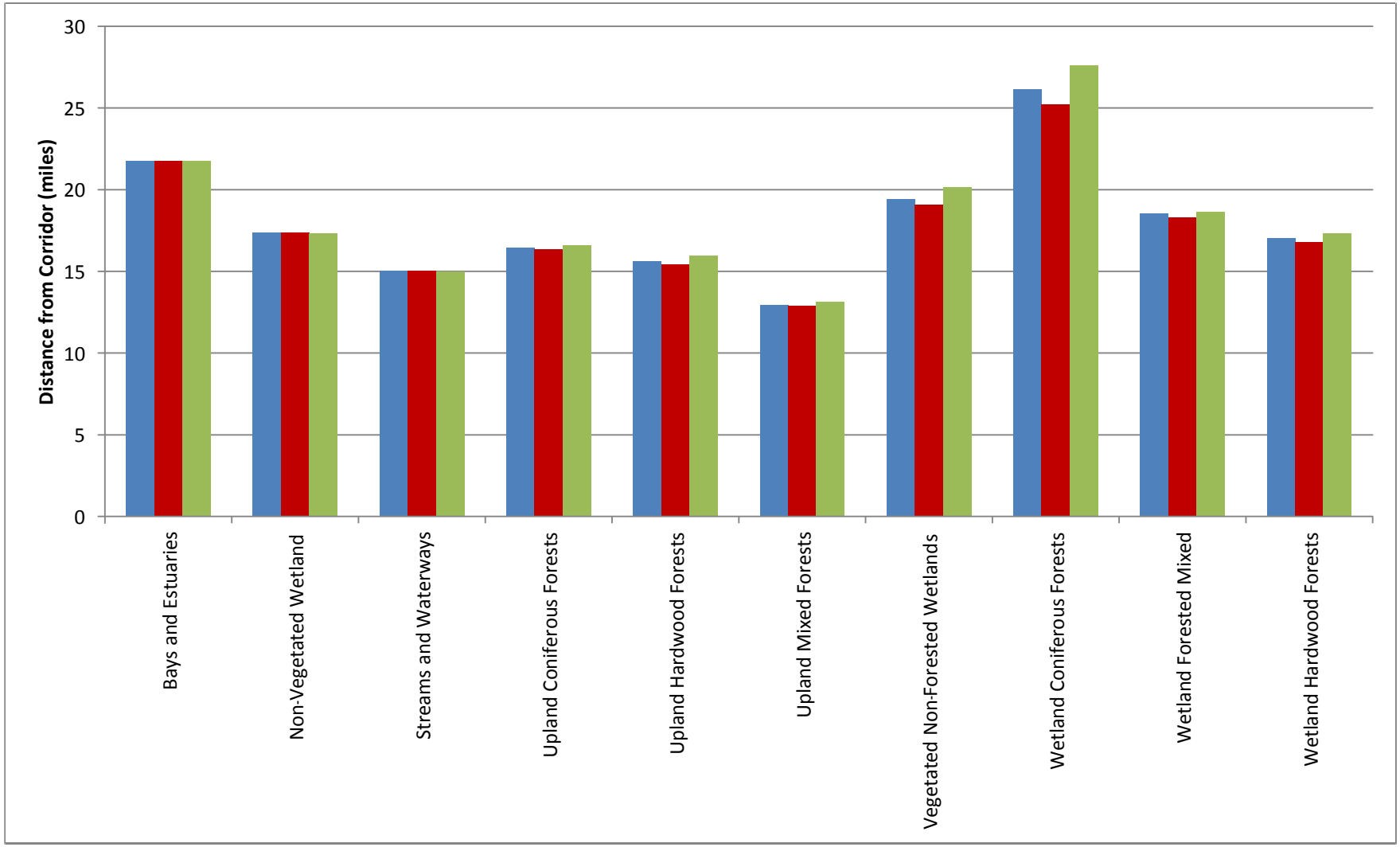


Figure 3-41. Relative risk in terms of distance of swallow tailed kite preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

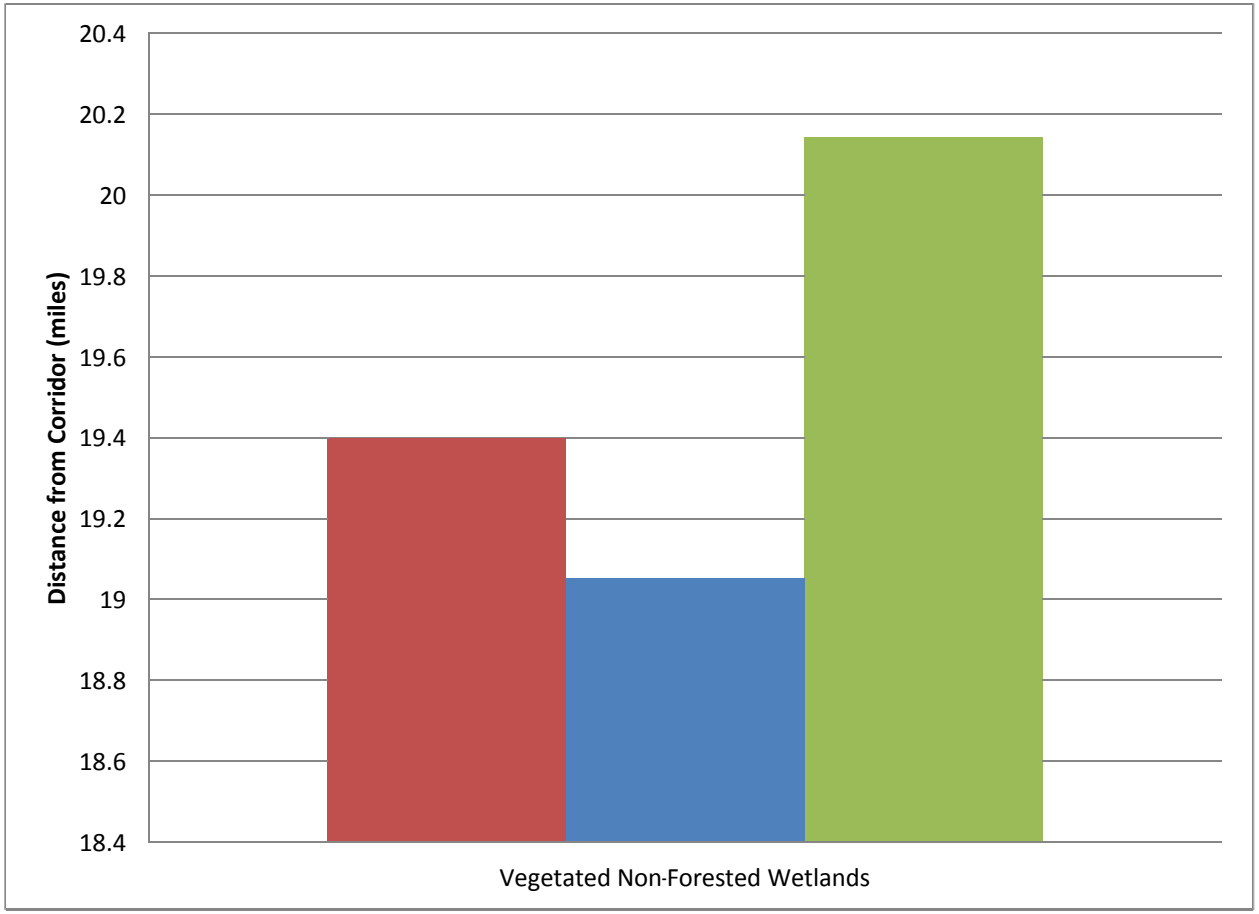


Figure 3-42. Relative risk in terms of distance of northern harrier preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

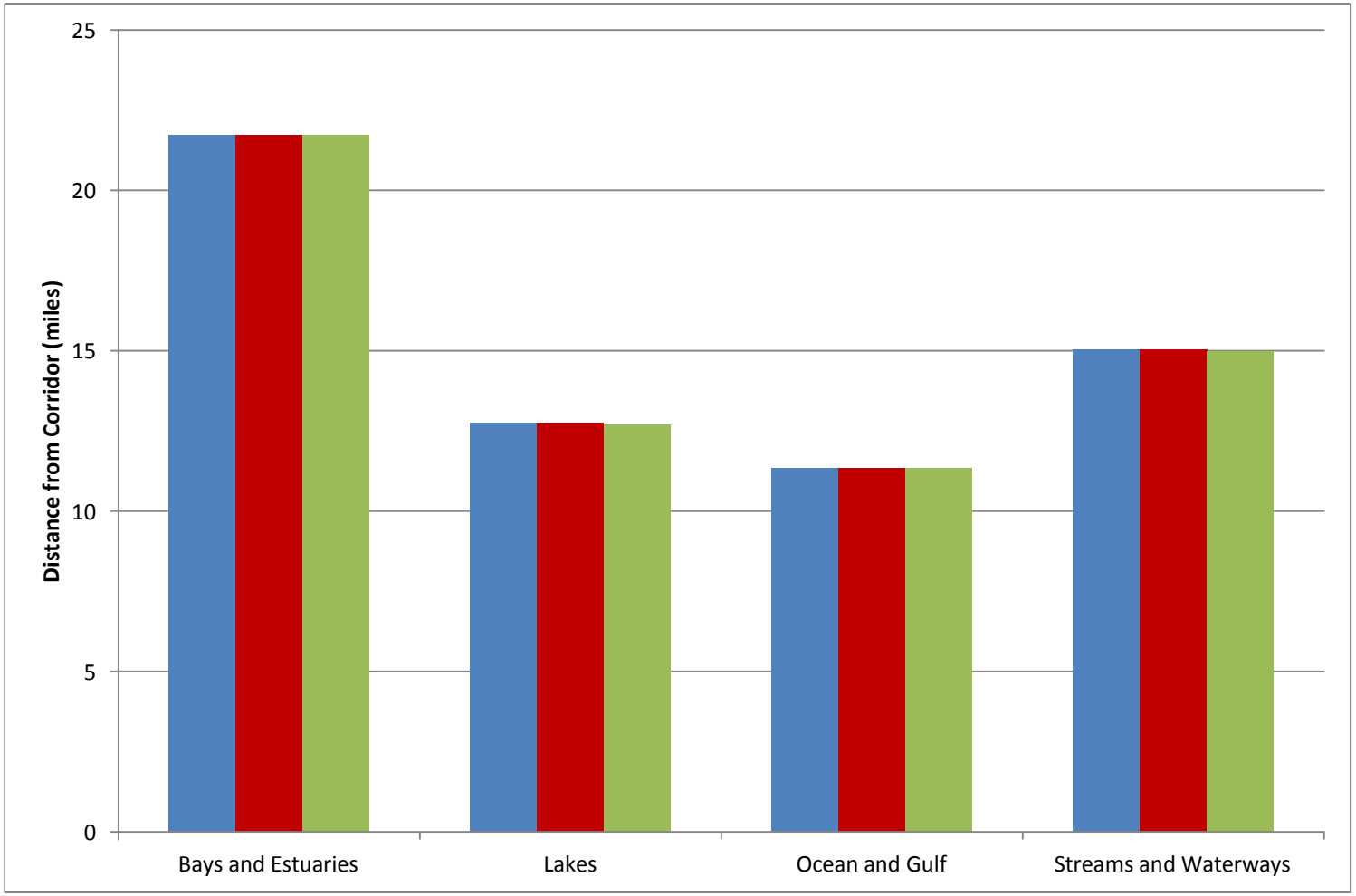


Figure 3-43. Relative risk in terms of distance of osprey preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

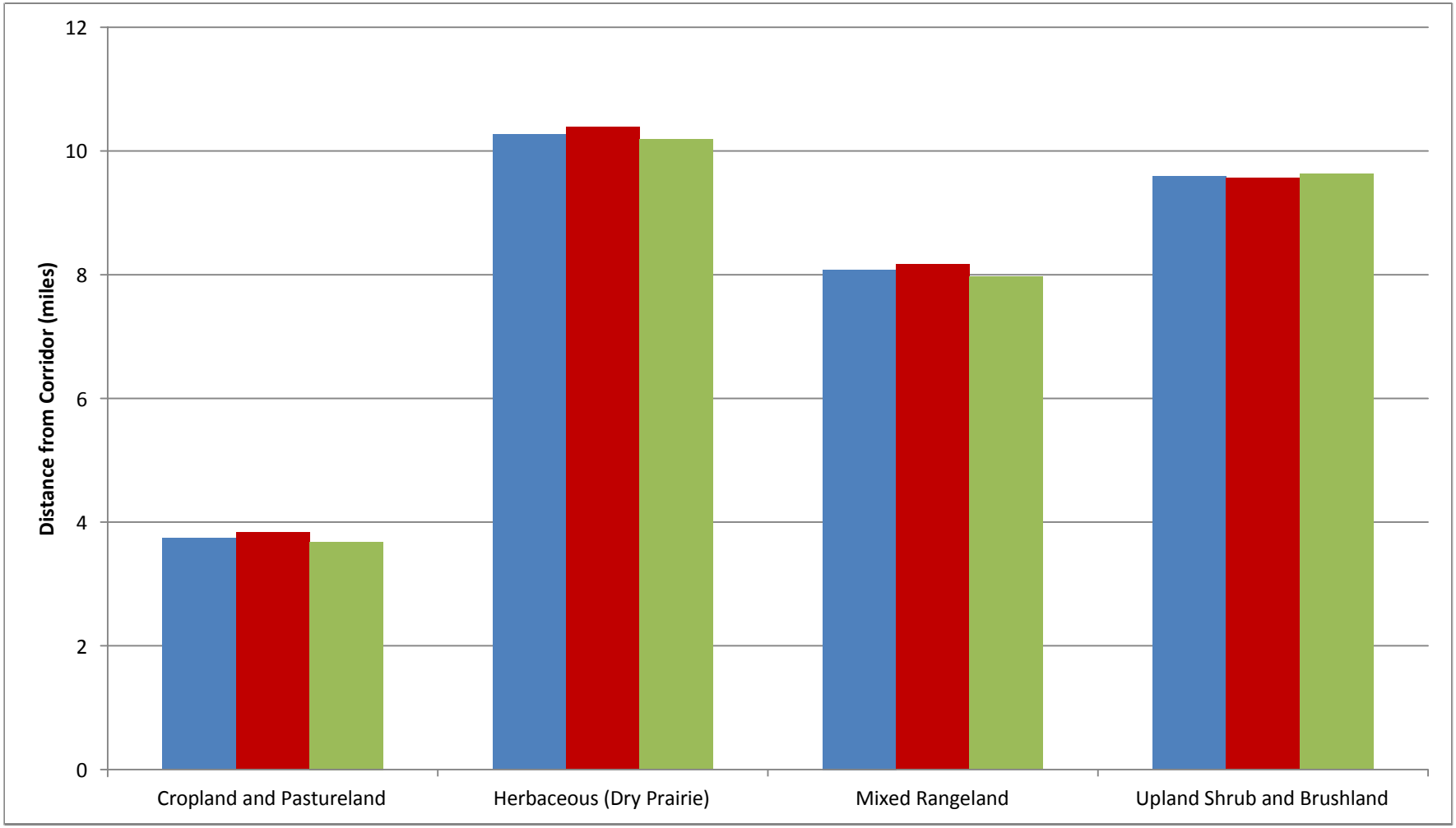


Figure 3-44. Relative risk in terms of distance of crested caracara preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

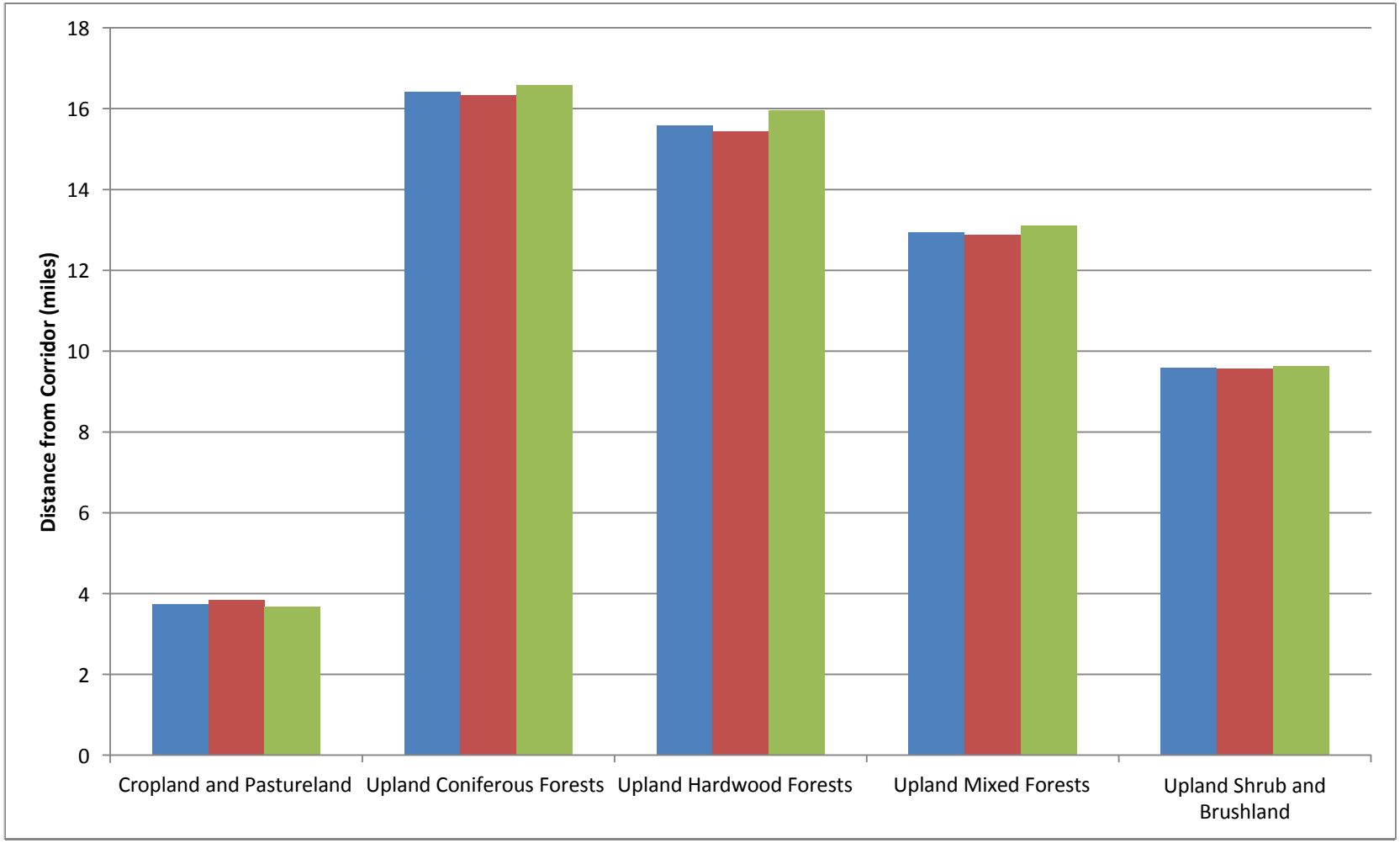


Figure 3-45. Relative risk in terms of distance of American kestrel preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

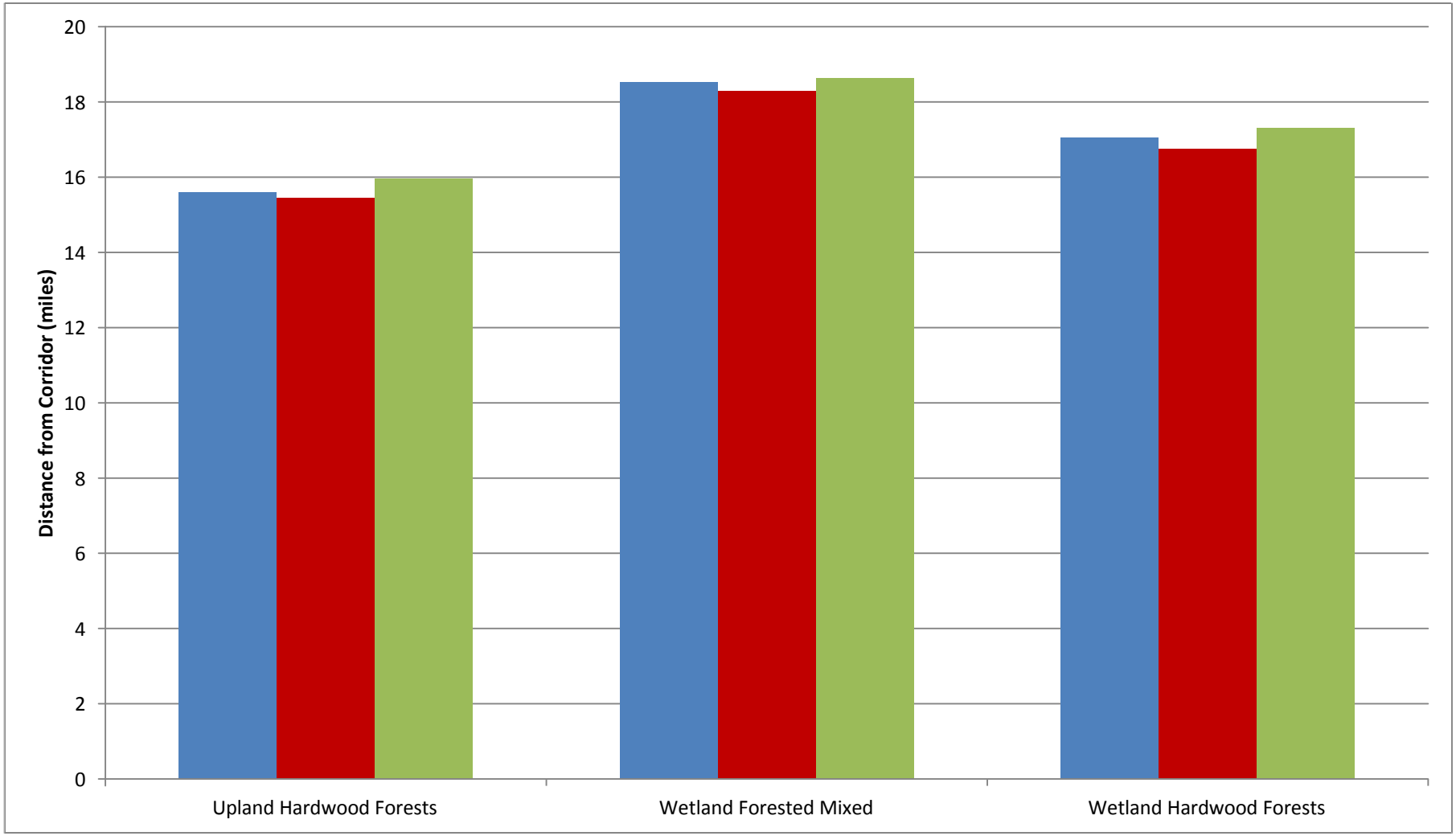


Figure 3-46. Relative risk in terms of distance of white crowned pigeon preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

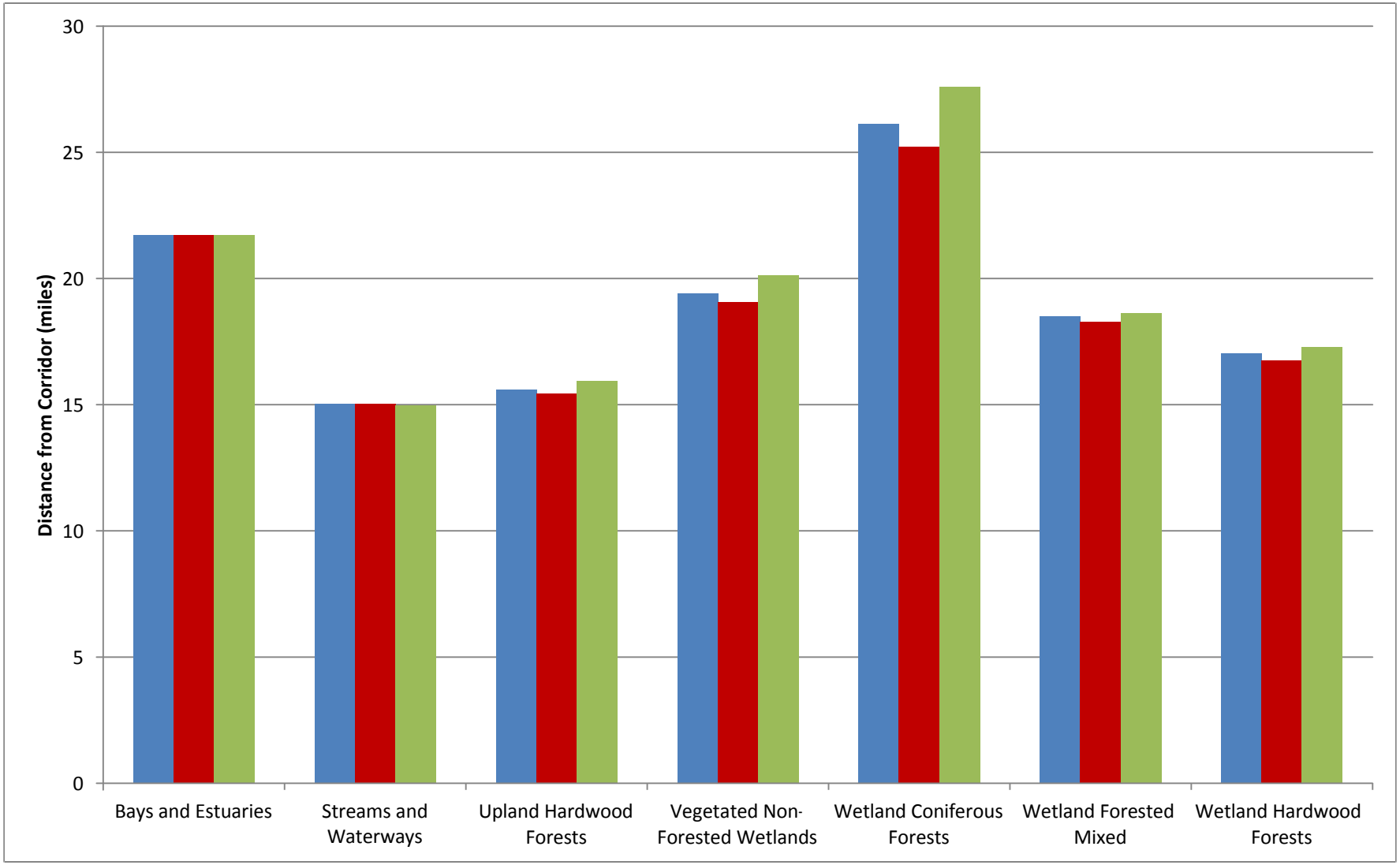


Figure 3-47. Relative risk in terms of distance of yellow billed cuckoo preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

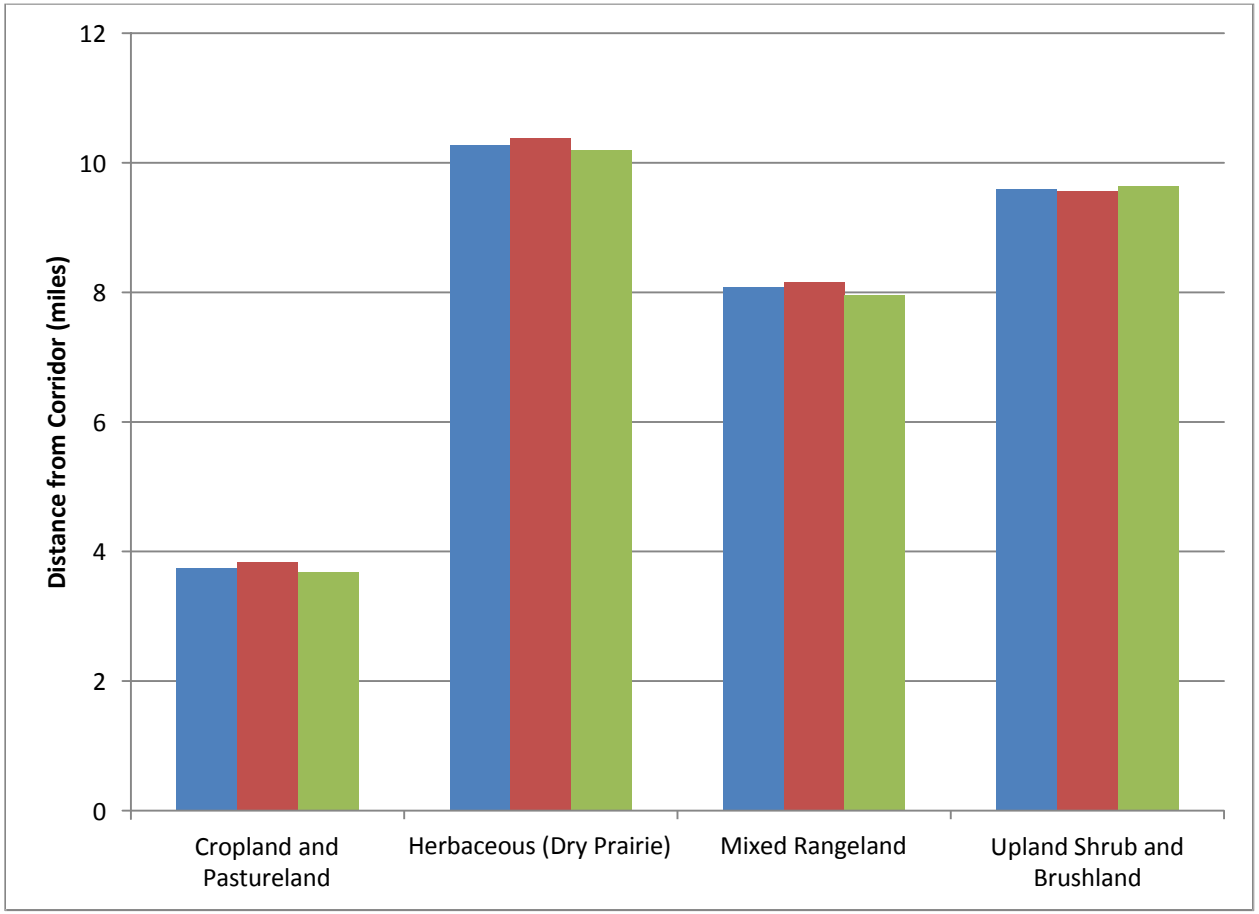


Figure 3-48. Relative risk in terms of distance of barn owl preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

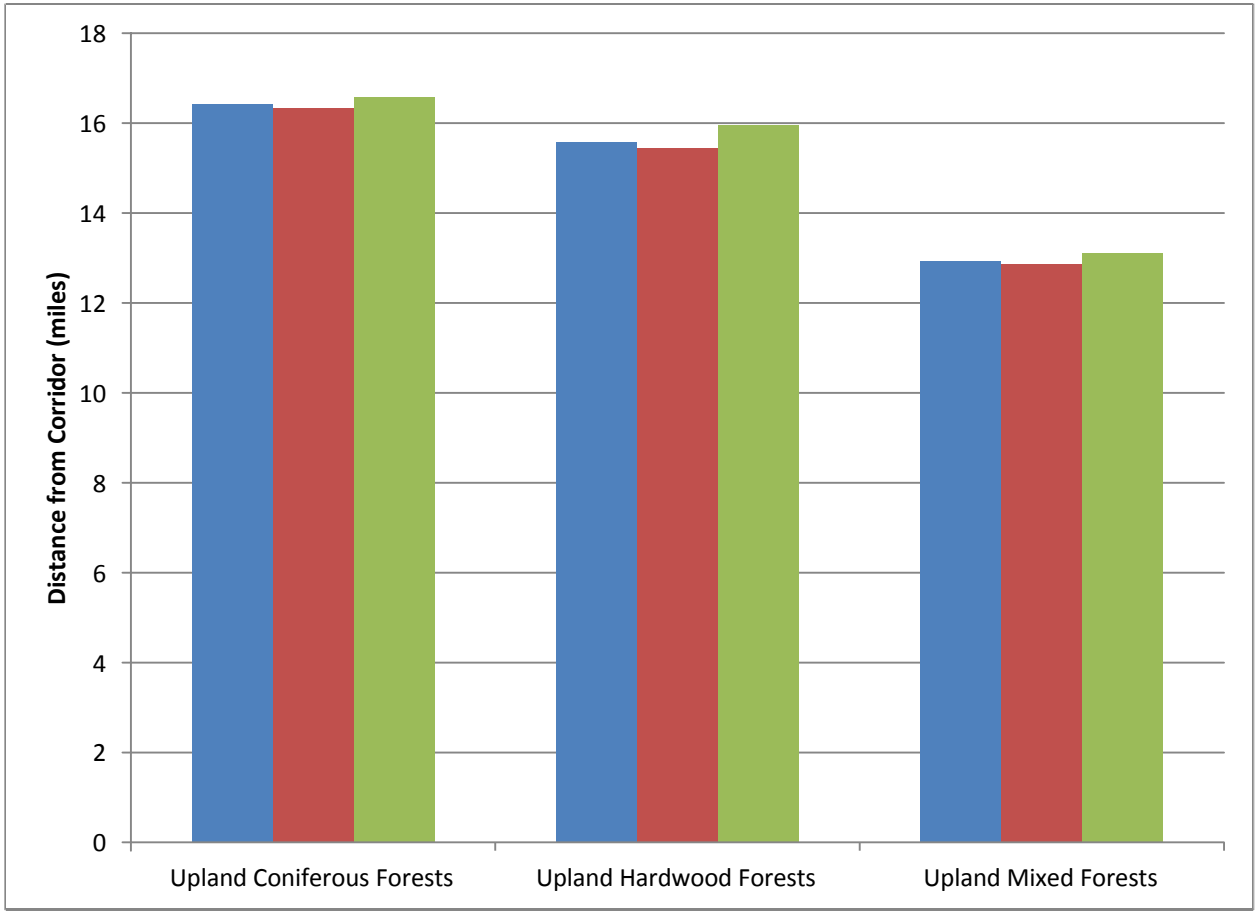


Figure 3-49. Relative risk in terms of distance of northern flicker preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

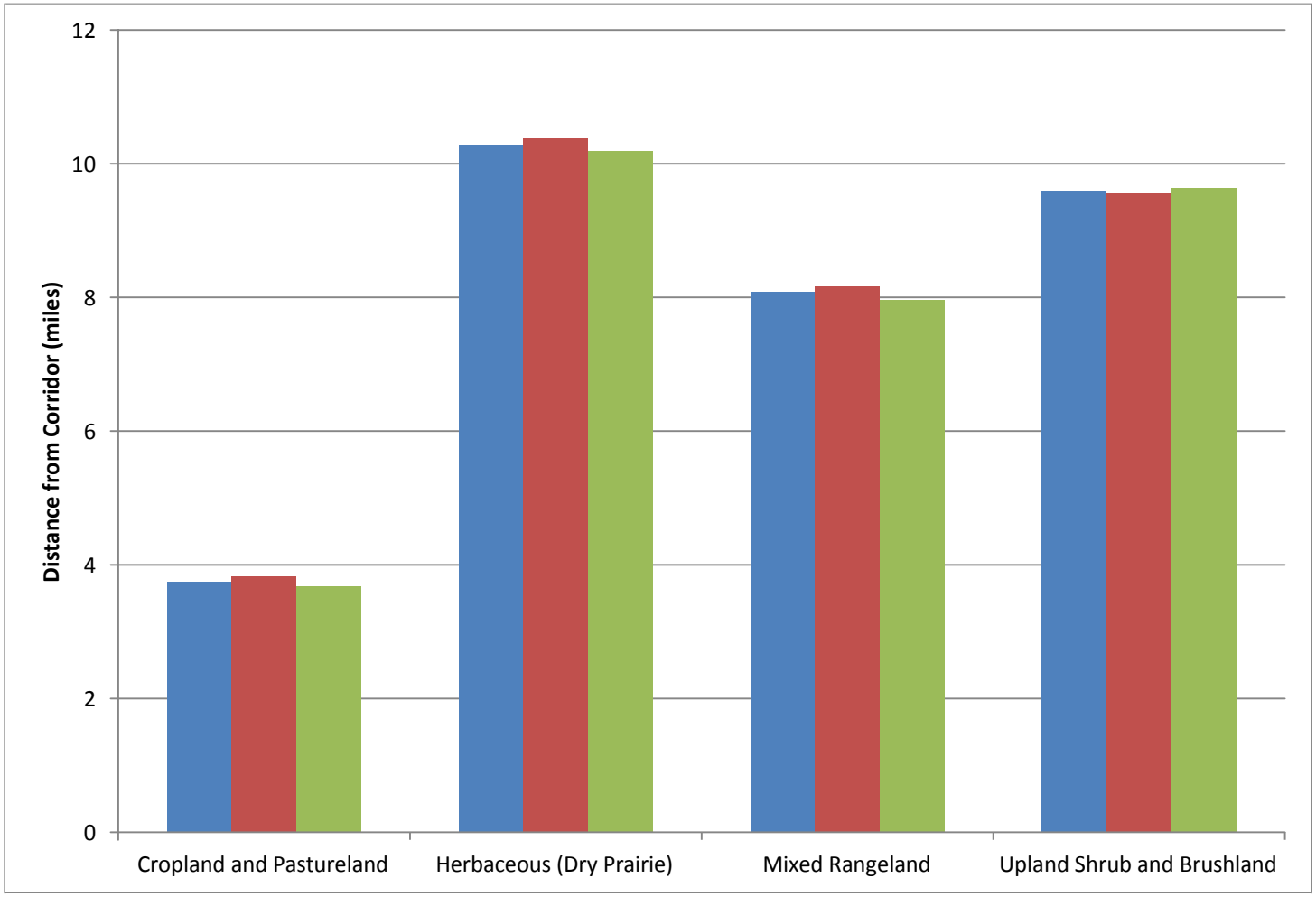


Figure 3-50. Relative risk in terms of distance of loggerhead shrike preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

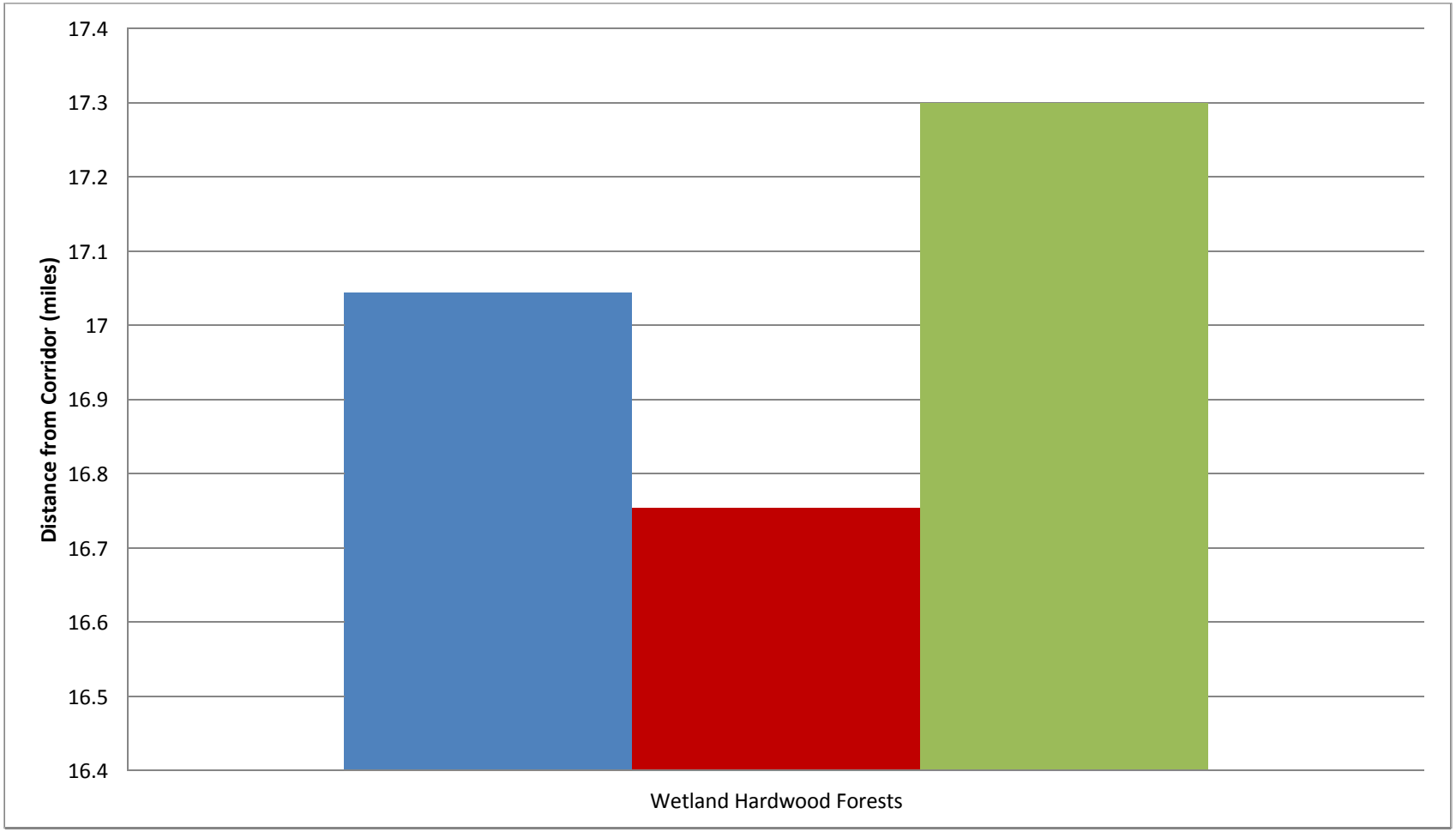


Figure 3-51. Relative risk in terms of distance of black whiskered vireo preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

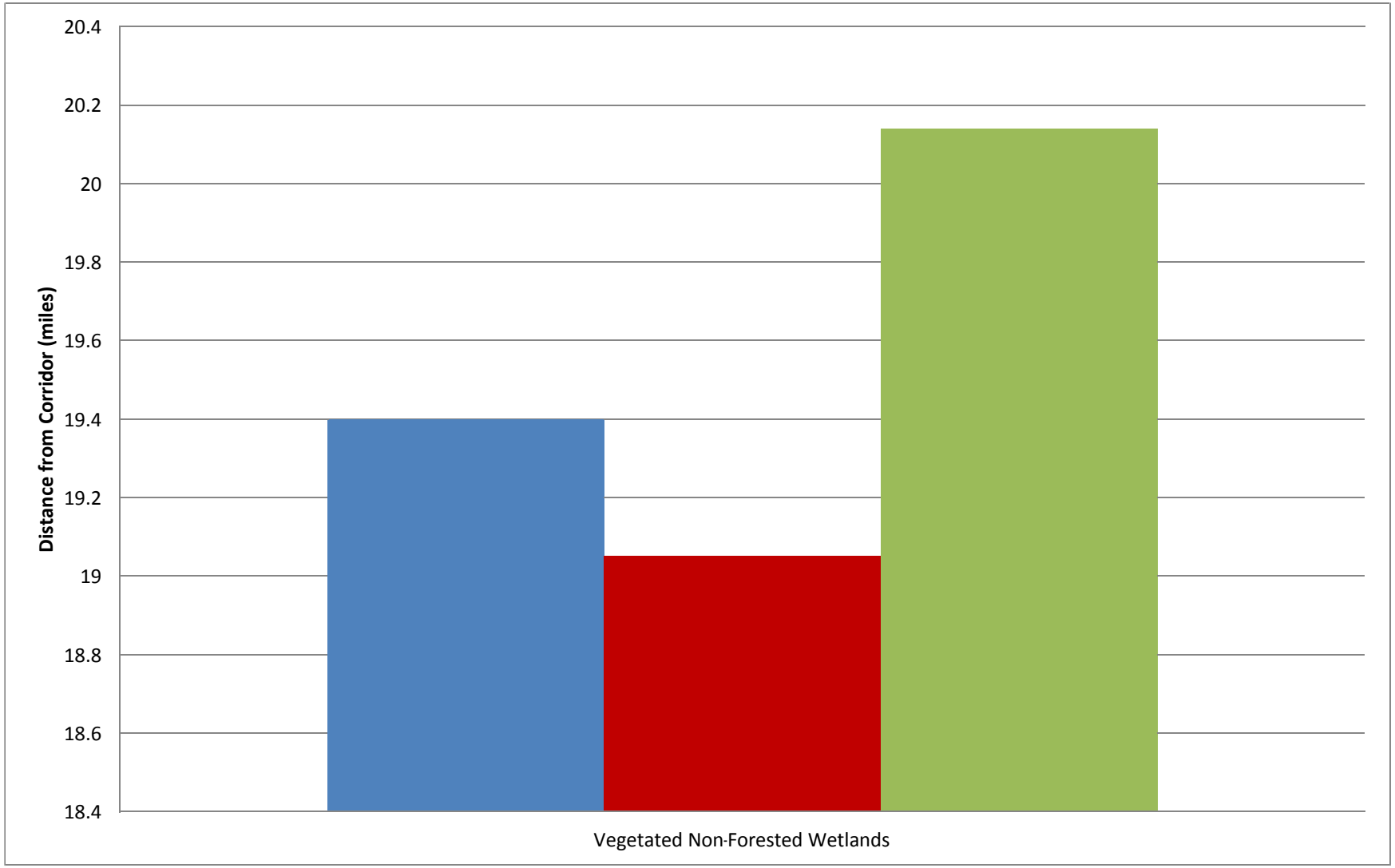


Figure 3-52. Relative risk in terms of distance of marsh wren preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

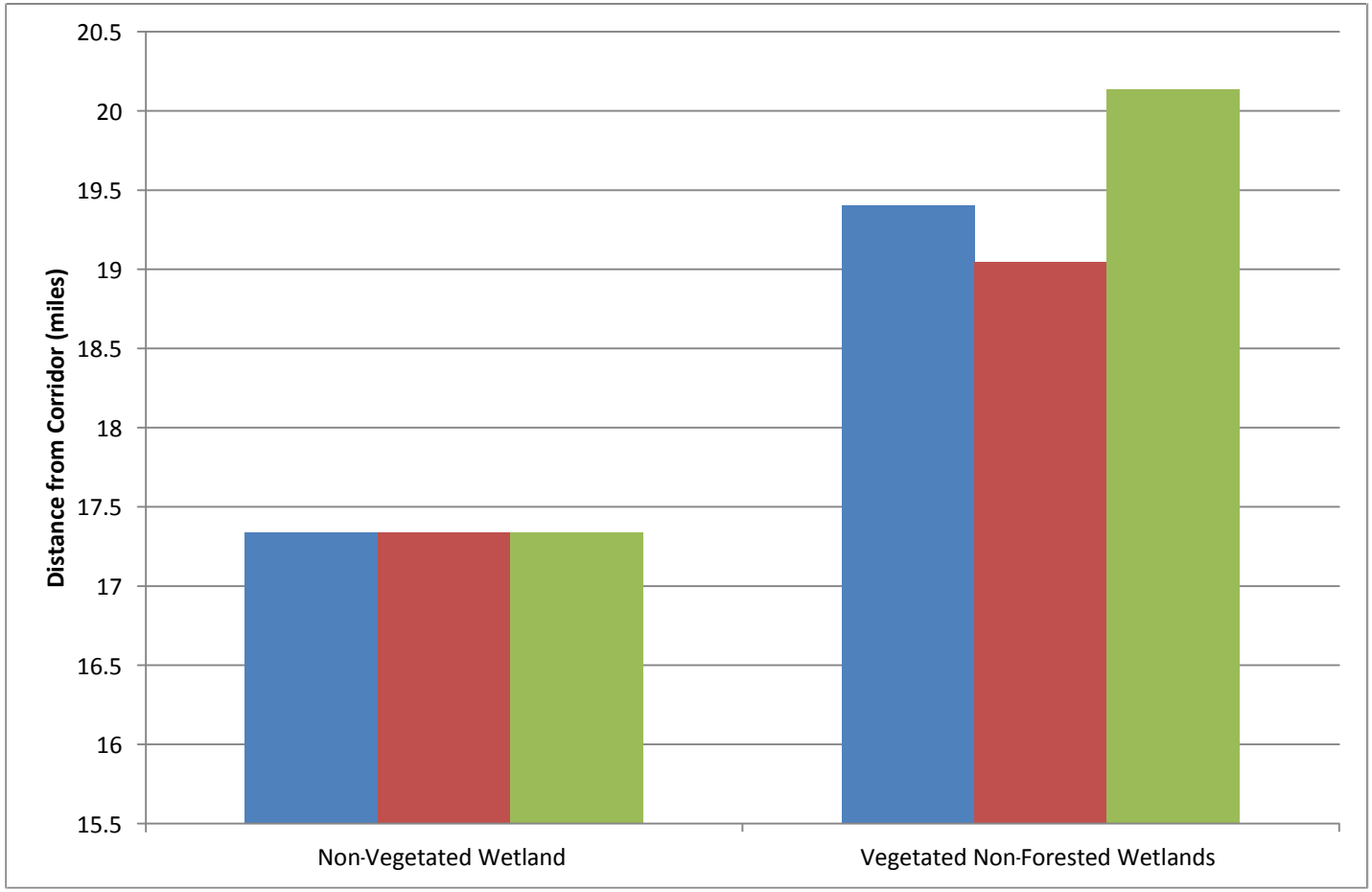


Figure 3-53. Relative risk in terms of distance of sedge wren preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

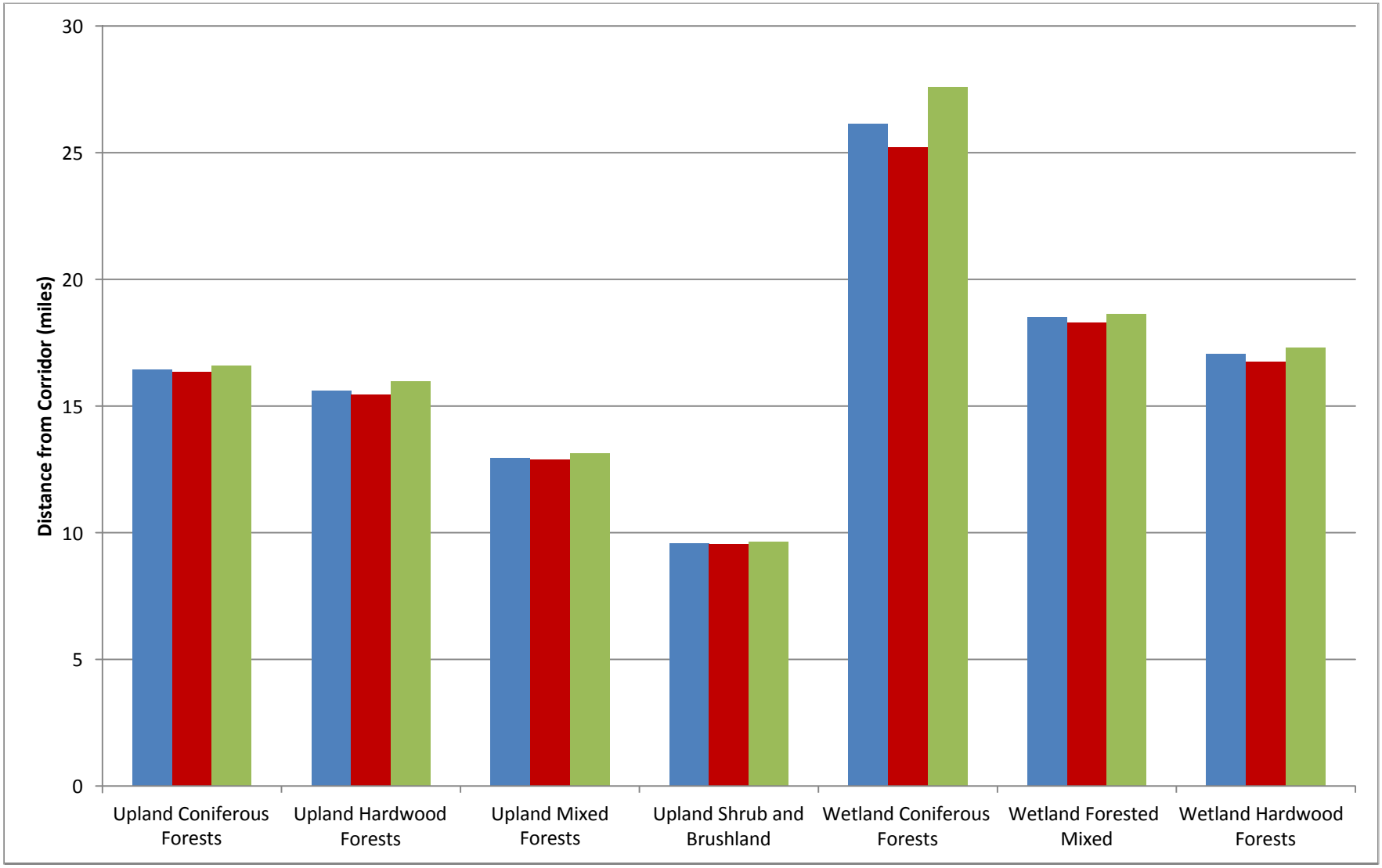


Figure 3-54. Relative risk in terms of distance of wood thrush preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

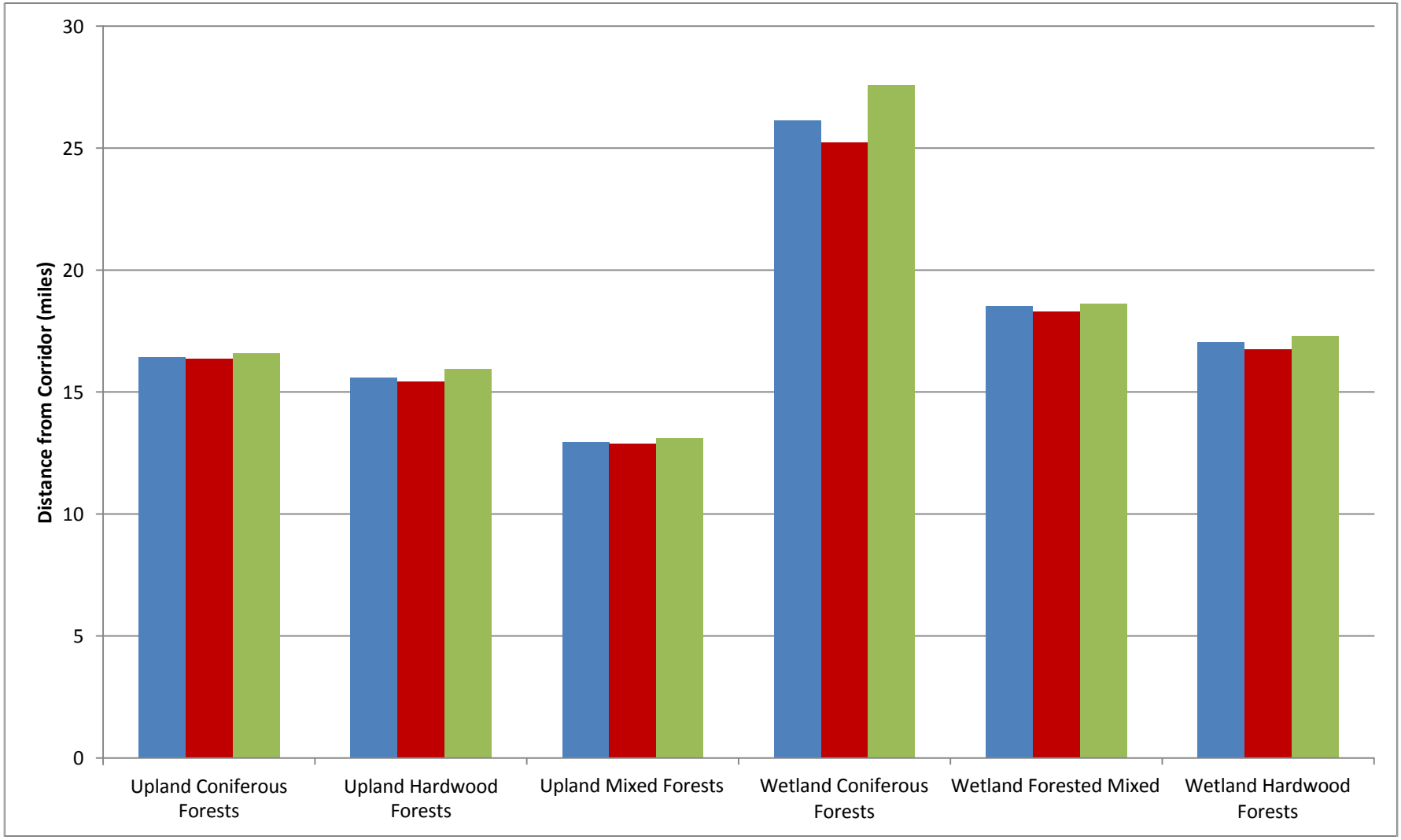


Figure 3-55. Relative risk in terms of distance of veery preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

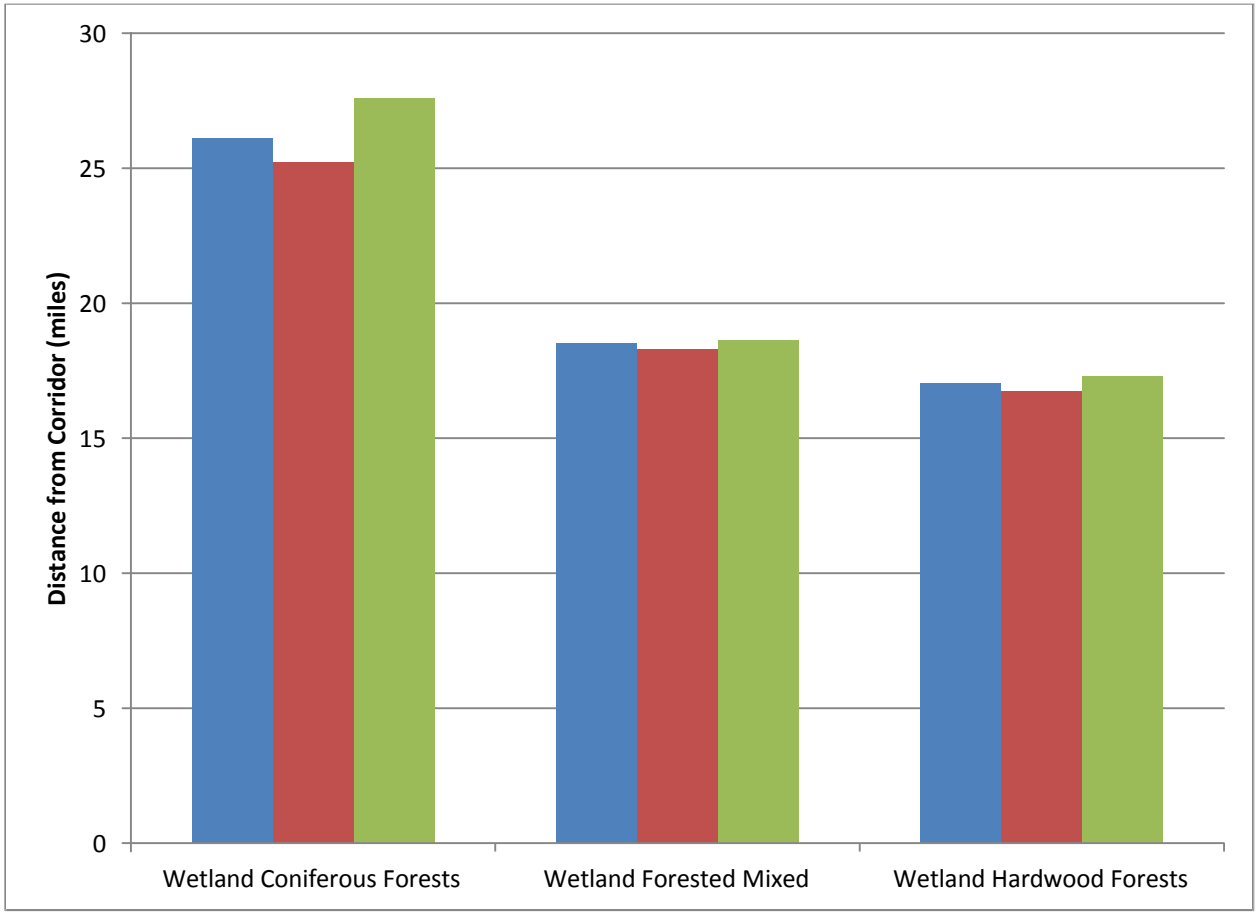


Figure 3-56. Relative risk in terms of distance of black throated blue warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

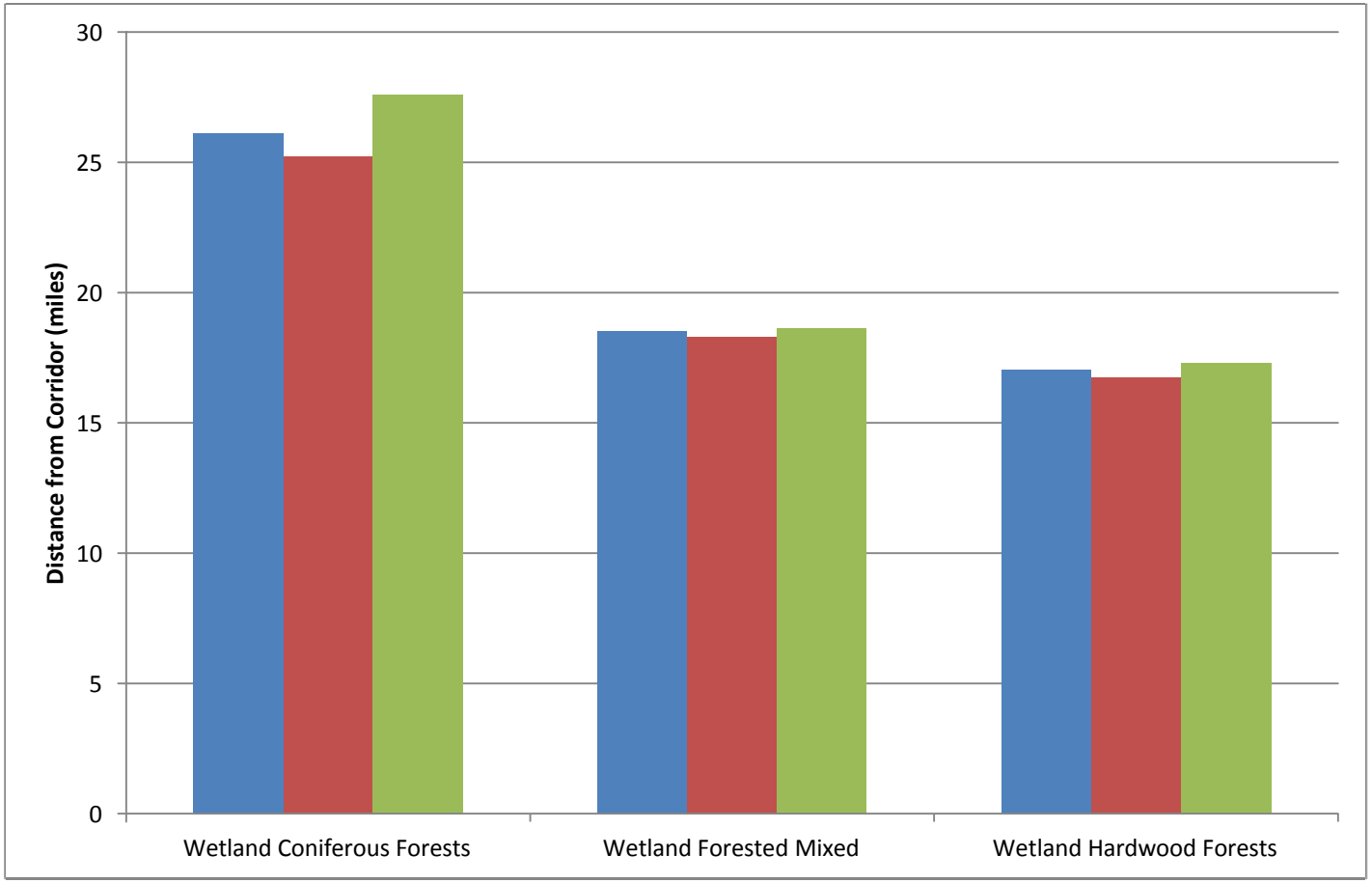


Figure 3-57. Relative risk in terms of distance of prairie warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

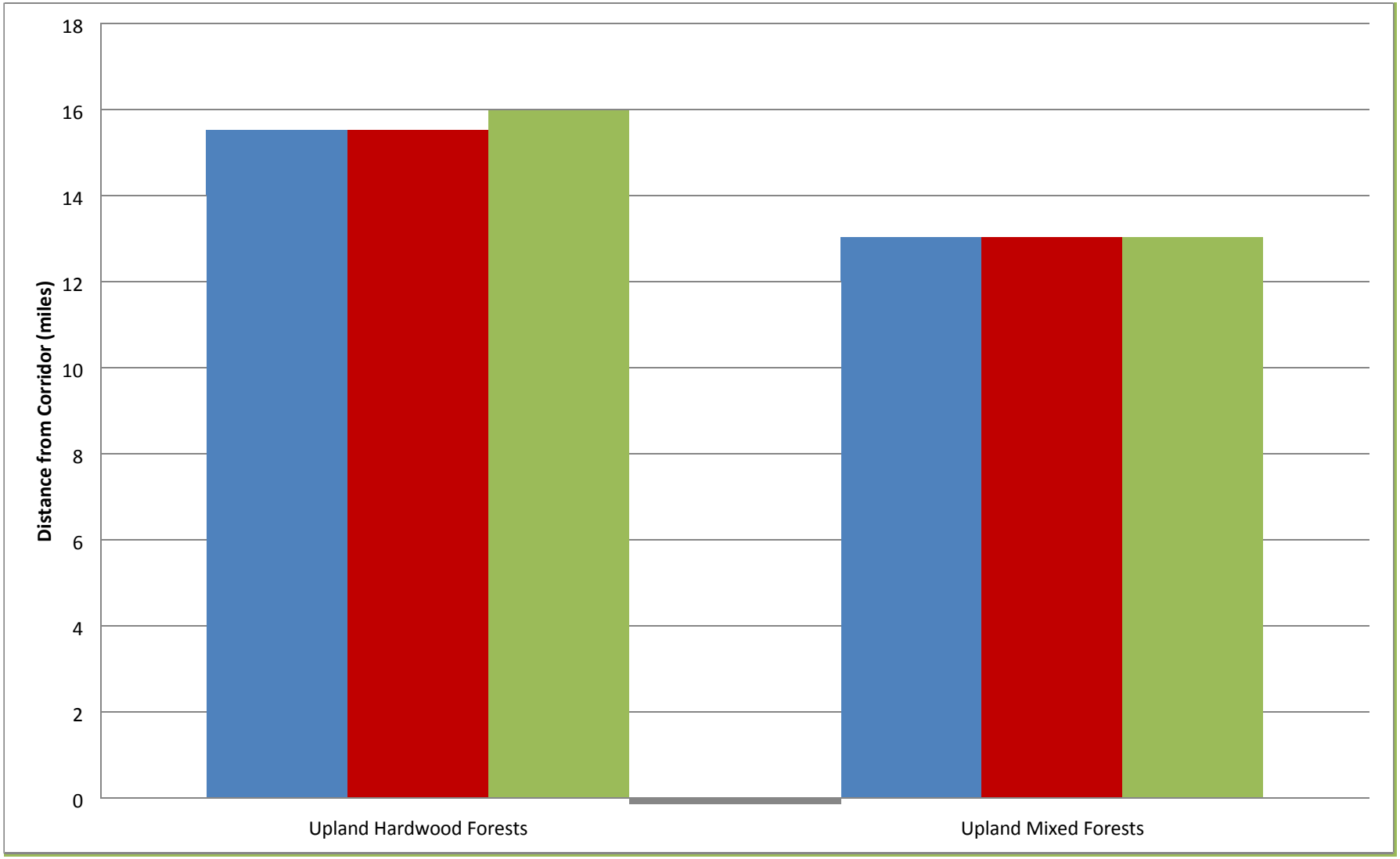


Figure 3-58. Relative risk in terms of distance of worm eating warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

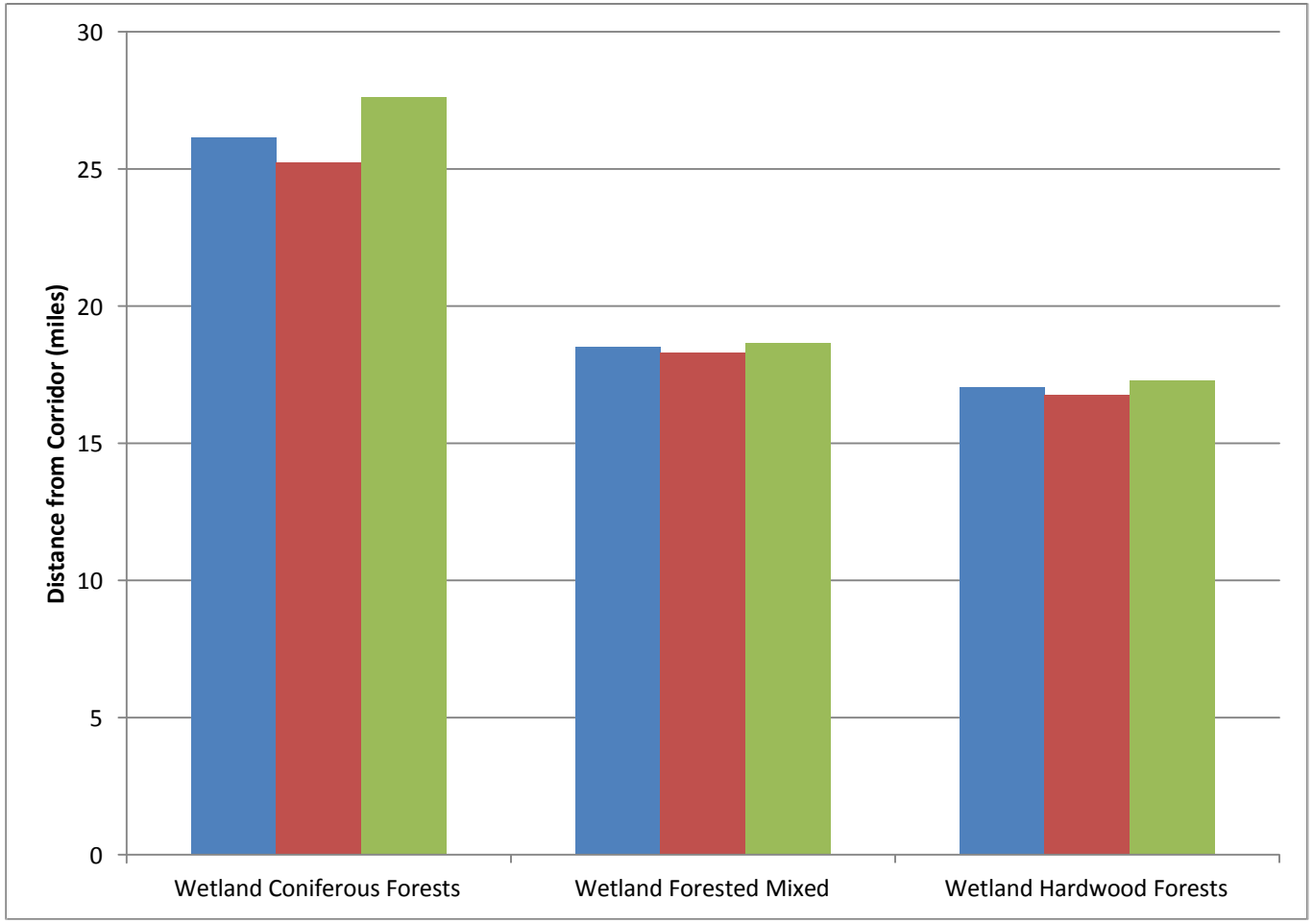


Figure 3-59. Relative risk in terms of distance of Swainson's warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

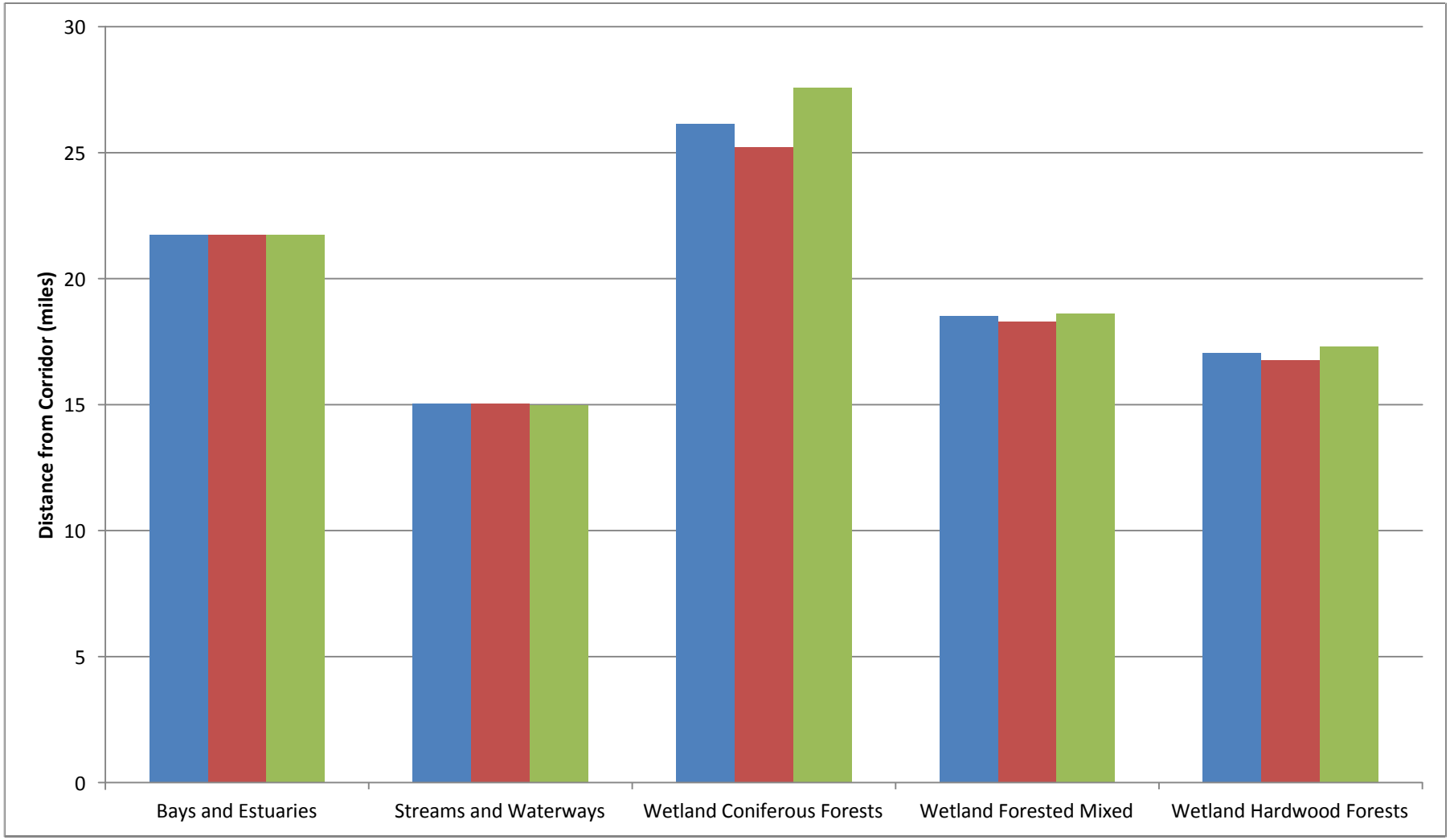


Figure 3-60. Relative risk in terms of distance of Louisiana waterthrush preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

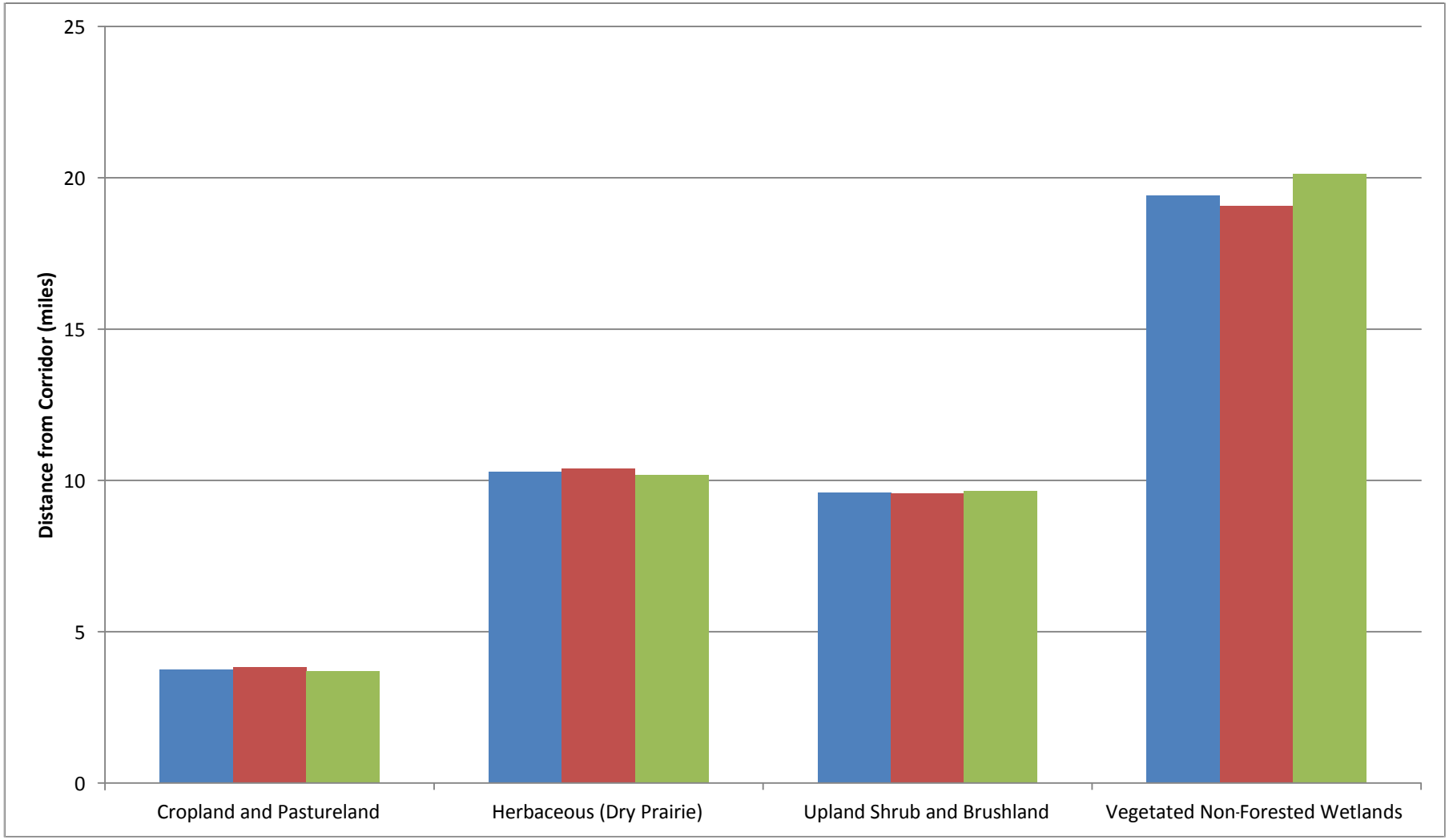


Figure 3-61. Relative risk in terms of distance of bobolink preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

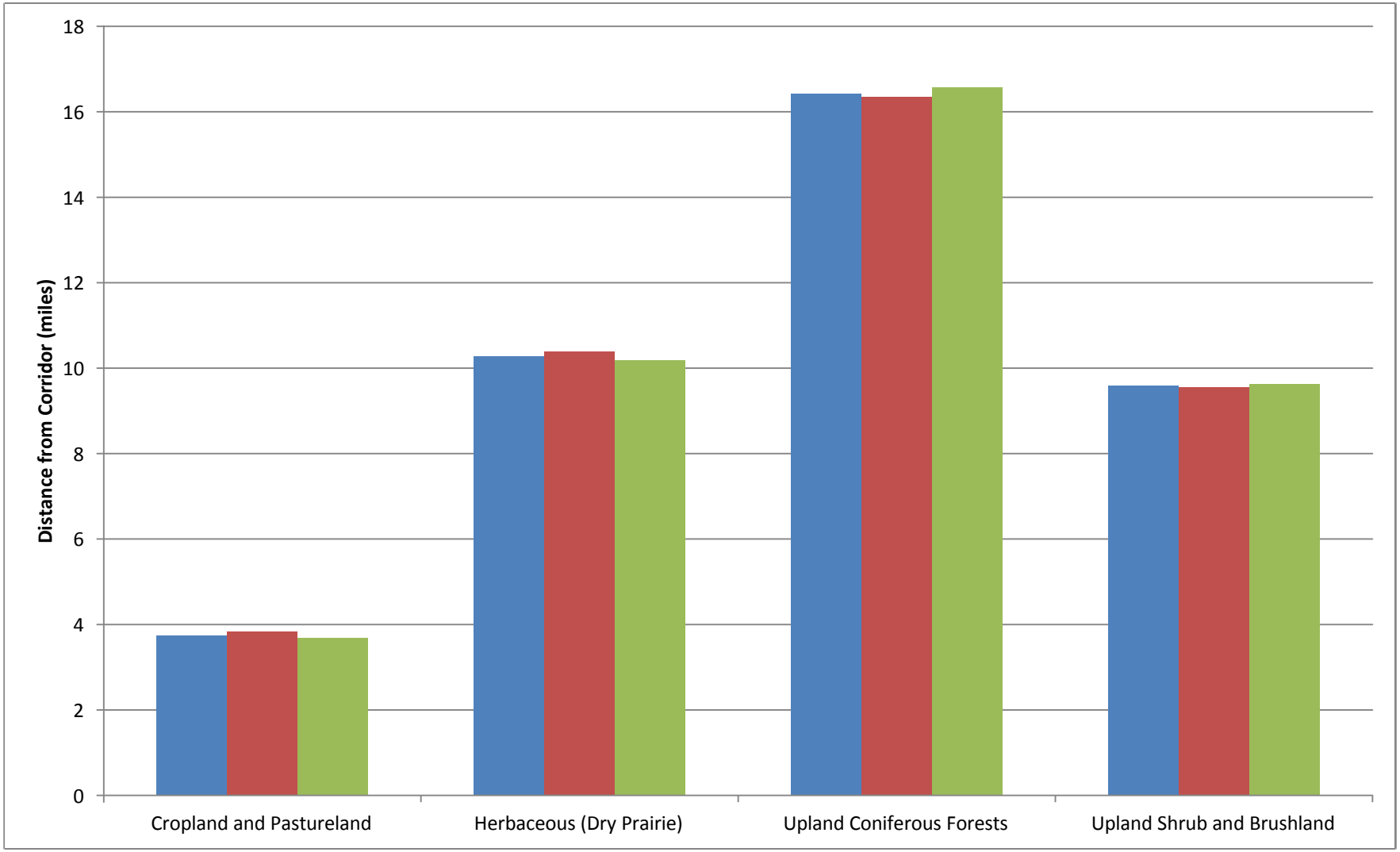


Figure 3-62. Relative risk in terms of distance of Eastern meadowlark preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

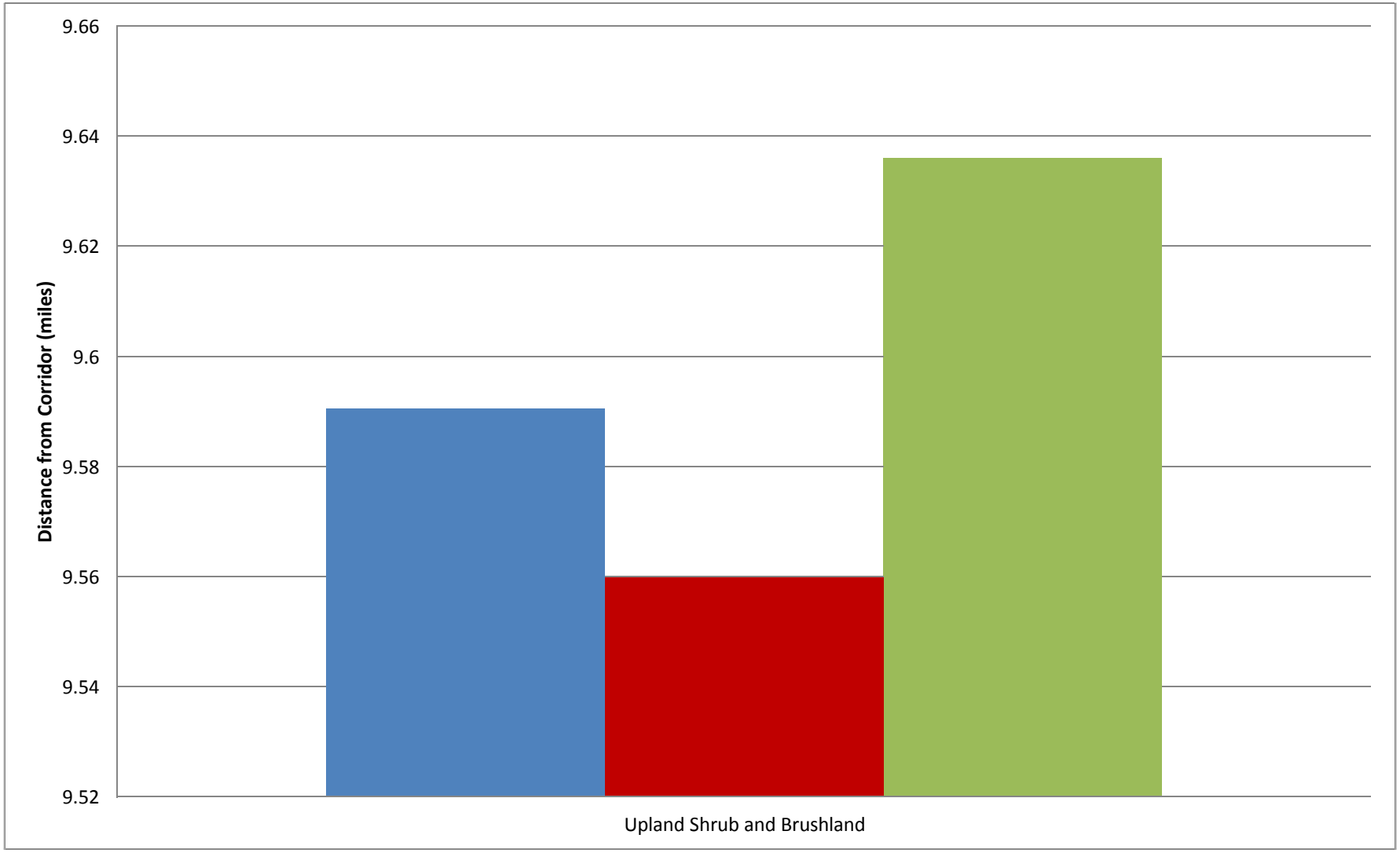


Figure 3-63. Relative risk in terms of distance of painted bunting preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

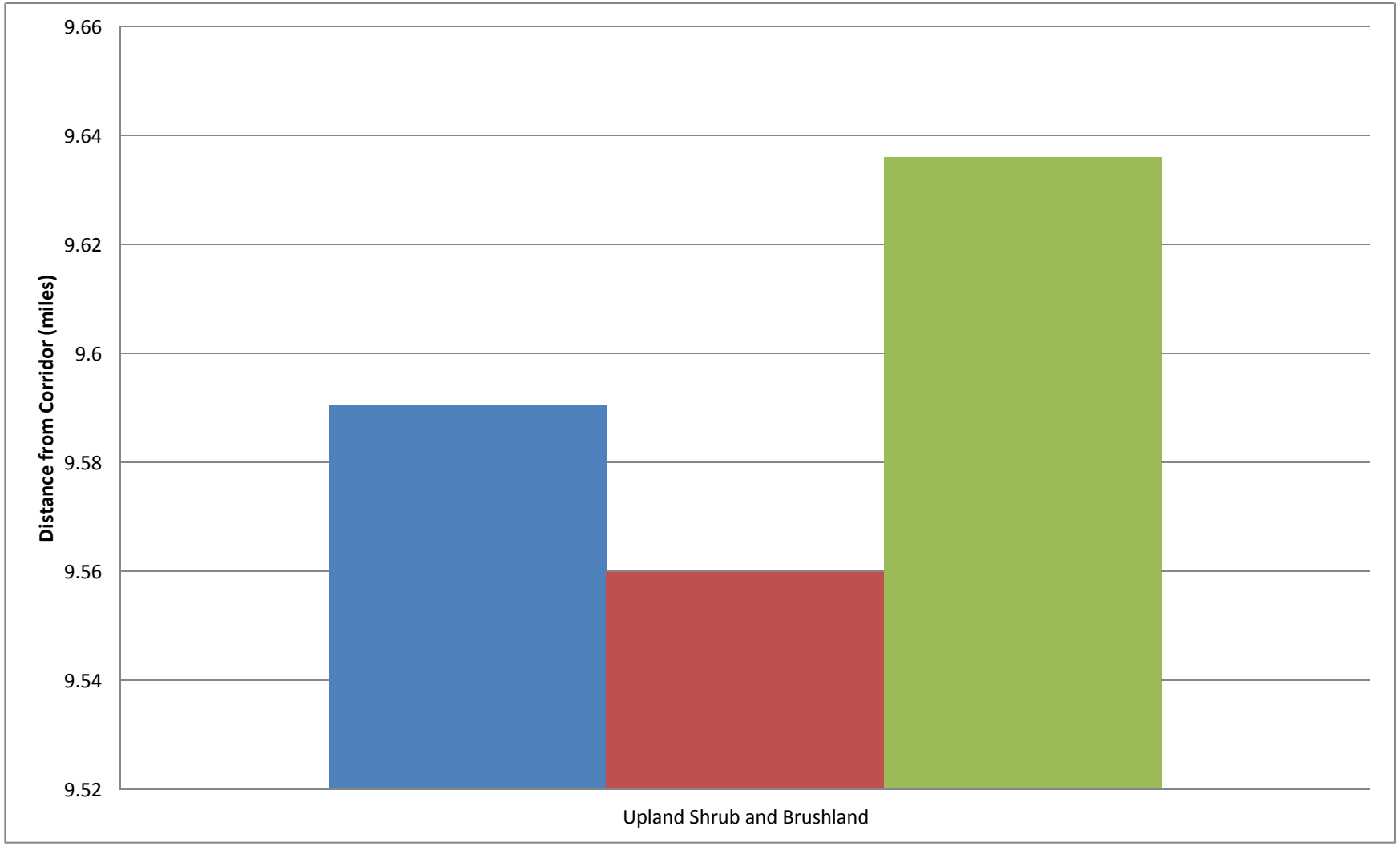


Figure 3-64. Relative risk in terms of distance of field sparrow preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

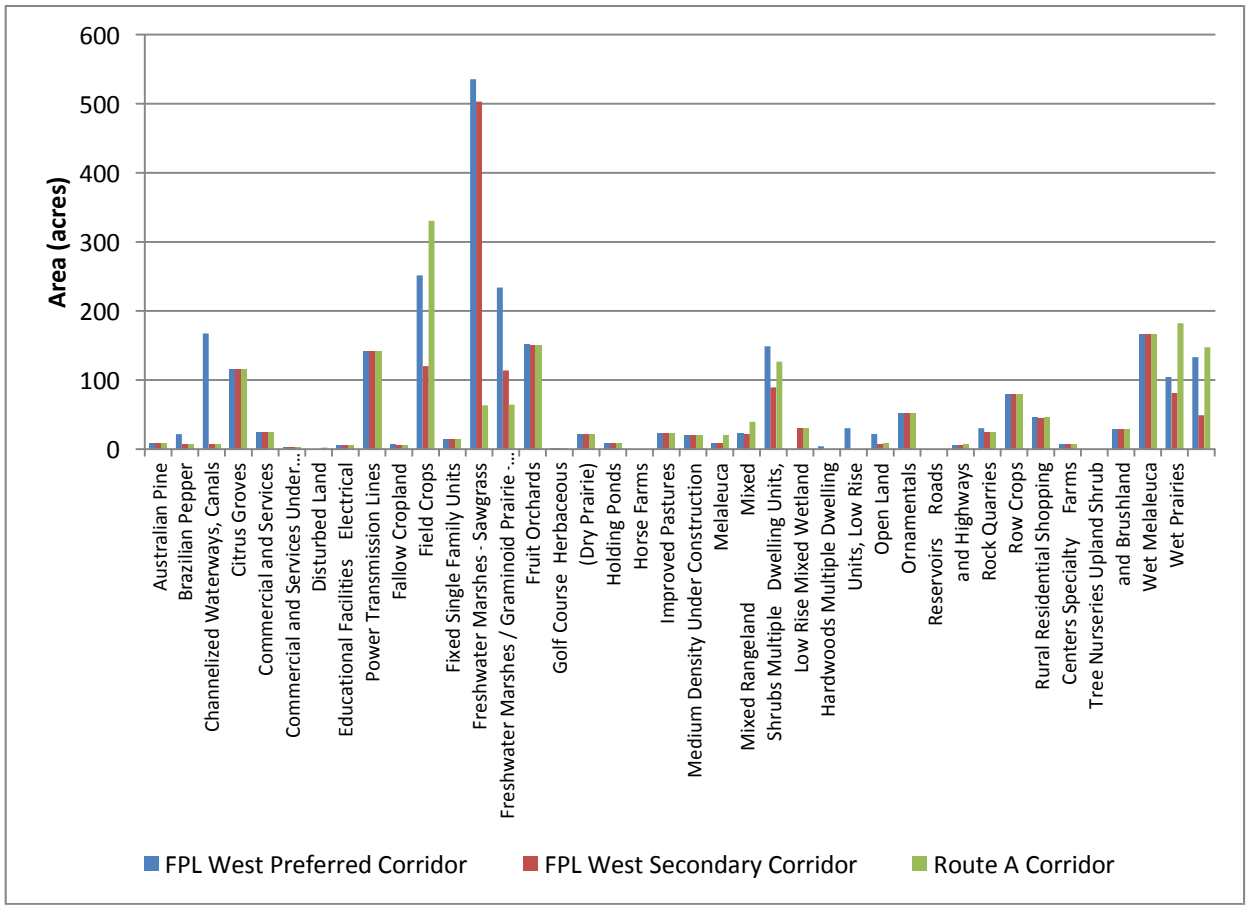


Figure 3-65. Area of each type of habitat (Level 3 land use land cover classification) located in each potential transmission corridor.

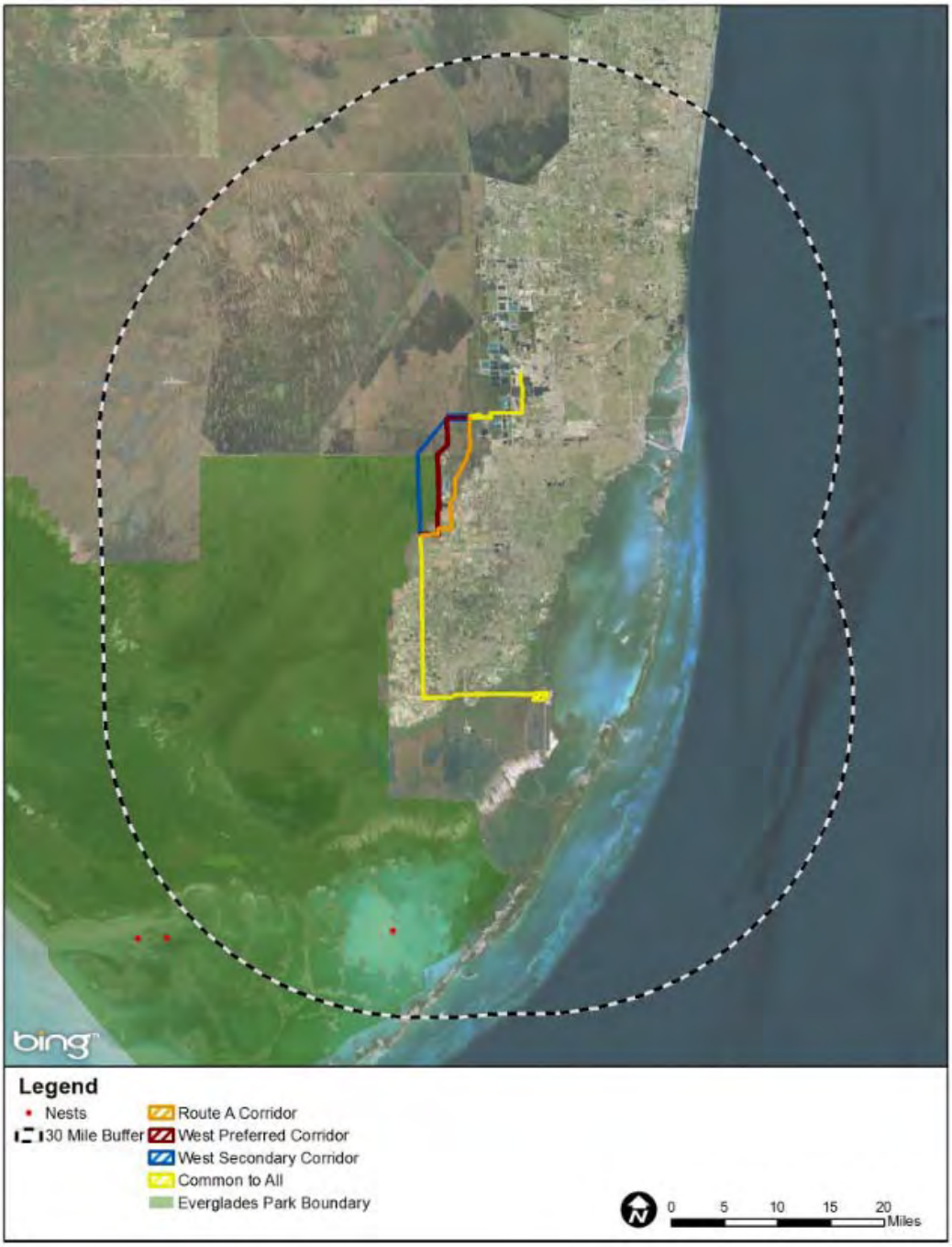


Figure 4-1. Brown pelican nest within the 30-mile study boundary of the transmission corridors.

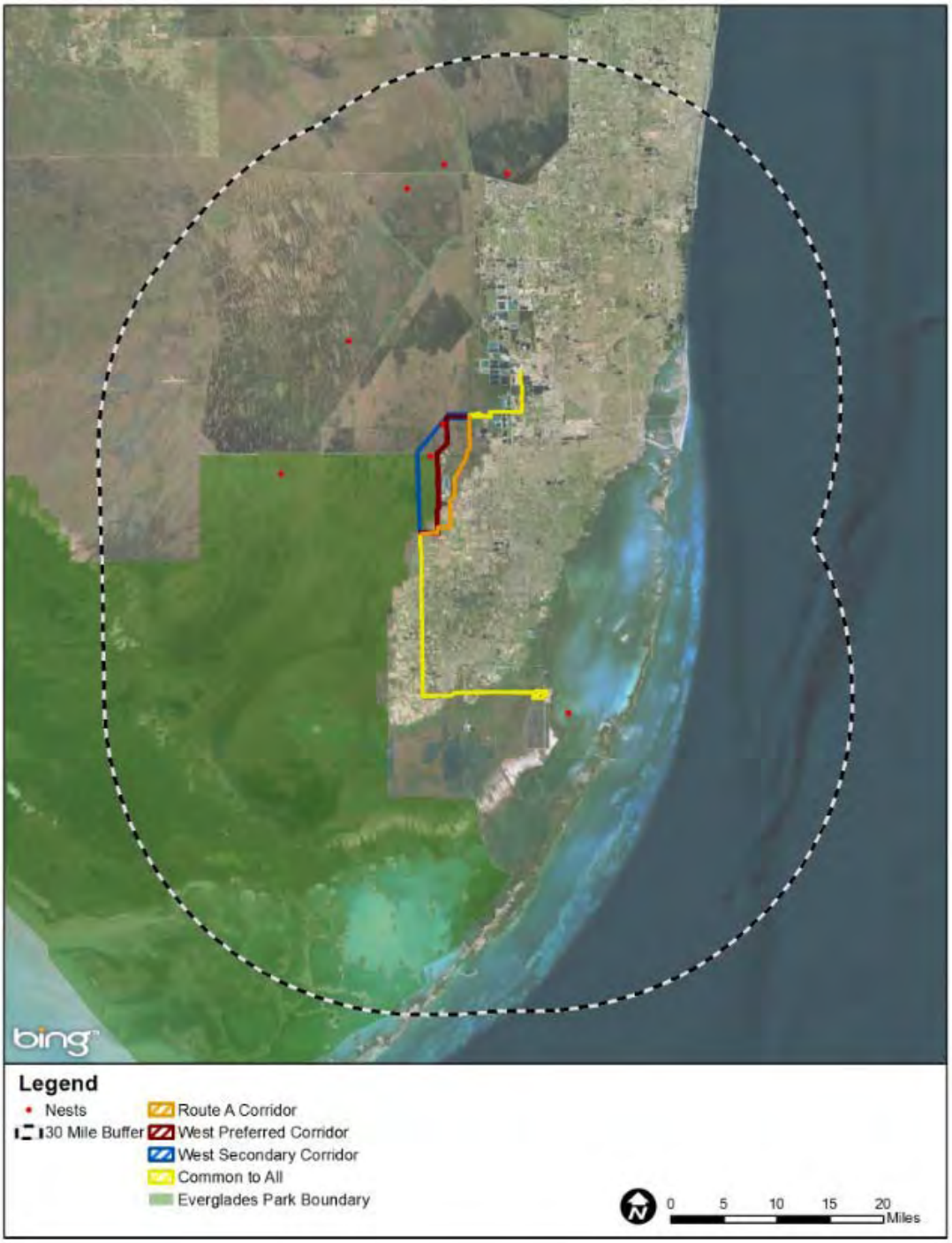


Figure 4-2. Anhinga nests within the 30-mile study boundary of the transmission corridors.

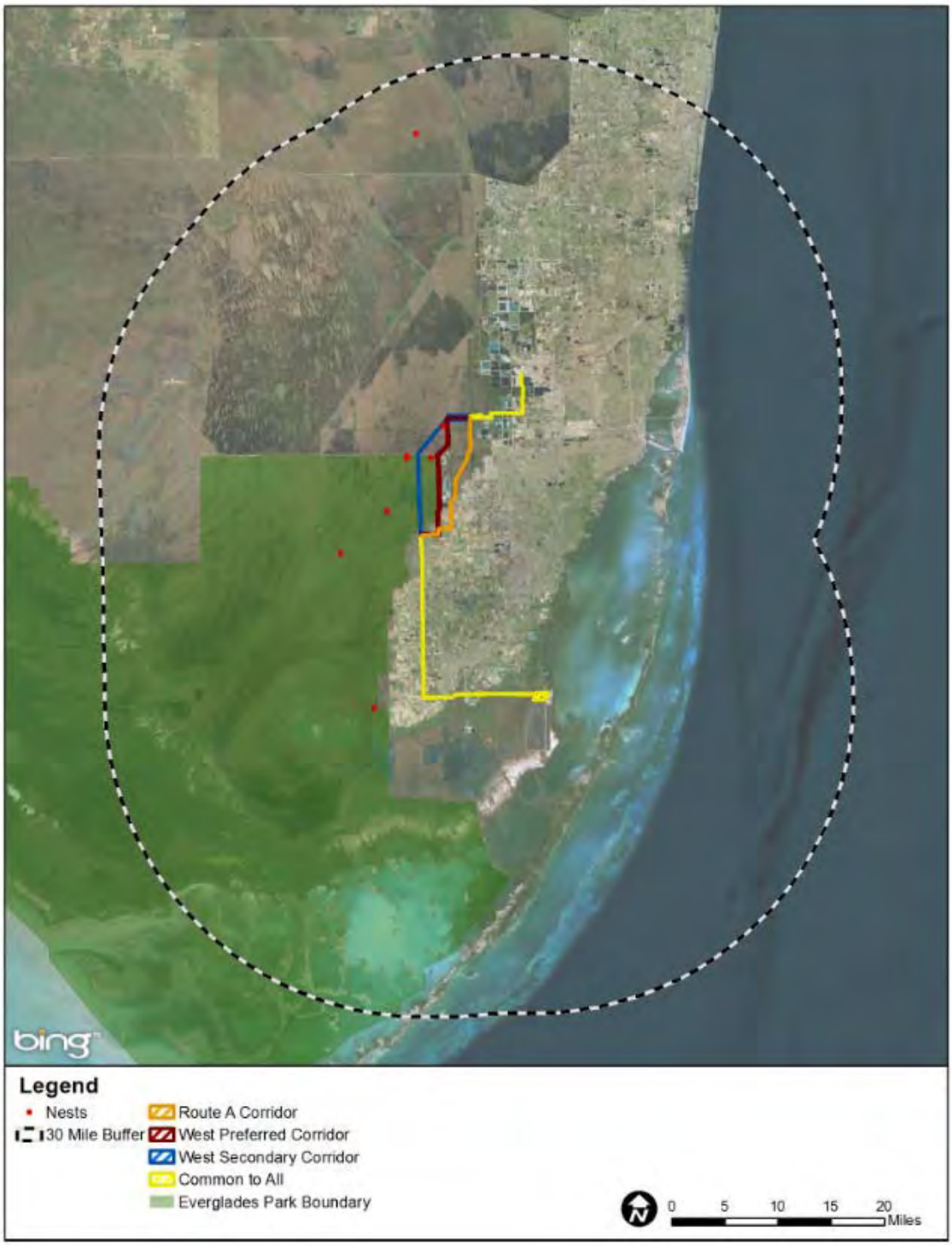


Figure 4-3. Black-crowned heron nests within the 30-mile study boundary of the transmission corridors.

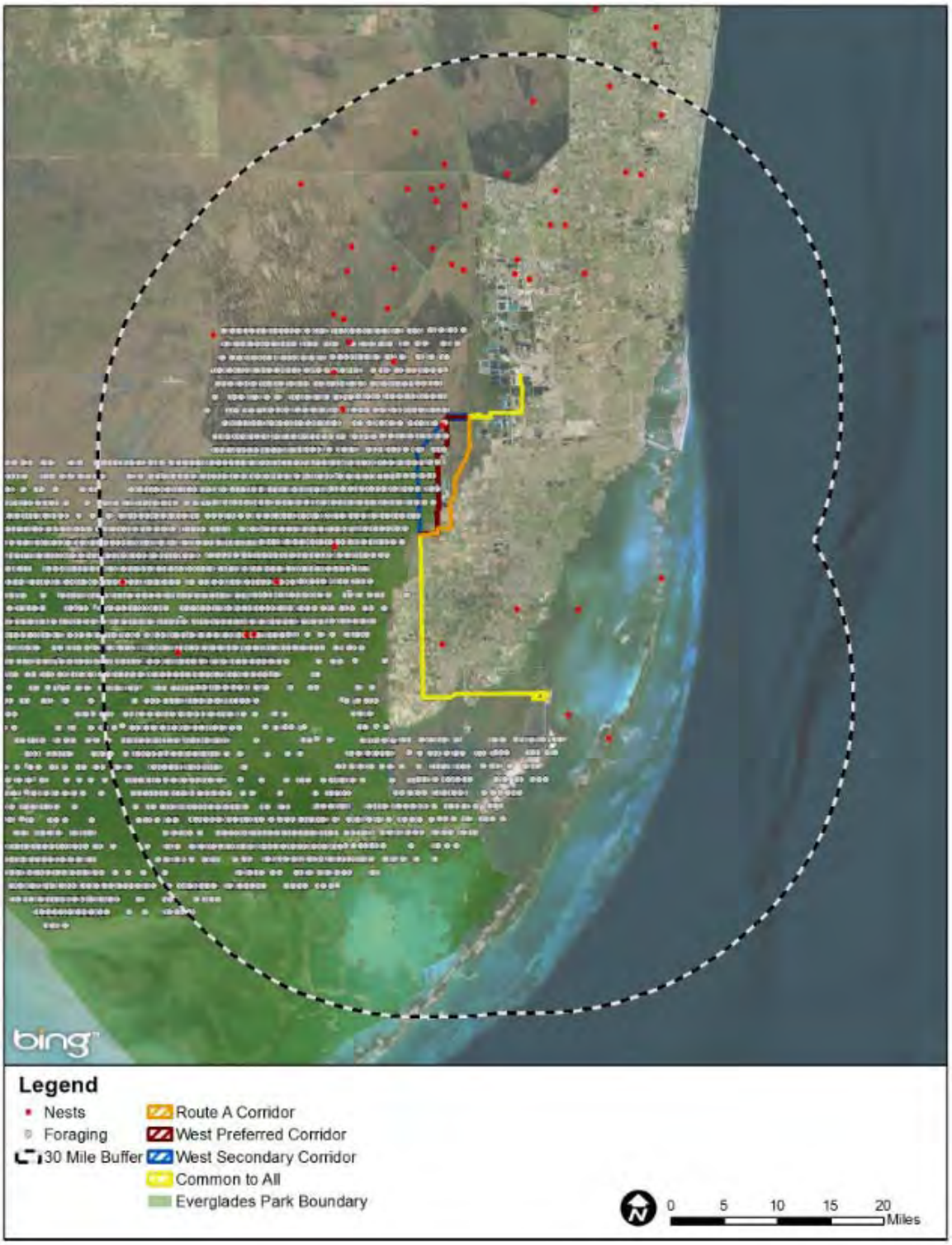


Figure 4-4. Great blue heron nests and foraging locations within the 30-mile study boundary of the transmission corridors.

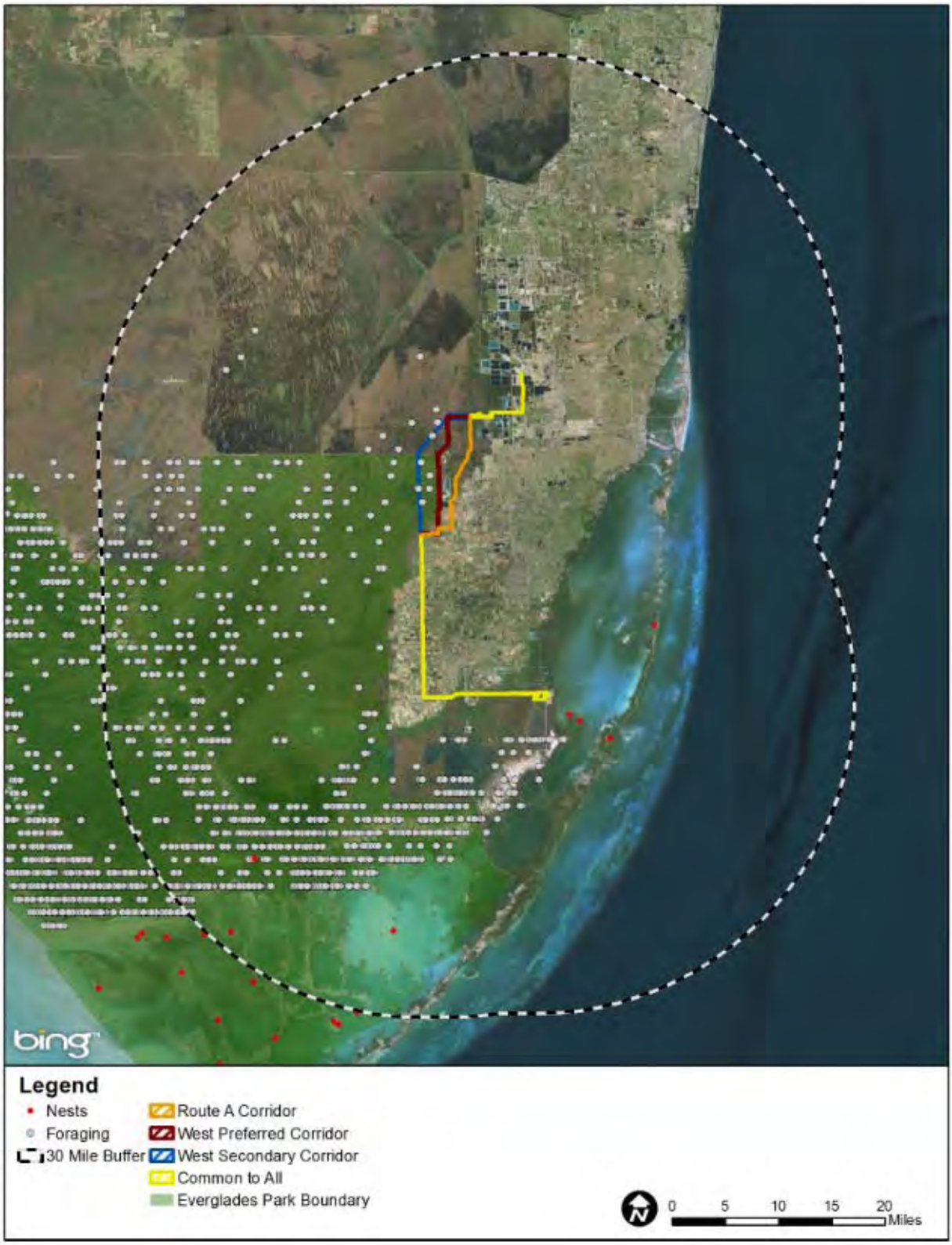


Figure 4-5. Great white heron nests and foraging locations within the 30-mile study boundary of the transmission corridors.

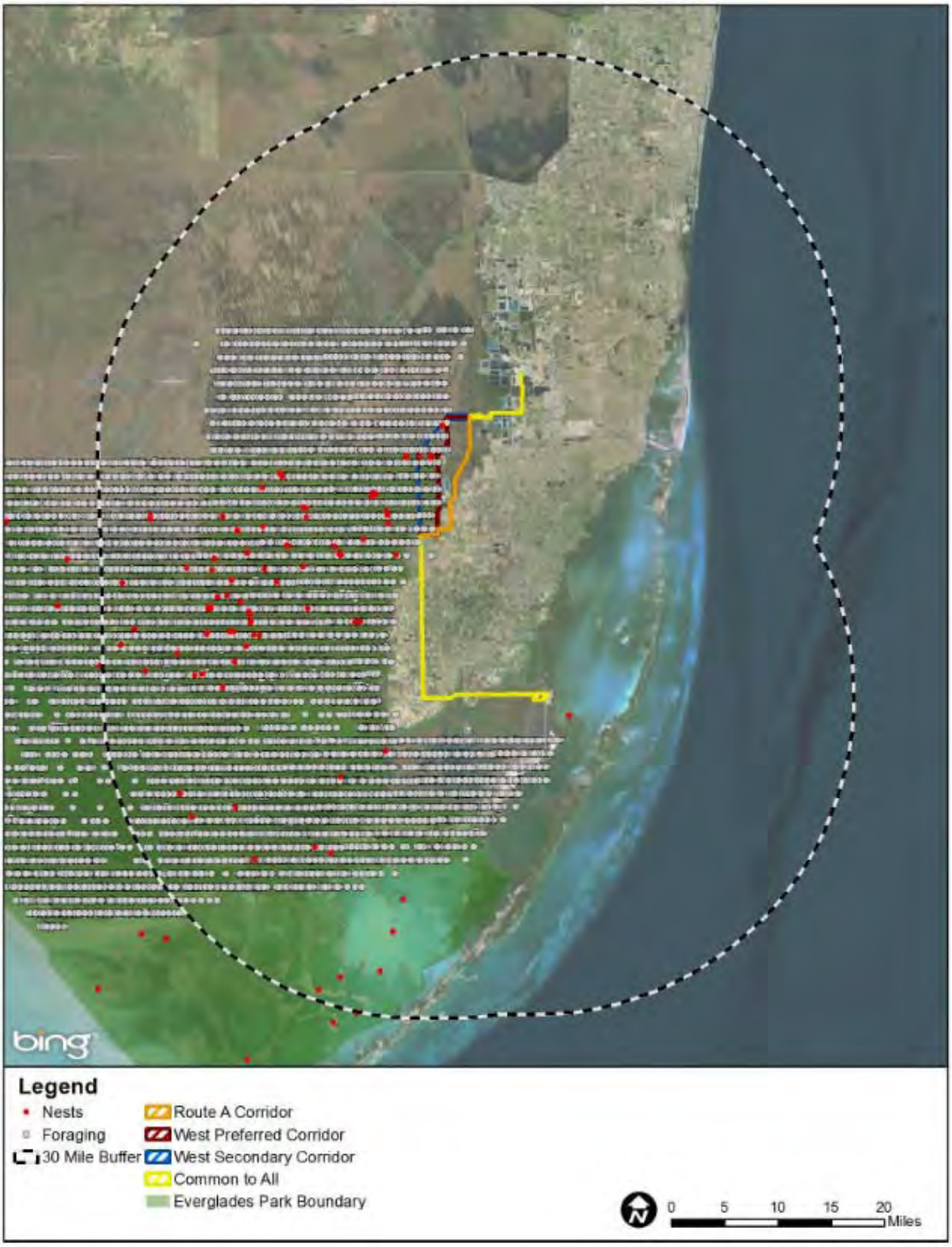


Figure 4-6. Great egret nests and foraging locations within the 30-mile study boundary of the transmission corridors.

Figure 4-7. Little blue heron nests within the 30-mile study boundary of 7the transmission corridors

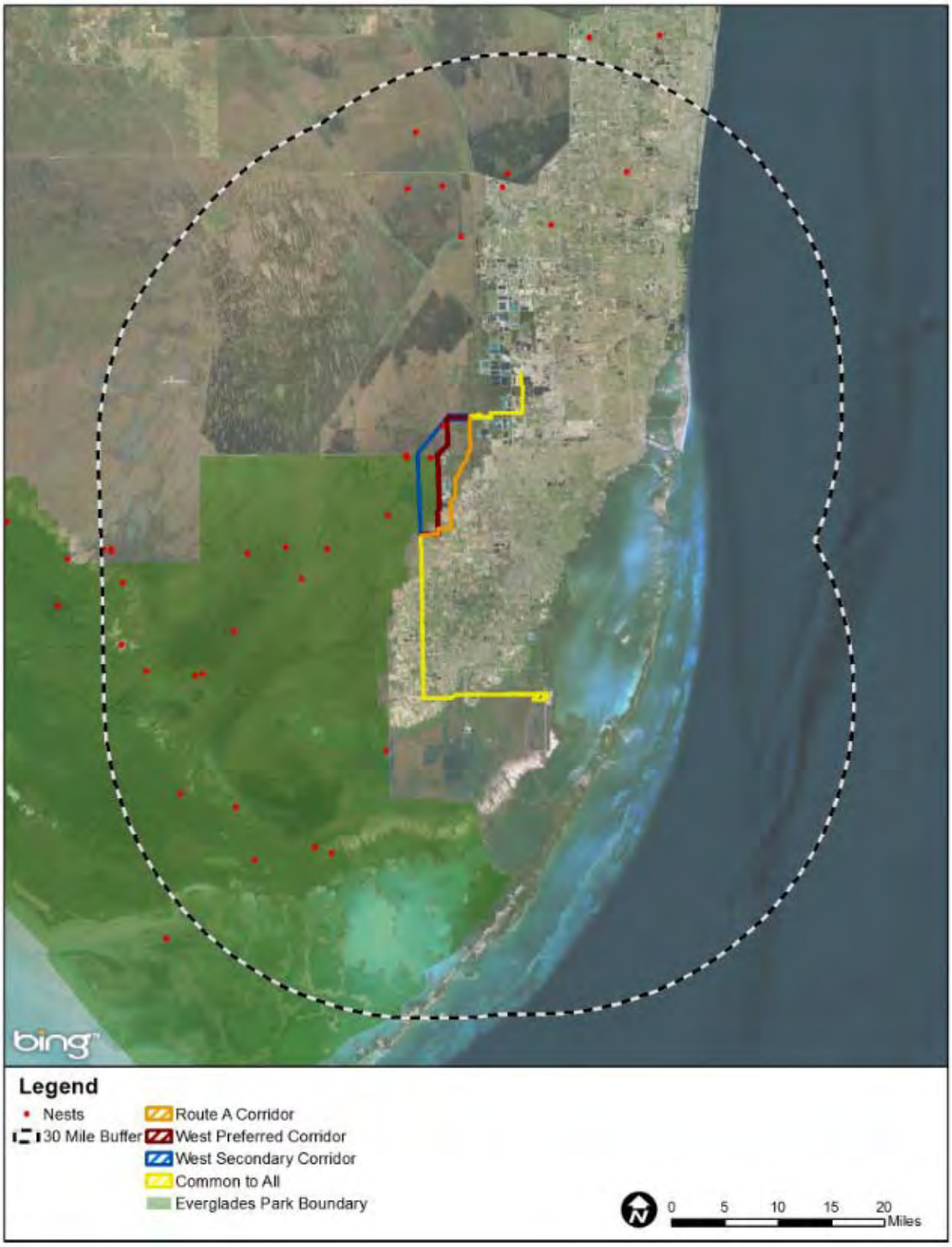


Figure 4-8. Snowy egret nests within the 30-mile study boundary of the transmission corridors.

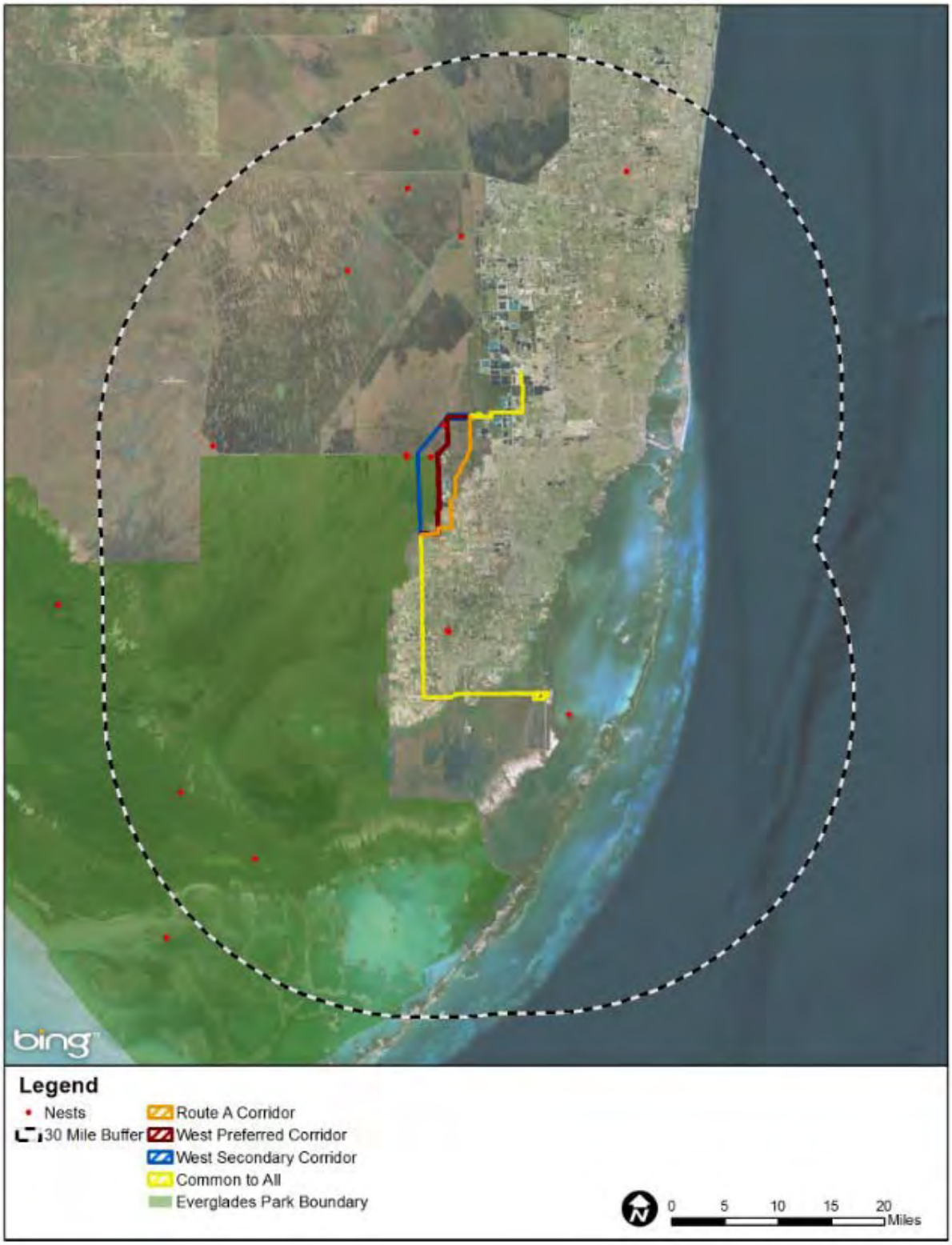


Figure 4-9. Tricolored heron nests within the 30-mile study boundary of the transmission corridors.

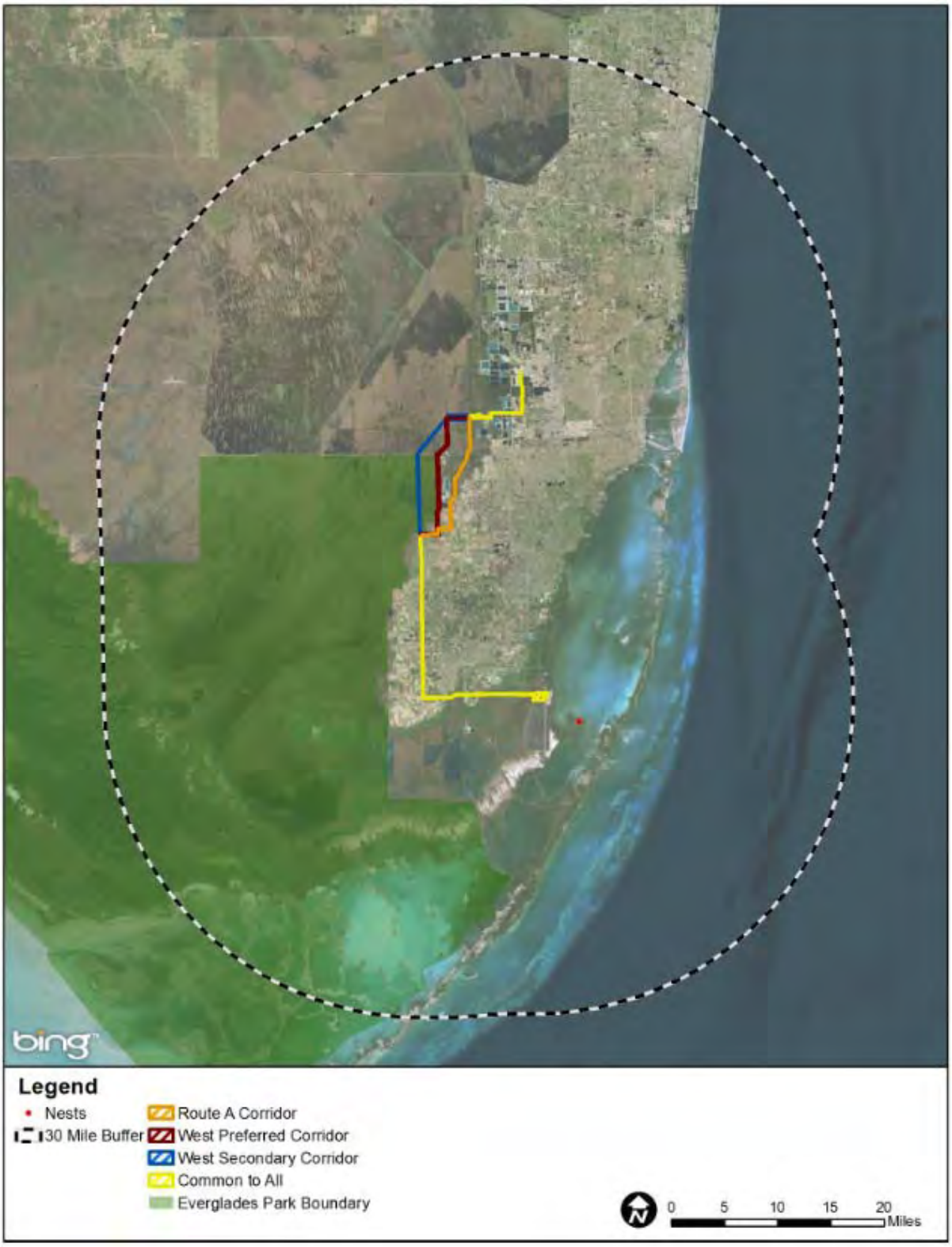


Figure 4-10. Reddish egret nest within the 30-mile study boundary of the transmission corridors.

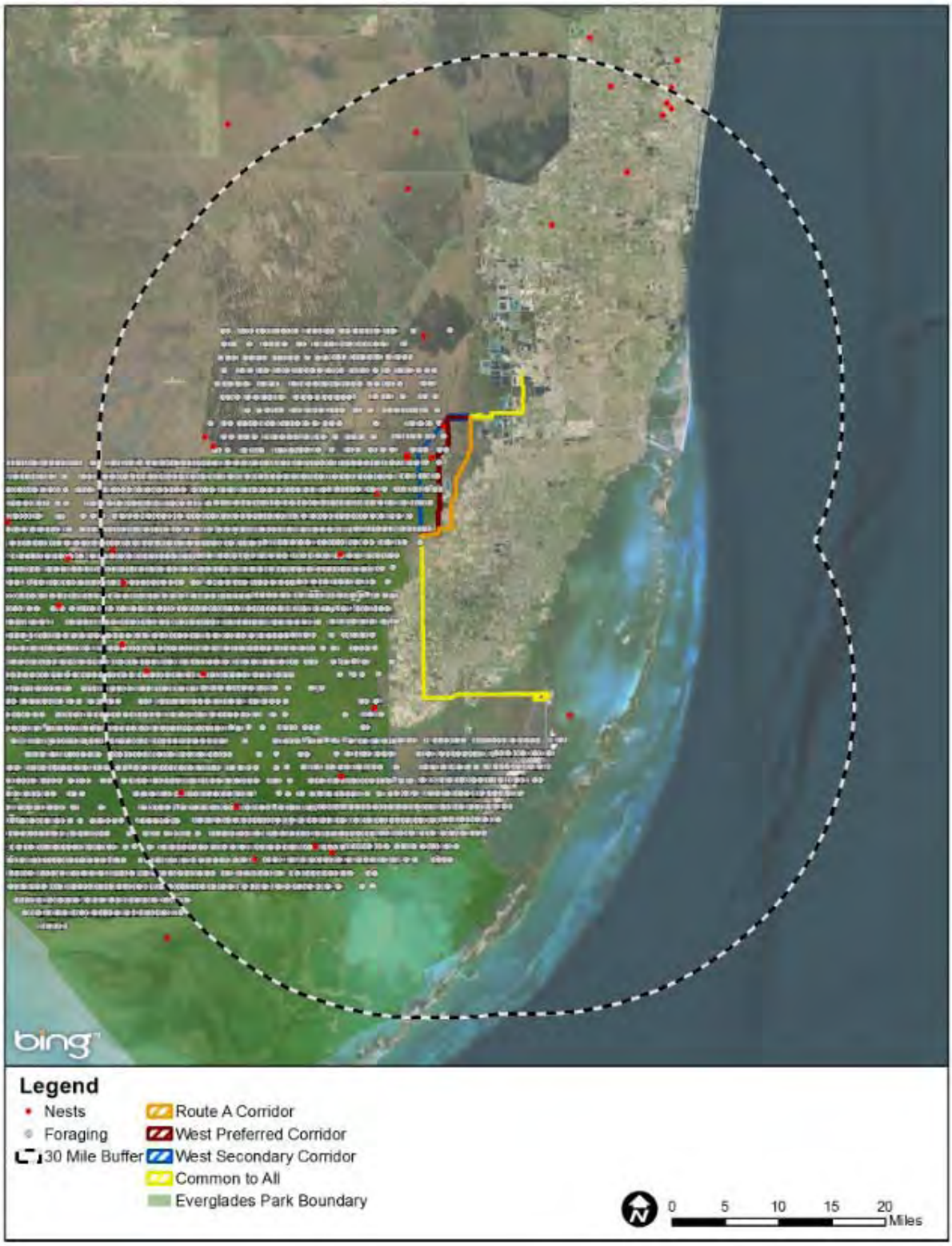


Figure 4-11. White ibis nests and foraging locations within the 30-mile study boundary of the transmission corridors.

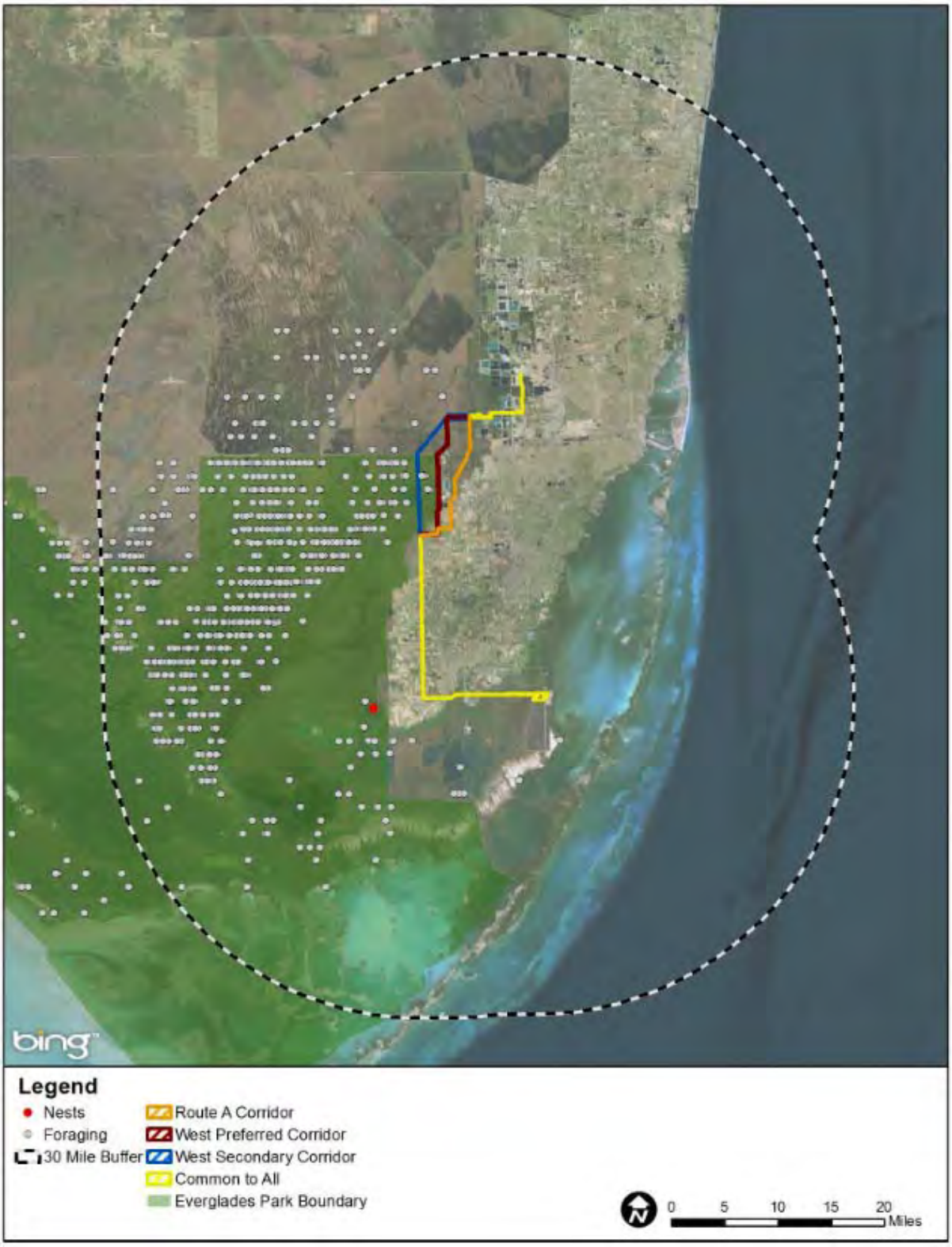


Figure 4-12. Glossy ibis nests and foraging locations within the 30-mile study boundary of the transmission corridors.

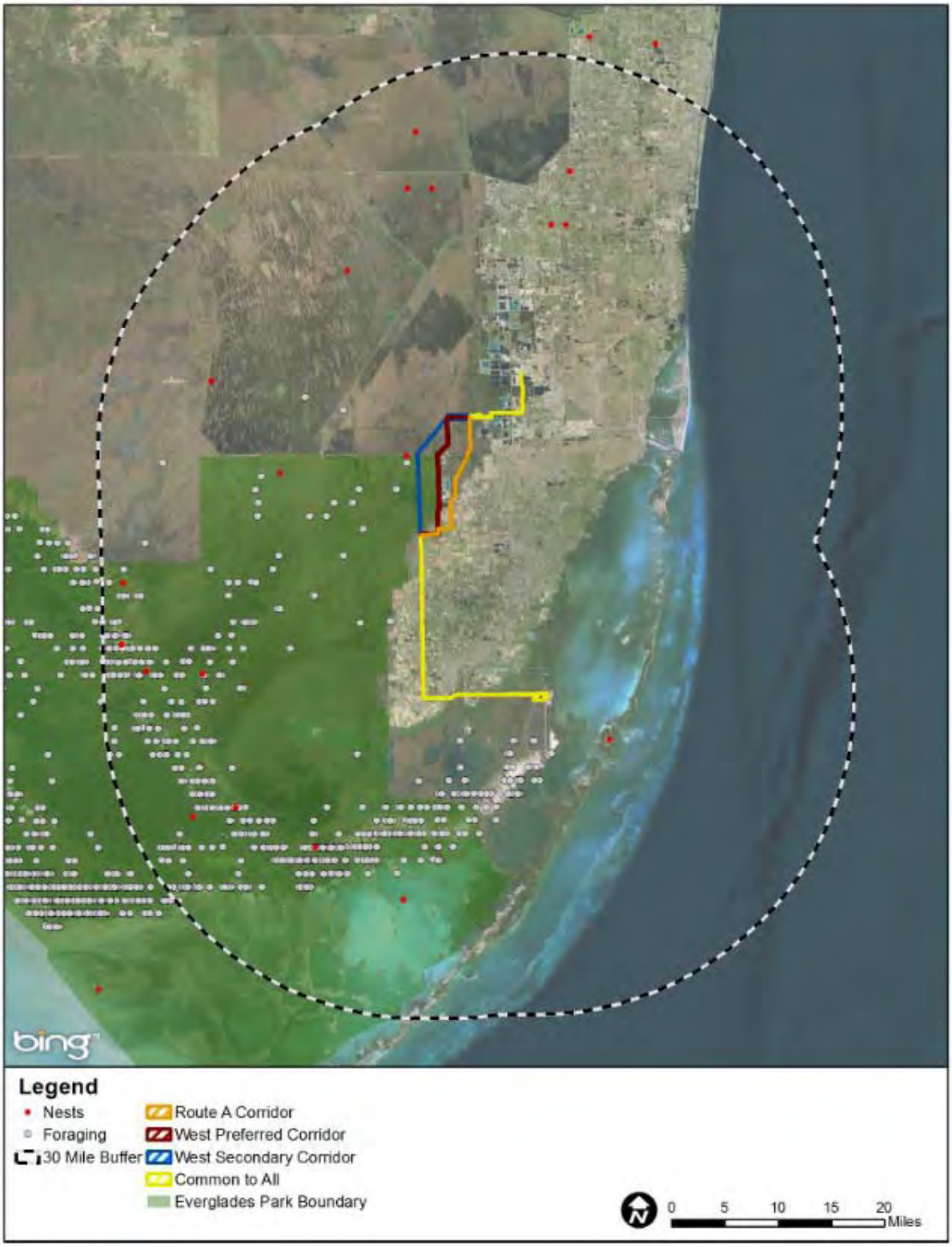


Figure 4-13. Roseate spoonbill nests and foraging locations within the 30-mile study boundary of the transmission corridors.

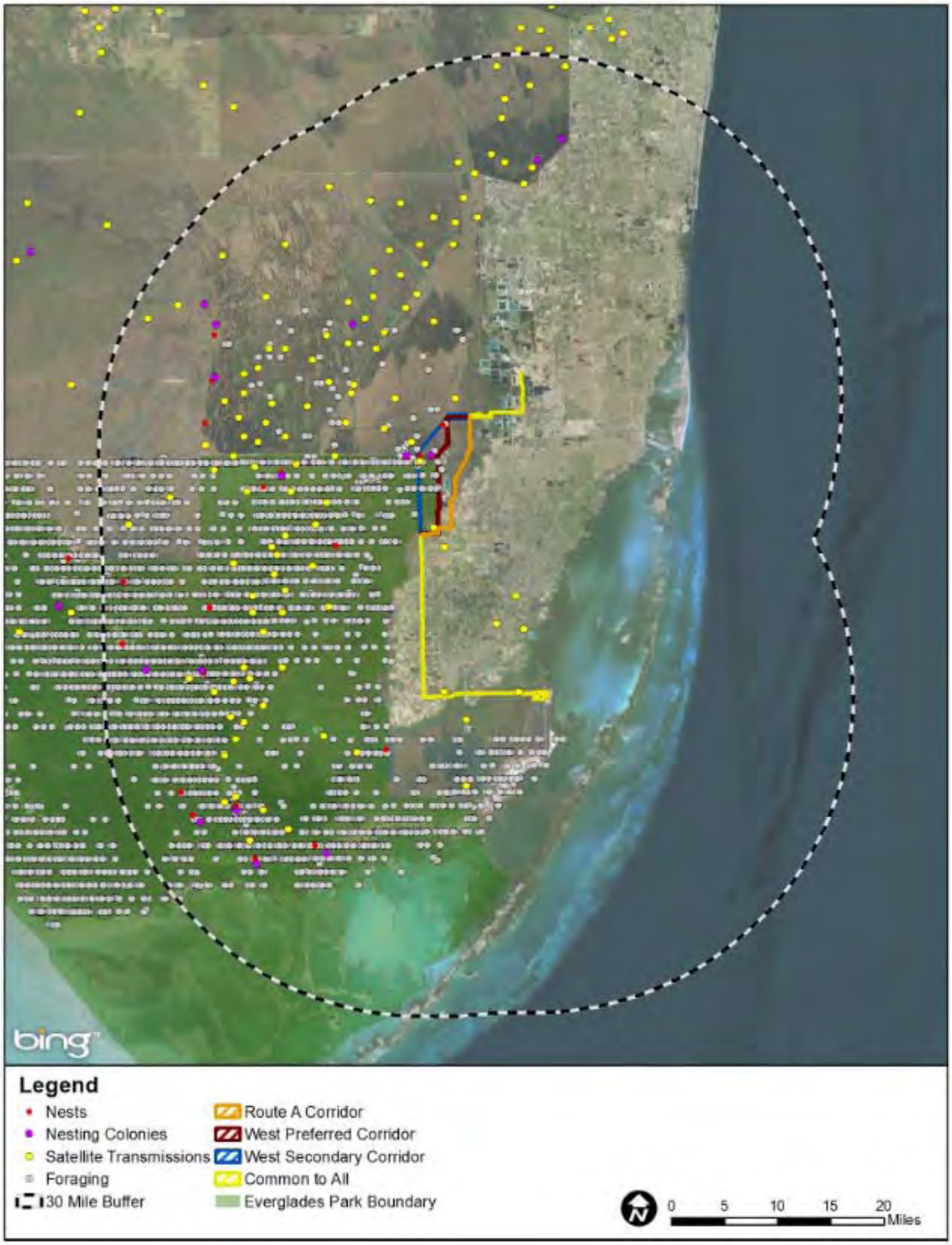


Figure 4-14. Wood stork nests, colonies, and foraging locations within the 30-mile study boundary of the transmission corridors.

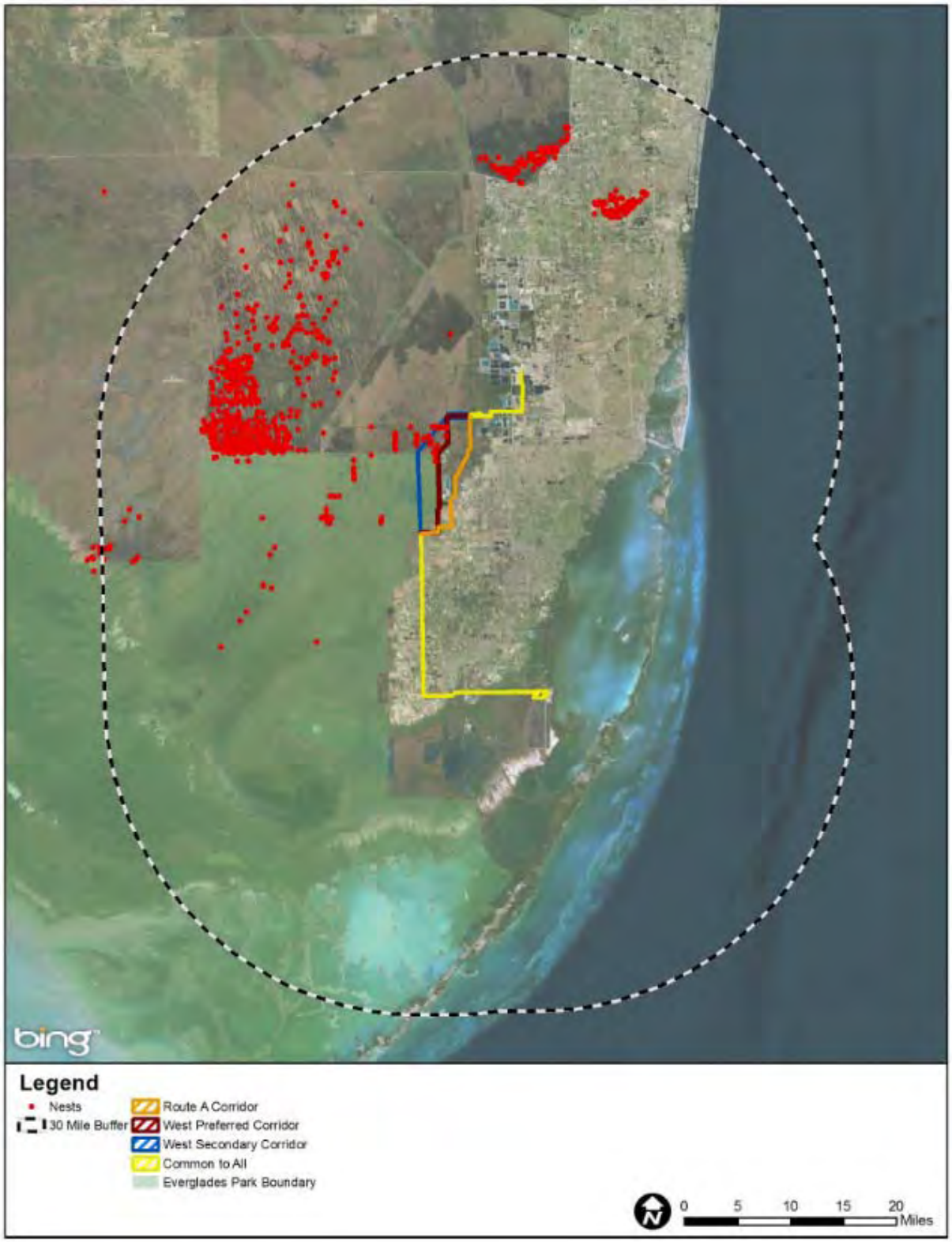


Figure 4-15. Snail kite nests within the 30-mile study boundary of the transmission corridors.

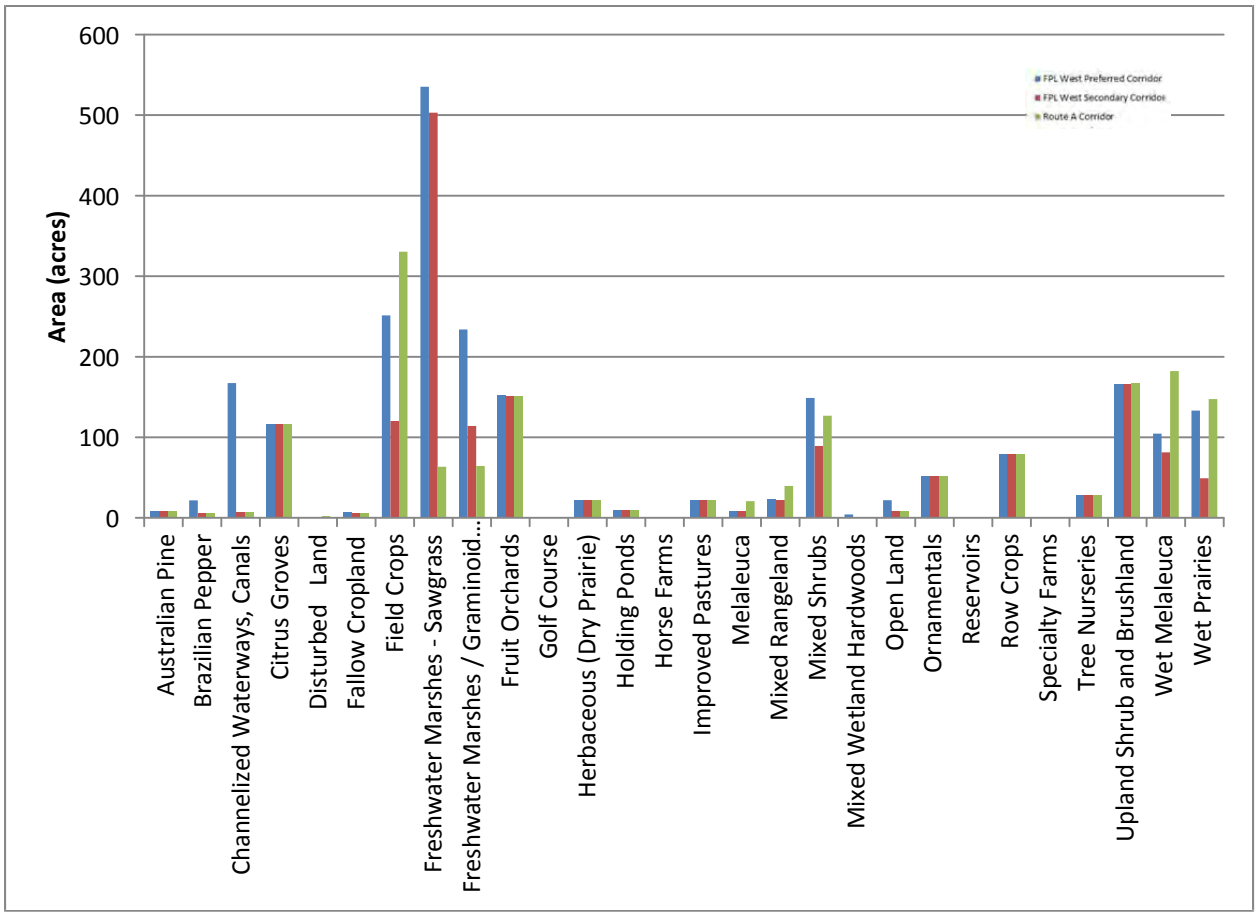


Figure 4-16. The area of each type of potential avian habitat (Level 3 land cover land use classification) located within each potential transmission corridor

Figure 4-17. USGS North American Breeding Bird Survey Routes located within the 30-mile boundary of the study area.

Tables

Table 2-1. Species-specific information adapted from Logalbo and Zimmerman 2010

Species	Common Name	Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter	Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
Accipiter cooperii	Cooper's hawk					r		r	r		X
Accipiter striatus	sharp-shinned hawk					u		u	u		X
Actitus macularius	spotted sandpiper					c		c	c		
Agelaius phoeniceus	red-winged blackbird			X	X	c	c	c	c		X
Aix sponsa	wood duck					r	r	r	r		X
Anas acuta	northern pintail					c		r	c		
Anas americana	American wigeon					u	r	u	c		
Anas bahamensis	white-cheeked pintail					r	r	r	r		
Anas clypeata	northern shoveler					c	r	c	c		
Anas crecca	green-winged teal					u		r	u	X	
Anas cyanoptera	cinnamon teal						*		*		
Anas discors	blue-winged teal					c	r	c	c	X	
Anas fulvigula	mottled duck			X	X	c	c	c	c	X	
Anas platyrhynchos	mallard					r			r		X
Anas rubripes	American black duck								*		
Anas strepera	gadwall							r	r		
Anhinga anhinga	anhinga			X	X	c	c	c	c		X
Aquila chrysaetos	golden eagle							*	*		X
Aramus guarauna	limpkin	C		X	X	u	u	u	u		
Archilochus colubris	ruby-throated hummingbird					c	r	c	c		
Ardea alba	great egret		SSC	X	X	c	c	c	c	X	
Ardea herodias	great blue heron			X	X	c	c	c	c	X	
Asio flammeus	short-eared owl					r		r	r		X
Aythya affinis	lesser scaup					c		c	c		
Aythya collaris	ring-necked duck					c		c	c		
Aythya mania	greater scaup								*		
Baeolophus bicolor	tufted titmouse					r	r	r	r		
Bartramia longicauda	upland sandpiper					*			*		
Bombycilla cedrorum	cedar waxwing					r-c		r-c			
Botaurus lentiginosus	American bittern	C				u	r	u	c		
Branta canadensis	Canada goose								*		X
Bubulcus ibis	cattle egret			X	X	c	c	r-c c	c	X	
Bucephala albeola	bufflehead					r			r		
Buteo brachyurus	short-tailed hawk	C		X		u	r	u	u		

Table 2-1. (cont.)

Species	Common Name	Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter	Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
Buteo jamaicensis	red-tailed hawk			X		u	u	u	u	X	
Buteo lagopus	rough-legged hawk					*		*	*		X
Buteo lineatus	red-shouldered hawk			X	X	c	c	c	c	X	
Buteo platypterus	broad-winged hawk					u		u	u		
Buteo swainsoni	Swainson's hawk					r		r	u		X
Butorides virescens	green heron			X	X	c	c	c	c	X	
Calidris bairdii	Baird's sandpiper			,				*			
Calidris himantopus	stilt sandpiper					u	r	u	r		
Calidris melanotos	pectoral sandpiper					u	r	c			
Caprimulgus carolinensis	Chuck-will's-widow					c	c	c	r		X
Caprimulgus vociferus	whip-poor-will					u		u	c		X
Caracara cheriway	caracara, Audubon's crested	T	T			*	*			*X*	
Cardinalis cardinalis	northern cardinal			X	X	c	c	c	c		X
Carduelis pinus	pine siskin						r		r		
Carduelis tristis	American goldfinch					u-c		u-c			
Cathartes aura	turkey vulture			X	X	c	c	c	c	X	
Catharus fuscescens	veery	C				u		u			
Catharus guttatus	hermit thrush					r		u	u-c u		
Catharus minimus	gray-cheeked thrush					*		u			
Catharus ustulatus	Swainsons thrush					u		u	*		
Chaetura pelagica	chimney swift					u		r			
Charadrius vociferus	killdeer			X	X	c	u	c	c		
Childonias niger	black tern					u	u	u	r		
Chordeiles minor	common nighthawk			X	X	c	c	c	r		
Circus cyaneus	northern harrier	C				u	r	u	c		X
Cistothorus palustris	marsh wren		SSC			u		u	u		
Cistothorus platensis	sedge wren	C				u		u	u		
Coccyzus americanus	yellow-billed cuckoo	C		X	X	c	c	c	r		
Coereba flaveola	bananaquit					*			*		
Colaptes auratus	northern flicker	C		X	X	c	c	c	c		X
Columba livia	rock pigeon (dove)					*	*	*	*		X
Contopus virens	eastern wood-pewee					u		u	r		
Coragyps atratus	black vulture			X	X	c	c	c	c	X	
Corvus brachyrhynchos	American crow			X	X	c	c	c	c	X	
Coturnicops noveboracensis	yellow rail	C				*		*	*		

Table 2-1. (cont.)

Species	Common Name	Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter	Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
Crotophaga ani	smooth-billed ani			X	X	u	u	u	u		
Crotophaga sulcirostris	grove-billed ani					r		r	r		
Cyanocitta cristata	blue jay			X	X	c	c	c	c		X
Dendrocygna bicolor	Fulvous whistling-duck					u	r	u	u		
Deridroica caerulescens	black-throated blue warbler	C				c		c	r		
Dendroica castanea	bay-breasted warbler					*		*			
Dendroica cerulea	Cerulean warbler							*			
Dendroica coronata	yellow-rumped warbler					u		u	c		
Dendroica discolor	prairie warbler	C		X	X	c	c	c	c		
Dendroica dominica	yellow-throated warbler					c	u	c	c		
Dendroica fusca	blackburnian warbler					u		u	*		
Dendroica magnolia	magnolia warbler					u		u	r		
Dendroica nigrescens	black-throated gray warbler					r		r	r		
Dendroica palmarum	palm warbler					c		c	c		
Dendroica pensylvanica	chestnut-sided warbler					r		r	*		
Dendroica petechia	yellow warbler			X	X	c	c	c	u		
Dendroica striata	blackpoll warbler					c		r			
Dendroica tigrina	Cape May warbler					u-c		u-c	. r		
Dendroica virens	black-throated green warbler					u		u	u		
Dolichonyx oryzivorus	bobolink	C				c		c	*		
Dryocopus pileatus	pileated woodpecker			X	X	c	c	c	c		X
Dumetella carolinensis	grey catbird					c		c	c		X
Egretta caerulea	little blue heron		SSC	X	X	c	c	c	c	X	
Egretta rufescens	reddish egret	C		X		u	u	u	u		
Egretta thula	snowy egret		SSC	X	X	c	c	c	c	X	
Egretta tricolor	ricolored heron		SSC	X	X	c	c	c	c	X	
Elanoides forficatus	swallow-tailed kite	C		X	X	c	c	r			X
Elanus leucurus	white-tailed kite			X	X	r	r	r	r		
Empidonax minimus	least flycatcher					u		u	r		
Empidonax traillii	willow flycatcher							*	*		
Empidonax virescens	Acadian flycatcher							*			
Eudocimus albus	white ibis		SSC	X	X	c	c	c	c	X	
Euphagus cyanocephalus	Brewer's blackbird					*			r		
Falco columbarius	merlin					u		u	u	X	
Falco peregrinus	peregrine falcon					u		u	u	X	

Table 2-1. (cont.)

Species	Common Name	Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter	Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
Falco sparverius paulus	American kestrel		T			c		c	c	X	
Fulica americana	American coot			X	X	c	r	c	c	X	
Gallinago delicata	Wilson's snipe					u		u	u		
Gallinula chloropus	common moorhen			X	X	c	c	c	c	X	
Geothlypis trichas	common yellowthroat			X	X	c	c	c	c		X
Grus canadensis pratensis	Florida sandhill crane		T	X	X	u	u	u	u	X	
Haliaeetus leucocephalus	bald eagle			X		c	c	c	c	X	
Lemitheros vermivorum	worm-eating warbler	C				u		u	r		
Himantopus mexicanus	black-necked stilt			X	X	u	r	u	r	X	
Hirunda pyrrhonota	cliff swallow					r	r	u			X
Hirundo rustica	barn swallow			X	X	c	c	c	r		X
Hylocichla mustelina	wood thrush	C				*		r	*		
Icteria virens	yellow-breasted chat					u		u	u		
Icterus bullockii	Bullock's oriole						r	r	r		
Icterus galbula	Baltimore oriole						c	c	r		
Ictinia mississipiensis	Mississippi kite					r		r			
Ixobrychus exilis	least bittern	C		X	X	u	u	u	u		
Junco hyemalis	dark-eyed junco					*		*	*		*X*
Lanius ludovicianus	loggerhead shrike	C		X	X	u	u	u	u	X	
Larus argentatus	herring gull					c	u	c	c	.	
Larus atricilla	laughing gull			X		c	c	c	c		X
Larus delawarensis	ring-billed gull					c	u	c	c		
Larus philadelphia	Bonaparte's gull					u			u		
Laterallus jamaicensis	black rail	C				r	r	r	r		
Limnodromus scolopaceus	long-billed dowitcher					u	u	u	r		
Limnothlypis swainsonii	Swainson's warbler	C				r		r	*		
Lophodytes cucullatus	hooded merganser					r		r	u		
Megaceryle alcyon	belted kingfisher					c	r	c	c		
Megascops asio	eastern screech-owl			X	X	c	c	c	c	X	
Melanerpes carolinus	red-bellied woodpecker			X	X	c	c	c	c		X
Melospiza georgiana	swamp sparrow					c		c	c		
Melospiza melodia	song sparrow					*			r		
Mimus polyglottos	northern mockingbird			X	X	c	c	c	c		X
Mniotilta varia	black- and- white warbler					c	u	c	c		

Table 2-1. (cont.)

Species	Common Name	Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter	Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
Mycteria americana	wood stork	E	E	X	X	u	r	u	u	X	
Myiorchus crinitus	great crested flycatcher			X	X	c	c	c	c		
Myiorchus tyrannulus	brown-crested flycatcher					u		u	u		
Nomonyx dominicus	masked duck							*	*		
Nyctanassa violacea	yellow- crowned night heron		.	X	X	u	u	u	u	X	
Nyctanassa nycticorax	black-crowned night heron			X	X	c	c	c	c	X	
Oporornis agilis	Connecticut warbler					*			*		
Oporornis formosus	Kentucky warbler					r		r	*		
Oporornis philadelphia	mourning warbler							*			
Pandion haliaetus	osprey		ssC - Monroe County	X		c	c	c	c	X	
Parula americana	northern parula					c	r	c	c		**X**
Passerculus sandwichensis	savannah sparrow					c		c	c		
Passerina caerulea	blue grosbeak					u		u	*		
Passerina ciris	painted bunting	C				c	*	c	u		
Passerina cyanea	indigo bunting					c		c	r		
Patagioenas leucocephala	white-crowned pigeon	C	T	X		c	c	c	u		
Pelecanus erythrorhynchos	American white pelican					c	r	c	c	X	
Petrochelidon fulva	cave swallow							r	r		
Phalacrocorax auritus	double-crested cormorant			X		c	c	c	c	X	
Phalaropus tricolor	Wilson's phalarope							*			
Pheucticus ludovicianus	rose-breasted grosbeak					u		u	r		
Picoides pubescens	downy woodpecker			X	X	u	u	u	u		
Pipilo erythrophthalmu s	eastern towhee			X	X	c	c	c	c		
Piranga ludoviciana	western tanager							*			
Piranga olivacea	scarlet tanager					r		r	*		
Piranga rubra	summer tanager					r		r	*		
Platalea ajaja	roseate spoon bill		SSC	X		c	u	c	c	X	
Plegadis chihi	white-faced ibis						*				
Plegadis falcinellus	glossy ibis			X		u	u	u	u	X	
Podilymbus podiceps	pied-billed grebe			X	X	c	u	c	c		X
Polioptila caerulea	blue-grey gnatcatcher					c		c	c		
Porphyrio martinica	purple gallinule			X	X	c	u	c	c		
Porzana carolina	sora					c		c	c		

Table 2-1. (cont.)

Species	Common Name	Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter	Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
Protonotaria citrea	prothonotary warbler					u	*	u	*		
Quiscalus major	boat-tailed grackle			X	X	c	c	c	c	X	
Quiscalus quiscula	common grackle			X	X	c	c	c	c	X	
Rallus elegans	king rail			X	X		c		c	X	
Rallus limicola	Virginia rail					r		r	r		X
Regulus calendula	ruby-crowned kinglet					u		u	u		
Riparia riparia	bank swallow						uc	u	*		
Rostrhamus sociabilis	Everglade snail kite	E	E	X	Xc	r	r	r	r		
Sayornis phoebe	eastern phoebe					c		c	c		
Sayornis saya	Sah's phoebe										
Scolopax minor	American woodcock					r			r		X
Seiurus aurocapilla	ovenbird					c		c	c		X
Seiurus motacilla	Louisiana waterthrush	C				c	u	c	r		
Seiurus noveboracensis	northern waterthrush					c		c	c		X
Selasphorus rufus	rufous hummingbird							*	*		
Setophaga ruticilla	American redstart					c	u	c	c		
Sphyrapicus varius	yellow-bellied sapsucker					u		u	c		
Spindalis zena	western spindalis					*			*		
Spiza americana	dickcissel							*	*		
Spizella pallida	clay-colored sparrow					r		r	r		
Spizella passerina	chipping sparrow					u		u	u		X
Spizella pusilla	field sparrow	C				u		u	u		
Stelgidopteryx serripennis	northern rough-winged swallow					u		u	r		
Sterna caspia	Caspian tern					c	r	c	c		
Sterna forsteri	Forster's tern					c	u	c	c		
Strix varia	barred owl			X	X	c	c	c	c	X	
Sturnella magna	eastern meadowlark	C		X	X	c	c	c	c		X
Tochycineta bicolor	tree swallow					c		c	c		
Thryothorus ludovicianus	Carolina wren			X	X	c	c	c	c		
Tiaris bicolor	black-faced grassquit					*	*	*			
Toxostoma rufum	brown thrasher					u	*	u	u		
Tringa flavipes	lesser yellowlegs					c	u	c	c		
Tringa melanoleuca	greater yellowlegs					c	u	c	c		
Tringa solitaria	solitary sandpiper					u		u	r	X	
Troglodytes aedon	house wren					c		c	c		

Table 2-1. (cont.)

Species	Common Name	Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter	Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
Turdus migratorius	American robin					u	*	u	u		
Tyrannus melancholicus	tropical kingbird					*			*		
Tyrannus tyrannus	eastern kingbird			X	X	c	c	c	r		
Tyrannus verticalis	western kingbird					u		u	u		
Tyto alba	barn owl	C		X	X		u		u	X	
Vermivora celata	orange- crowned warbler					u		u	u		
Vermivora chrysoptera	golden-winged warbler					r		r			
Vermivora peregrina	Tennessee warbler				u	u	u	u	*		
Vermivora pinus	blue-winged warbler					r		r	r		
Vermivora ruficapilla	Nashville warbler					r		r	*		
Vireo altiloquus	black- whiskered vireo	C		X	X	c	c	c	*		
Vireo bellii	Bell's vireo					*			*		
Vireo crassirostris	thick-billed vireo								*		
Vireo flavifrons	yellow-throated vireo					u		u	u		
Vireo griseus	white-eyed vireo			X	X	c	c	c	c		
Vireo olivaceus	red-eyed vireo					c		c	*		
Vireo	Philadelphia vireo							*			
Vireo	blue-headed vireo					u		u	u		
Wilsonia	hooded warbler					u		u	*		
Wilsonia	Wilson's warbler					r		r	r		
Zenaida	white-winged dove					r	r	r	r		X
Zenaida	mourning dove			X	X	c	c	c	c		
Zonotrichi	white-throated sparrow					*		*	r		
Zonotrichi	white-crowned sparrow							r	*		

E = Endangered
T = Threatened
C = U.S. Fish and Wildlife Service designated nongame migratory species concern
SSC = state of Florida species of special concern
c = commonly observed (seen >50% of the time)
u = uncommonly observed (seen < 50% of the time)
r = rarely observed (<25% of the time)
* = fewer than 10 records in Everglades National Park

Table 2-2. Habitat preferences/associations for focal species of interest

Land Use/Land Cover (Level 2 Designation)	Limpkin	American Bittern	Short-Tailed Hawk	Crested Caracara	Veery	Northern Harrier	Marsh Wren	Sedge Wren	Yellow-billed Cuckoo	Northern Flicker	Yellow Rail	Black Throated-Blue Warbler
AGRICULTURE												
Cropland and Pastureland				X								
Feeding Operations												
Nurseries and Vineyards												
Specialty Farms												
Tree Crops												
UPLAND FORESTS												
Tree Plantations												
Upland Coniferous Forests					X					X		
Upland Hardwood Forests			X		X					X		
Upland Mixed Forests			X		X					X		
UPLAND NONFORESTED												
Herbaceous (Dry Prairie)			X	X					X			
Mixed Rangeland				X								
Upland Shrub and Brushland			X	X								
WATER												
Bays and Estuaries	X	X									X	
Lakes												
Ocean and Gulf												
Reservoirs												
Streams and Waterways	X	X										
WETLANDS												
Non-Vegetated Wetland	X							X				
Vegetated Non-Forested Wetlands	X	X				X	X	X	X		X	
Wetland Coniferous Forests		X	X		X							X
Wetland Forested Mixed		X	X		X							X
Wetland Hardwood Forests		X	X		X							X

Table 2-2. (cont.)

Land Use/Land Cover (Level 2 Designation)	Prairie Warbler	Bobolink	American Kestrel	Florida Sandhill Crane	Worm-Eating Warbler	Wood Thrush	Least Bittern	Black Rail	Swainson's Warbler	Osprey	Painted Bunting	White Crowned Pigeon
AGRICULTURE												
Cropland and Pastureland		X	X									
Feeding Operations												
Nurseries and Vineyards												
Specialty Farms												
Tree Crops												
UPLAND FORESTS												
Tree Plantations												
Upland Coniferous Forests			X			X						
Upland Hardwood Forests			X		X	X						X
Upland Mixed Forests			X		X	X						
UPLAND NONFORESTED												
Herbaceous (Dry Prairie)		X										
Mixed Rangeland												
Upland Shrub and Brushland		X	X								X	
WATER												
Bays and Estuaries								X		X		
Lakes										X		
Ocean and Gulf										X		
Reservoirs												
Streams and Waterways								X		X		
WETLANDS												
Non-Vegetated Wetland												
Vegetated Non-Forested Wetlands		X		X			X	X				
Wetland Coniferous Forests	X					X			X			
Wetland Forested Mixed	X					X	X		X			X
Wetland Hardwood Forests	X					X	X		X			X

Table 2-2. (cont.)

Land Use/Land Cover (Level 2 Designation)	Louisiana Waterthrush	Field Sparrow	Eastern Meadowlark	Barn Owl	Black-Whiskered Vireo	Loggerhead Shrike	Swallow-Tailed Kite
AGRICULTURE							
Cropland and Pastureland			X	X		X	
Feeding Operations							
Nurseries and Vineyards							
Specialty Farms							
Tree Crops							
UPLAND FORESTS							
Tree Plantations							
Upland Coniferous Forests			X				X
Upland Hardwood Forests							X
Upland Mixed Forests							X
UPLAND NONFORESTED							
Herbaceous (Dry Prairie)			X	X		X	
Mixed Rangeland				X		X	
Upland Shrub and Brushland		X	X	X		X	
WATER							
Bays and Estuaries	X						X
Lakes							
Ocean and Gulf							
Reservoirs							
Streams and Waterways	X						X
WETLANDS							
Non-Vegetated Wetland							X
Vegetated Non-Forested Wetlands							X
Wetland Coniferous Forests	X						X
Wetland Forested Mixed	X						X
Wetland Hardwood Forests	X				X		X

Table 4-1. Summary of relative risk assessment results by species

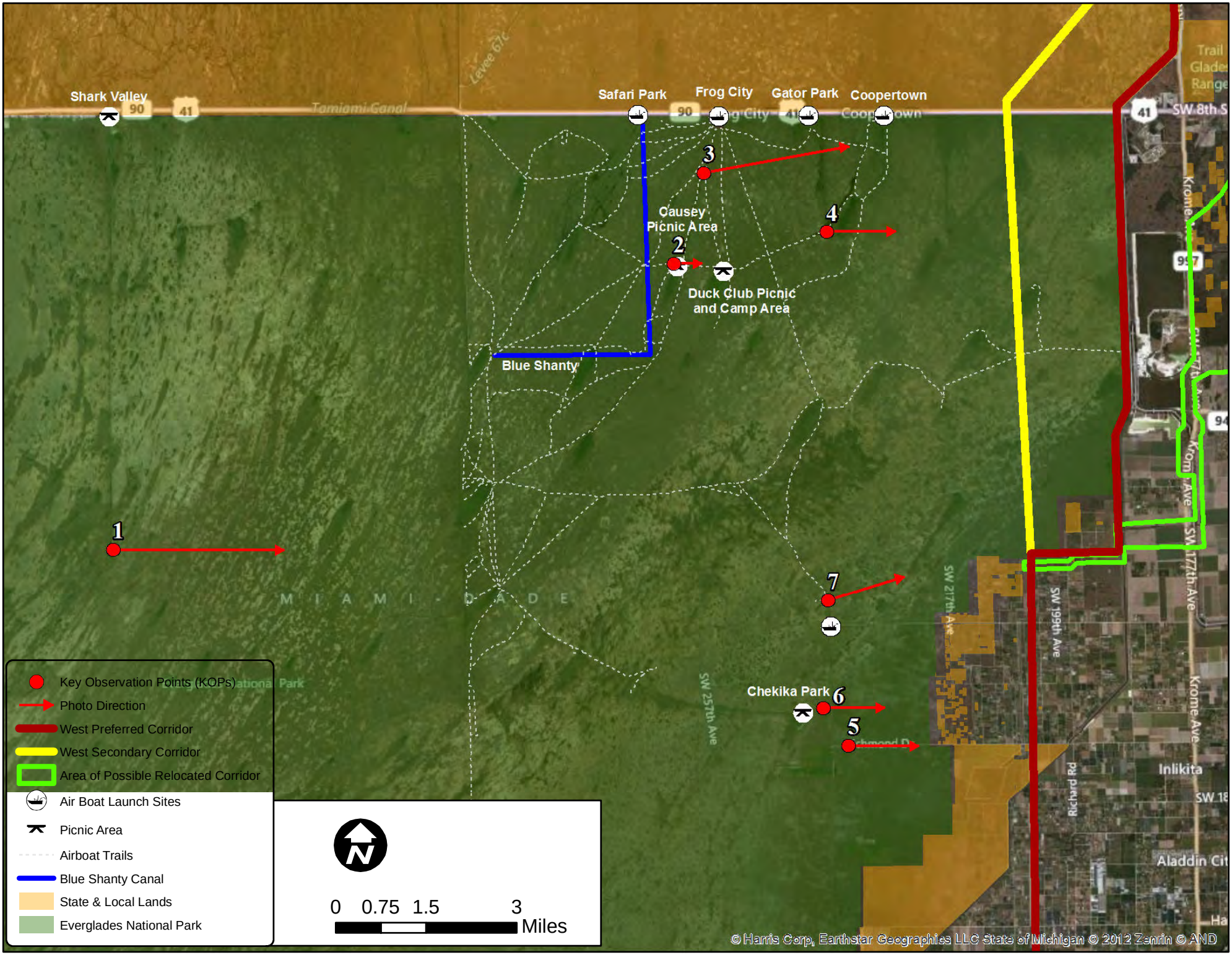
	Data-Based Relative Risk Results			Habitat-Based Relative Risk Results		
Species	FPL West Preferred Corridor	FPL West Secondary Corridor	Route A Corridor	FPL West Preferred Corridor	FPL West Secondary Corridor	Route A Corridor
Brown Pelican	ND	ND	ND	ND	ND	ND
Double-Crested Cormorant	ND	ND	ND	Intermediate	Most	**Least**
Anhinga	Intermediate	Most	**Least**	Intermediate	Most	**Least**
Black-Crowned Night Heron	Intermediate	Most	**Least**	Intermediate	Most	**Least**
Great Blue Heron	Intermediate	Most	**Least**	Intermediate	Most	**Least**
Great White Heron	Intermediate	Most	**Least**	Intermediate	Most	**Least**
Great Egret	Intermediate	Most	**Least**	Intermediate	Most	**Least**
Little Blue Heron	Intermediate	Most	**Least**	Intermediate	Most	**Least**
Snowy Egret	Intermediate	Most	**Least**	Intermediate	Most	**Least**
Tricolored Heron	Intermediate	Most	**Least**	Intermediate	Most	**Least**
Reddish Egret	ND	ND	ND	Intermediate	**Least**	Most
Least Bittern	--	--	--	Intermediate	Most	**Least**
American Bittern	--	--	--	Intermediate	Most	**Least**
White Ibis	Intermediate	Most	**Least**	Intermediate	Most	**Least**
Glossy Ibis	ND	ND	ND	Intermediate	Most	**Least**
Roseate Spoonbill	Intermediate	Most	**Least**	Intermediate	Most	**Least**
Wood Stork	Intermediate	Most	**Least**	Intermediate	Most	**Least**
Florida Sandhill Crane	--	--	--	Intermediate	Most	**Least**
Limpkin	--	--	--	Intermediate	Most	**Least**
Black Rail	--	--	--	Intermediate	Most	**Least**
Yellow Rail	--	--	--	Intermediate	Most	**Least**
Snail Kite	Intermediate	Most	**Least**	Intermediate	Most	**Least**
Short-Tailed Hawk	--	--	--	Intermediate	Most	**Least**
Swallow-Tailed Kite	--	--	--	Intermediate	Most	**Least**
Northern Harrier	--	--	--	Intermediate	**Least**	Most
Osprey	--	--	--	ND	ND	ND
Crested Caracara	--	--	--	Intermediate	**Least**	Most
American Kestrel	--	--	--	Intermediate	Most	**Least**
White Crowned Pigeon	--	--	--	Intermediate	Most	**Least**
Yellow-Billed Cuckoo	--	--	--	Intermediate	Most	**Least**
Barn Owl	--	--	--	Intermediate	**Least**	Most
Northern Flicker	--	--	--	Intermediate	Most	**Least**
Loggerhead Shrike	--	--	--	Intermediate	**Least**	Most
Black-Whiskered Vireo	--	--	--	Intermediate	Most	**Least**
Marsh Wren	--	--	--	Intermediate	Most	**Least**
Sedge Wren	--	--	--	Intermediate	Most	**Least**
Wood Thrush	--	--	--	Intermediate	Most	**Least**
Veery	--	--	--	Intermediate	Most	**Least**
Black-Throated Blue Warbler	--	--	--	Intermediate	Most	**Least**
Prairie Warbler	--	--	--	Intermediate	Most	**Least**
Worm-Eating Warbler	--	--	--	Intermediate	Most	**Least**
Swainson's Warbler	--	--	--	Intermediate	Most	**Least**
Louisiana Waterthrush	--	--	--	Intermediate	Most	**Least**
Bobolink	--	--	--	Intermediate	**Least**	Most
Eastern Meadowlark	--	--	--	Intermediate	**Least**	Most
Painted Bunting	--	--	--	Intermediate	Most	**Least**
Field Sparrow	--	--	--	Intermediate	Most	**Least**

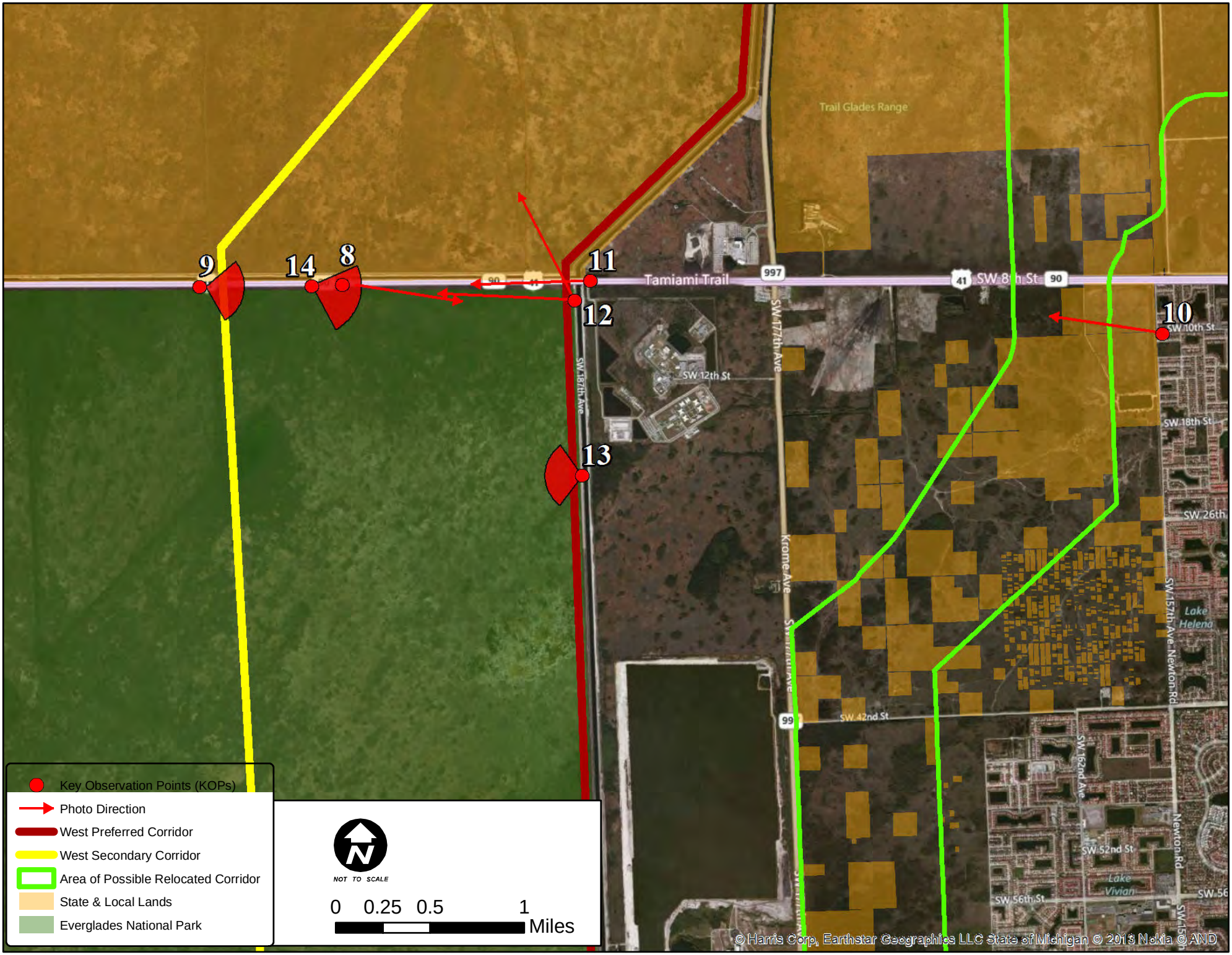
Notes:

ND = no difference

-- = data not available

APPENDIX K: EVERGLADES NATIONAL PARK PHOTO SIMULATION

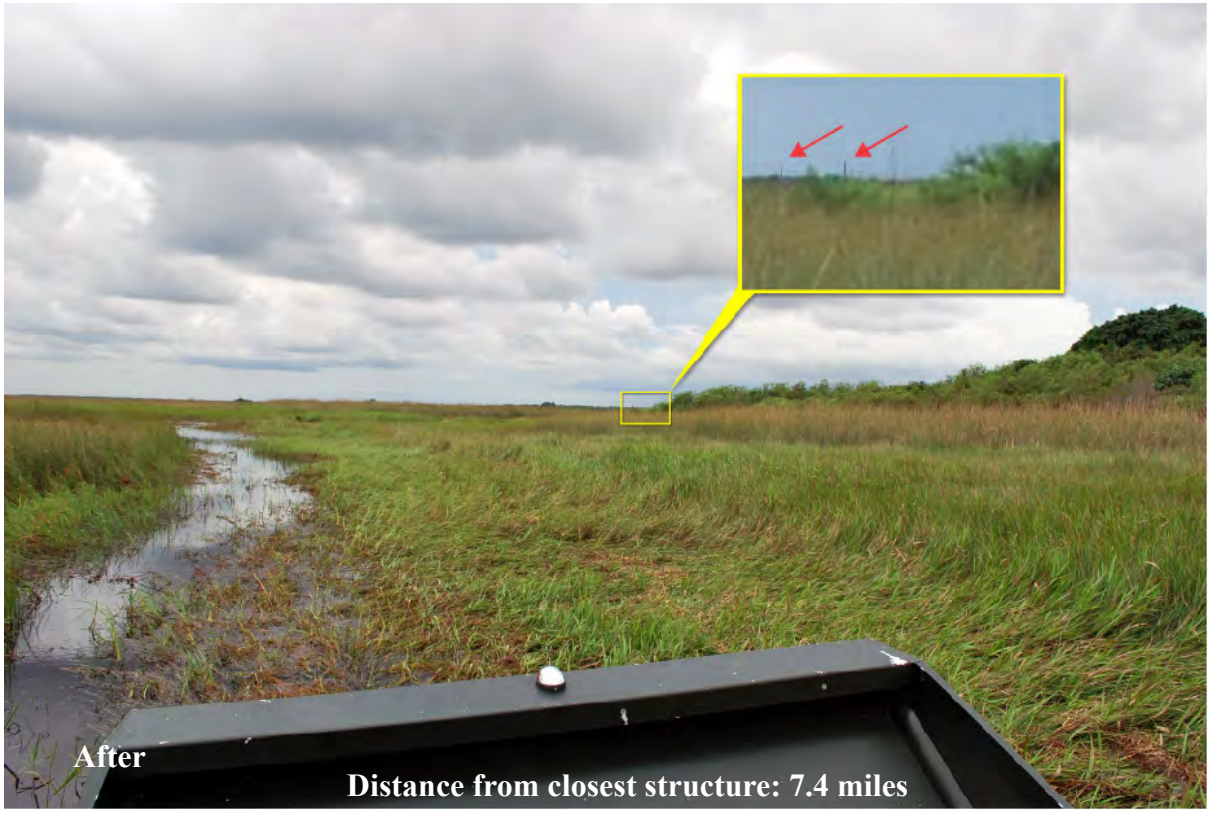

Shark Valley
Safari Park
Frog City
Gator Park
Coopertown
Tamiami Canal
Levee 67c
Causey Picnic Area
Duck Club Picnic and Camp Area
Blue Shanty
Chekika Park
1
2
3
4
5
6
7
M I A M I - D A D E
SW 257th Ave
SW 217th Ave
SW 199th Ave
SW 177th Ave
Krome Ave
Richard Rd
Inlikita
Aladdin Cit
SW 8th S
Trail Glade Range
Key Observation Points (KOPs)
Photo Direction
West Preferred Corridor
West Secondary Corridor
Area of Possible Relocated Corridor
Air Boat Launch Sites
Picnic Area
Airboat Trails
Blue Shanty Canal
State & Local Lands
Everglades National Park
0 0.75 1.5 3
Miles
© Harris Corp, Earthstar Geographics LLC State of Michigan © 2012 Zenrin © AND


9
14
8
11
12
13
10
Tamiami Trail
997
41
SW 8th St
90
Trail Glades Range
SW 12th St
SW 187th Ave
SW 177th Ave
Krome Ave
SW 10th St
SW 18th St
SW 26th
SW 157th Ave-Newton Rd
Lake Helena
SW 42nd St
99
SW 162nd Ave
SW 52nd St
Lake Vivian
SW 56th St
Newton Rd
Key Observation Points (KOPs)
Photo Direction
West Preferred Corridor
West Secondary Corridor
Area of Possible Relocated Corridor
State & Local Lands
Everglades National Park
NOT TO SCALE
0 0.25 0.5 1
Miles
© Harris Corp, Earthstar Geographics LLC State of Michigan © 2013 Nokia © AND

Distance from closest structure: 15.3 miles

Alternative: West Preferred and Secondary **KOP: 1 (Shark Valley)** **Direction Taken: East**		Photo taken from the Shark Valley Observation Tower looking East. The closest transmission structure is approximately 15.3 miles away.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.



Alternative: West Preferred **KOP: 2** **Direction Taken: East**		Photo taken near the Causey Picnic Area, a popular destination for visitors. The closest structures on the West Preferred Route are 7.4 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: West Secondary **KOP: 2** **Direction Taken: East**		Photo taken near the Causey Picnic Area, a popular destination for visitors. The closest structures on the West Secondary Route are 5.6 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

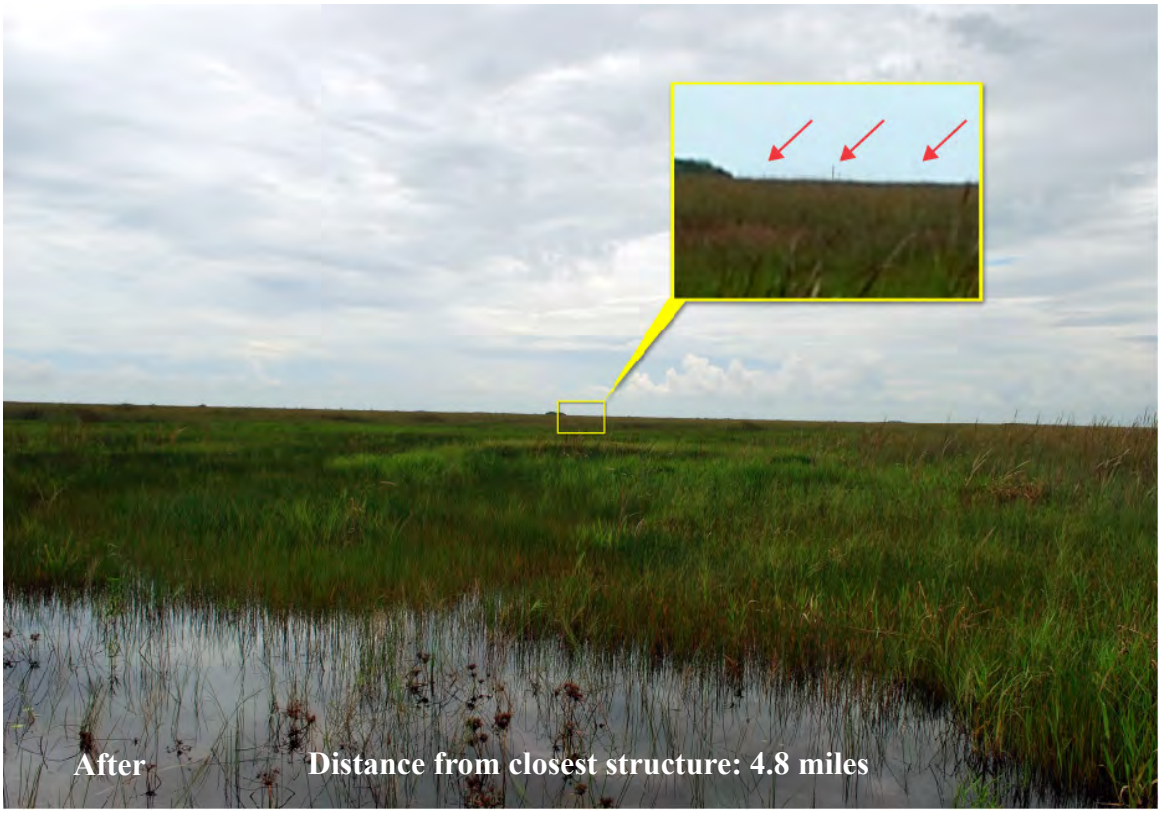
Alternative: West Preferred **KOP: 3** **Direction Taken: East**		Photo taken from an airboat trail associated with the Frog City airboat launch. The closest structures on the West Preferred Route are 7 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: West Secondary
KOP: 3
Direction Taken: East

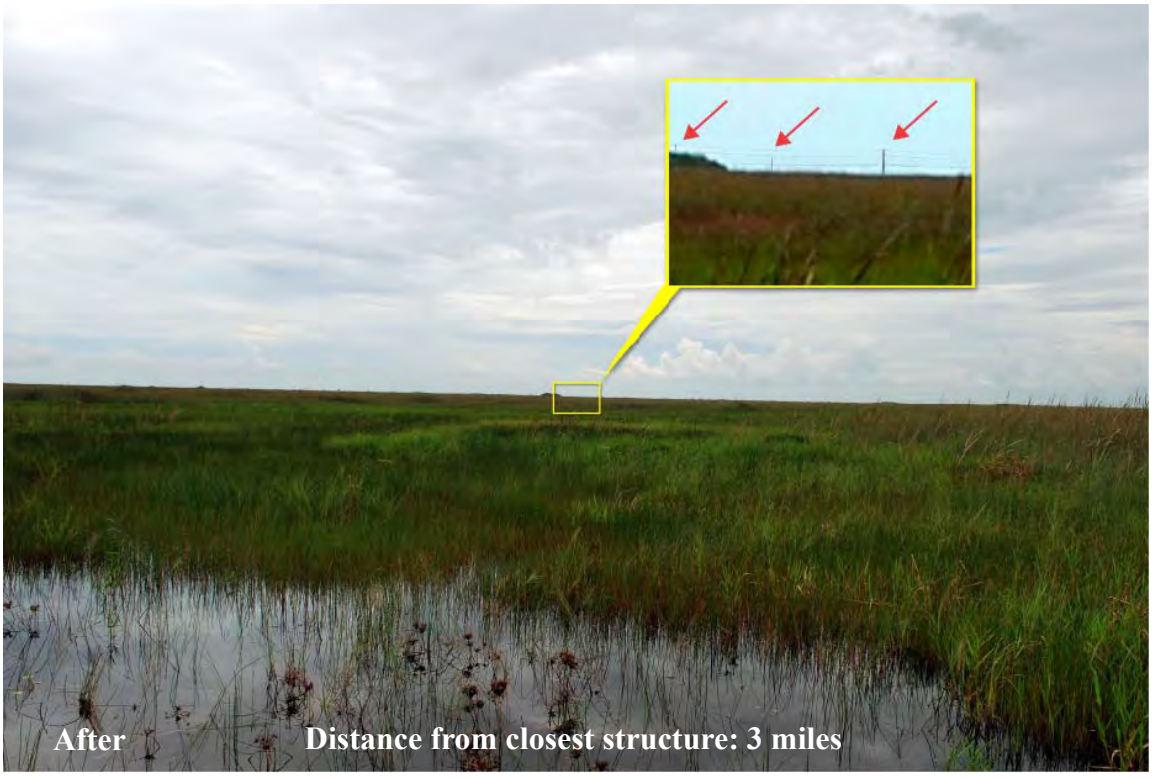
Photo taken from an airboat trail associated with the Frog City airboat launch. The closest structures on the West Secondary Route are 5 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.



Alternative: West Preferred **KOP: 4** **Direction Taken: East**		Photo taken from an airboat trail associated with the Coopertown airboat launch. The closest structures on the West Preferred Route are 4.8 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.



Alternative: West Secondary
KOP: 4
Direction Taken: East

Photo taken from an airboat trail associated with the Coopertown airboat launch. The closest structures on the West Secondary Route are 3 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: West Preferred/Secondary
KOP: 5
Direction Taken: East

Photo taken from the Chekika Day Use Area. The closest structures on both the West Secondary and Preferred Routes are 3 miles to the East

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: West Preferred/Secondary **KOP: 6** **Direction Taken: East**		Photo taken from the Chekika Day Use Area. The closest structures on both the West Secondary and Preferred Routes are 3.5 miles to the East

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: West Preferred/Secondary **KOP: 7** **Direction Taken: East**		Photo taken from the Chekika Day Use Area. The closest structures on both the West Secondary and Preferred Routes are 3.4 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: West Secondary **KOP: 8** **Direction Taken: Southwest**		Photo taken from One-Mile Bridge construction area on the Tamiami Trail. The closest structures on the West Secondary Route is 0.6 miles to the southwest.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: West Preferred **KOP: 8** **Direction Taken: Southeast**		Photo taken from One-Mile Bridge construction area on the Tamiami Trail. The closest structures on the West Preferred Route is 1.2 miles to the southeast.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: Secondary
KOP: 9
Direction Taken: Southeast

Photo taken from the One-Mile Bridge on the Tamiami Trail. Closest structure is approximately 550 feet to the east.

THE Louis Berger Group, INC.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: Area of Possible Relocated Corridor **KOP: 10** **Direction Taken: West**		Acquisition of FPL Land in the East Everglades Expansion Area

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: West Preferred
KOP: 11
Direction Taken: West

Photo taken from the Tamiami Trail west of the ENP and the L-31 canal. The north side of the Tamiami Trail is state land and the south side of the Tamiami Trail are federal lands. Closest structure is 555 feet away.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: West Secondary
KOP: 11
Direction Taken: West

Photo taken from the Tamiami Trail west of the ENP and the L-31 canal. The north side of the Tamiami Trail is state land and the south side of the Tamiami Trail are federal lands. Closest structures are 1.9 miles away.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

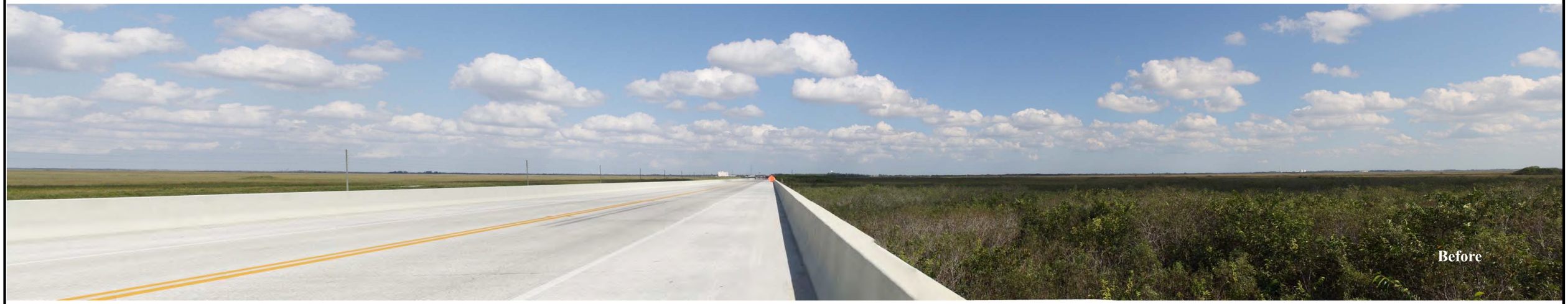
Alternative: West Preferred
KOP: 12
Direction Taken: Northwest

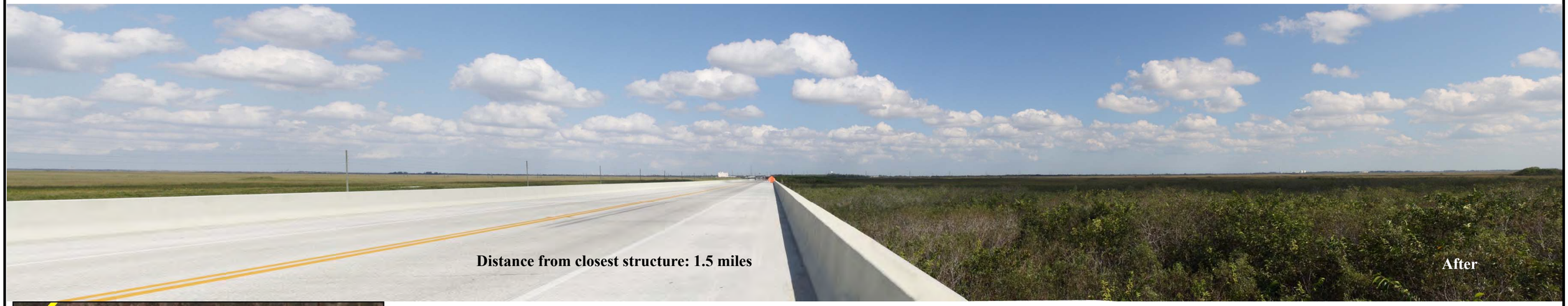
Photo taken from the L-31 Canal, just south of the Tamiami Trail. The simulations shows the construction pads, access roads, and both 500 kV and 230 kV structures. The closest structure is 223 feet away.

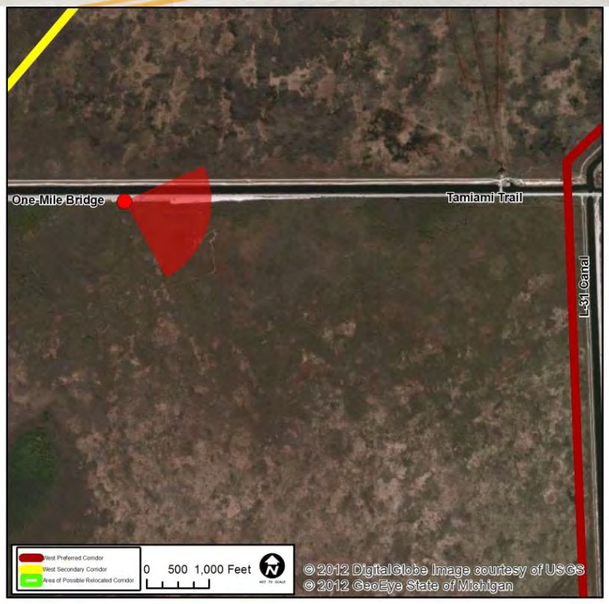
Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: West Secondary **KOP: 12** **Direction Taken: Northwest**		Acquisition of FPL Land in the East Everglades Expansion Area

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.







Alternative: West Preferred
KOP: 13
Direction Taken: West

Photo taken from the One-Mile Bridge on the Tamiami Trail. Closest structure is approximately 1.5 miles to the east.

THE Louis Berger Group, INC.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

Alternative: West Preferred
KOP: 14
Direction Taken: West

Photo taken from the L-31 Canal looking west into the Everglades Expansion area. Closest structure is approximately 315 feet to the west.

THE Louis Berger Group, INC.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

APPENDIX L: CONCERN RESPONSE REPORT

Everglades National Park
Acquisition of Florida Power & Light Company Land in the East Everglades Expansion Area Draft Environmental Impact Statement

Concern Response Report

AE1400 - Affected Environment: Special-status Species

Concern ID: 50889

CONCERN STATEMENT: One commenter noted that the Bird Drive Basin area is not particularly important to wading birds because its short hydroperiod wetlands are not generally regarded as having as much value for birds when compared to long hydroperiod wetlands (sawgrass marshes) located farther west. The commenter also stated that much of Bird Drive Basin is dominated by exotic hardwood stands of low value to most birds, including most special-status birds in the Everglades region.

Response: The environmental impact statement (EIS) describes the extent and condition of various wetland habitat areas located throughout the study area. Page 235 of the draft EIS includes a description of wetlands in the Bird Drive Basin area, noting that this area contains wetlands that are characterized by existing disturbances in the form of nonnative plant infestations and all-terrain vehicle use. It goes on to state that impacts would be expected to be less in these areas because of the lack of native species and the lower functional value of the wetlands that contain these species.

The relatively short-hydroperiod wetlands of Bird Drive Basin may not support high densities of prey for wading birds that occur in other areas of the greater Everglades. However, during very wet periods, these short-hydroperiod wetlands can support wading bird foraging when most of the Everglades wetlands are inundated too deeply for wading birds to forage. As a result, the short-hydroperiod wetlands are very important in supporting the overall wading bird population of the Everglades.

Concern ID: 50890

CONCERN STATEMENT: One commenter suggests that the final environmental impact statement (EIS) should note that the Garber's spurge and tiny polygala are the only currently federally listed species, and that the Blodgett silver bush and sand flax are candidates for federal listing. The commenter also notes that state-listed species are not regulated by federal agencies reviewing the EIS.

Response: National Park Service (NPS) *Management Policies 2006* (NPS 2006a, Section 4.4.2.3) provides specific guidance for management of threatened or endangered plants and animals. These policies dictate that the NPS survey for, protect, and strive to recover all species listed under the Endangered Species Act (ESA) that are native to national park system units. The NPS meets its obligations under the NPS Organic Act and the ESA by proactively conserving listed species and preventing detrimental effects on these species. Section 4.4.2.3 also states that the NPS would inventory, monitor, and manage state and locally listed species in a manner similar to its treatment of federally listed species to the greatest extent possible.

For these reasons, all state and federally listed species, as well as candidate species, are included in the discussion.

Concern ID: 50891

CONCERN STATEMENT: One commenter saw no difference in the likelihood of occurrence of gopher tortoises along the Florida Power and Light (FPL) West Preferred Corridor, FPL West Secondary Corridor, and the area of possible relocated corridor because these areas are dominated by wetlands and not by the significant xeric areas that gopher tortoises prefer.

Response: Statements made regarding the differences in likelihood of species occurrence throughout the EIS are based on an assessment of habitat suitability within different portions of the study area. Although wetlands dominate in all areas, the extent to which they dominate varies. For this reason, the EIS states that the gopher tortoise is "not likely" to occur in the FPL West Preferred and West Secondary Corridors. Text on pages 284, 299, 307, and 315 of the draft EIS pertaining to impacts on this species has been changed on pages 281, 296, 305, and 313 in the final EIS to more clearly state that no impacts are expected because this species prefers dry, sandy habitats like longleaf pine-xeric oak sandhills.

Additionally, the missing word, "surveyed," was added to the sentence "Gopher tortoises are state threatened species and must be surveyed before any land clearing or development takes place." on page 132 of the final EIS.

Concern ID: 50892

CONCERN STATEMENT: One commenter provided multiple comments about the presence of and impacts on special-status species. The commenter stated that the draft EIS is inaccurate and the analysis was overstated with regard to the likelihood of occurrence of the Florida sandhill crane and the white-crowned pigeon.

The commenter disagreed with statements in the draft EIS that construction noise and traffic may introduce short-term, minor, and adverse impacts to the Florida sandhill crane and white-crowned pigeon because these species rarely occur in the southern Everglades region, and there is no expected loss of habitat.

Response: Because the degree of impact to a species is not directly related to the abundance of that species, the EIS must also recognize impacts occurring to individuals, regardless of species abundance. For this reason, impacts to individuals have been considered in the analysis.

Although the Florida sandhill crane and the white-crowned pigeon are not known to nest in the East Everglades Expansion Area (EEEA), they may occasionally forage within the FPL West Preferred and FPL West Secondary Corridors; therefore, short-term and temporary impacts could result in temporary displacement of birds from foraging and/or loafing grounds.

AE1800 - Affected Environment: Vegetation and Wetlands

Concern ID: 50848

CONCERN STATEMENT: One commenter suggested that the final EIS should include research conducted by Dr. Jennifer Richards on the current condition of wetland ecology in the project area.

Response: The description of vegetation and wetlands in the "Affected Environment" chapter indicates that wetlands in the EEEA are less disturbed and of higher quality than those outside of the EEEA. The NPS acknowledges that incorporating research of Dr. Richards into the description of the affected environment would improve the level of detail in the description of these resources. However, including this information would not affect the conclusion that construction of transmission lines in the FPL West Preferred Corridor would have major, adverse impacts to these resources. As a result, this information is acknowledged, but not included in the "Affected Environment" chapter.

Concern ID: 50850

CONCERN STATEMENT: One commenter noted that while Everglades National Park is an International Biosphere Reserve, a World Heritage Site, a Wetland of International Importance, and a Specially Protected Area under the Cartagena Convention, Congress approved the land exchange after those designations were determined and felt that congressional approval implies that utility construction would not be inconsistent with these designations.

Response: The U.S. Congress did expressly authorize the land exchange, although it did not mandate it. The purpose of this EIS is to analyze and disclose impacts on the park and its resources and values, many of which are related to these designations.

AE1900 - Affected Environment: Wilderness

Concern ID: 50851

CONCERN STATEMENT: One commenter noted that the chapter 3 description of wilderness does not include a discussion of the existing manmade structures present in the EEEA or the current condition of the wilderness environment.

Response: The affected environment discussion for wilderness, beginning on page 159 of the draft EIS with a discussion of untrammeled qualities, describes the current condition of the wilderness and specific NPS management plans to restore the natural conditions and improve the overall wilderness character, including the 2013 Draft General Management Plan and East Everglades Wilderness Study. On page 162 of the draft EIS, the affected environment section describes the 250 relatively small/minor structures that are currently within the 1,296,000-acre park wilderness, potential wilderness areas identified in the 1978 designation, and wilderness-eligible areas in the EEEA.

AE2000 - Affected Environment: Water Quality

Concern ID: 50936

CONCERN STATEMENT: One commenter noted that the Everglades Outstanding Florida Water designation changes the standard for a permit from "not contrary to the public interest," to "clearly in the public interest," based on a balanced consideration of factors. Findings from hearings on the proposed transmission line demonstrated that it is clearly in the public interest, and FPL should be able to obtain permits. The commenter further stated that the proposed transmission lines would not adversely affect navigation or the flow of water, or cause harmful erosion or shoaling.

Response: The National Environmental Policy Act (NEPA) analysis recognizes the decisions by the State administrative law judge associated with the State approval process, including the findings made regarding the public interest. However, the purpose of the draft EIS is not to determine whether or not permits for a transmission line should be granted, but rather to identify the indirect effects of alternatives, including the possible location of transmission lines. The draft EIS describes the effects of the construction of transmission lines on the flow of water of water and concludes that the construction would result in some degree of erosion, even if measures are adopted to minimize those impacts. The draft EIS does not identify impacts to navigation resulting from the proposed transmission lines.

While the state's findings regarding public interest may be considered in the context of the draft EIS and may also be considered by the NPS in reaching its decision, the NPS decision must be based on its federal statutory mandates, which necessarily weigh different factors than were at issue in the State process for certification.

AL1000 - Alternatives: Terms and Conditions

Concern ID: 50852

CONCERN STATEMENT: One commenter indicated that it was judgmental for the final EIS to state that terms and conditions that are significantly different than those included in the Record of Decision could result in additional NEPA analysis.

Response: The draft EIS analyzes impacts based on actions reasonably foreseeable at the time of the analysis, including draft terms and conditions. An agency decision is not made until the Record of Decision. Should terms and conditions be part of the selected alternative in the Record of Decision, the draft terms and conditions of the analysis would be included. If the terms and conditions agreed to by FPL and NPS differ greatly from those included in the EIS analysis, the adequacy of the analysis would need to be reconsidered at that time. No judgment or decision has been made regarding terms and conditions at this time.

Concern ID: 50853

CONCERN STATEMENT: One commenter recommended that the NPS review the Conditions of Certification as well as the Recommended Order completed by the Florida Fish and Wildlife Conservation Commission when evaluating alternatives.

Response: The NPS agrees. Both of these documents will be reviewed when evaluating the alternatives for the final EIS.

Concern ID: 50869

CONCERN STATEMENT: One commenter provided multiple comments about the draft terms and conditions in the draft EIS and stated that they are not consistent with the minimum requirements of the 2008 Contingent Exchange Agreement, should not duplicate state or government requirements, and must contain objectively quantifiable performance measures.

Response: With respect to the commenter's concern that the terms and conditions "be generally consistent with the spirit of the 2008 Contingent Agreement," the NPS notes that it was directed by Congress, subsequent to the 2008 Contingent Agreement, to develop terms and conditions. Any terms and conditions must reflect current research, observations, and conditions. The "spirit" of a six-year-old agreement predating Public Law 111-11 would be a vague, probably outdated, and generally unworkable basis for developing terms and conditions.

The commenter stated that the terms and conditions of any land exchange should not duplicate terms and conditions of agreements or licenses issued by state or governmental entities. The NPS generally intends to develop terms and conditions that are consistent with requirements of the State of Florida and other governmental entities, but because some of those requirements were being developed during the drafting of the draft EIS, no fixed final requirements could be incorporated into the analyses required for the draft EIS. Therefore, the NPS developed terms and conditions for analysis that may overlap with requirements of other regulatory entities to evaluate their impacts and mitigation effects.

The NPS does not agree that terms and conditions must include "objectively quantifiable performance measures." Such measures will be considered where appropriate, but terms and conditions that simply address goals and methods to achieve goals are also appropriate for consideration even if they do not have objective and quantifiable performance measures.

AL1300 - Alternatives: Alternative 1a (Substantive)

Concern ID: 50855

CONCERN STATEMENT: Two commenters stated that alternative 1a does not comply with the project's objectives, park purpose, or hydrological restoration goals. Commenters felt that if the NPS does not acquire the FPL inholding or flowage easement, critical restoration projects could not be completed.

Response: The NPS agrees; however, a no-action alternative does not have to meet the purpose, need, or objectives of a project. The no-action alternative provides a baseline analysis against which to compare the action alternatives.

AL1330 - Alternatives: Alternative 1b (Substantive)

Concern ID: 50856

CONCERN STATEMENT: Two commenters felt that alternative 1b is the true no-action alternative and questioned text in the draft EIS regarding future permitting. Both commenters recommended using alternative 1b as the true no-action alternative without any assumptions regarding the ability to permit the corridor. The commenter indicated that the EIS should not speculate about potential future permitting decisions made by other agencies. One commenter suggested that alternative 1b be regarded as an option that was considered but dismissed as a viable alternative because of FPL's withdrawal of the West Secondary Corridor for consideration under Florida's Site Certification Application (SCA) process. The commenter stated that the assumption that restoration would not occur is unrealistic and that the 2013 SCA proceeding demonstrated that the West Secondary Corridor would be in violation of local, state, and federal laws and regulations.

Response: As discussed in many places in the draft EIS, actual environmental impacts will depend in large part on factors that are beyond the control of the NPS. The alternatives and scenarios discussed in the EIS represent the best effort to describe both the range of actions the NPS could actually take and the potential environmental impacts that could occur as a result of the actions.

The Council on Environmental Quality (CEQ) NEPA regulations require the alternatives chapter in an EIS to "include the alternative of no action" (40 CFR 1502.14). The Department of the Interior's NEPA regulations (43 CFR 46.30) provide two interpretations for the term "no action." The first interpretation is that no action "may mean 'no change' from a current management direction or level of management intensity (e.g., if no ground-disturbance is currently underway, no action means no ground-disturbance)." The second interpretation "may mean 'no project' in cases where a new project is proposed for implementation." This EIS includes alternatives addressing both of these interpretations. Alternative 1b is a "no project" alternative because it analyzes a scenario in which the NPS would take no action and construction would occur in the corridor. Alternative 1a represents a continuation of the current level of management intensity because the NPS would take no action and there would be no construction.

The inclusion and designation of these alternatives is not meant to reflect any judgment or speculation by the NPS about future permitting or any other aspect of the probability of implementing alternatives 1a or 1b. These alternatives are included because the NPS believes they are important for the environmental analysis and serve as the best effort of the NPS to follow the NEPA regulations.

The no-action alternative includes no acquisition, but the reasonably foreseeable outcome is transmission line construction. FPL still owns the corridor and could still seek to build in the corridor; therefore, alternative 1b reflects a possible outcome of taking no action. The NPS believes it warrants analysis to provide a comparison of potential impacts. The NPS does not speculate about permitting, but provides a range of potential outcomes based on other agency decisions.

AL1600 - Alternatives: Alternative 2 (Substantive)

Concern ID: 50858

CONCERN STATEMENT: Multiple commenters requested that the EIS include a full analysis of the cost of each alternative, specifically the cost of acquiring the FPL property in the EEEA (alternative 2). To properly analyze alternative 2, commenters requested that the EIS include previous land appraisals, acceptable compensation, the cost of condemnation, and the cost for FPL to purchase a new corridor.

Response: A determination of the costs of alternatives requires information and assumptions regarding timing, circumstances, market forces, and other variables. Thus expert opinions regarding the potential cost of the various alternatives will vary considerably even if based on the same information. The most reliable cost information currently available is set forth in the discussion about costs of the specific alternatives found on pages 46–47 of the draft EIS.

It is not the intention of the NPS to use a cost-benefit analysis in reaching its final decision on land acquisition. The discussion of costs in the draft EIS is intended only to "indicate those considerations, including factors not related to environmental quality, which are likely to be relevant and important to a decision" (40 CFR 1502.23). For each of the alternatives, the draft EIS provides information on the relative costs to the government for land acquisition, but notes that considerable uncertainties exist regarding valuation. Some commenters asserted that just compensation for the direct acquisition of the FPL property would be limited to the prices of vacant land. The draft EIS discussion of costs for direct acquisition acknowledges that the determination of just compensation would depend on a determination of the highest and best use for the FPL property and its fair market value, and that such a determination could limit the value to a vacant land value.

Some commenters offered cost estimates. Federal agencies use guidelines including the Uniform Standards for Professional Appraisers Practice and the Uniform Appraisal Standards for Federal Land Acquisition to appraise properties. It would be inappropriate for the draft EIS to endorse or adopt studies of costs that were not prepared for the purpose of establishing fair market value of a specific acquisition using these federal standards.

Concern ID: 50859

CONCERN STATEMENT: One commenter stated that alternative 2 does not provide FPL with a viable corridor and would delay restoration efforts, noting that NPS money spent on acquiring the corridor would be better spent on ecosystem restoration efforts. The commenter requested that such lost opportunities be fully addressed in the EIS.

Response: The NPS action is to acquire FPL land in the EEEA. The purpose and need of the action does not obligate the NPS to provide FPL with a viable corridor. Additionally, the FPL corridor is not the only remaining inholding in the EEEA, and this EIS is not delaying restoration activities. The discussion on page 16 of the draft EIS provides details about the associated restoration projects, plans, and timing of those actions.

Concern ID: 50860

CONCERN STATEMENT: One commenter stated that alternative 2 should be selected as the preferred alternative because all other alternatives would result in impairment of park resources.

Response: The impairment determination for the selected alternative will be completed at the time of the Record of Decision. The NPS will not select an alternative that would result in impairment to park resources, in accordance with the 1916 Organic Act. Also refer to the response to Concern ID 50834.

AL1800 - Alternatives: Alternative 3 (Substantive)

Concern ID: 50861

CONCERN STATEMENT: One commenter recommended that the final EIS should include the cost and benefits of alternative 3. Additionally, the commenter felt that the draft EIS overstates the adverse impacts associated with alternative 3 because the analysis ignores that the exchange corridor consists primarily of previously disturbed lands and ignores the potential for FPL to avoid, minimize, and mitigate adverse impacts. The commenter requested that the EIS acknowledge existing transmission lines in the vicinity of the EEEA that have not resulted in significant adverse impacts.

Response: The final EIS includes information related to the various costs of the alternatives (chapter 2) as well as several conclusions of benefits to the NPS and overall public from the various alternatives. For example, the final EIS concludes that alternative 3 would enhance conservation of the resources and values of the park, including hydrologic resources. Alternative 3 is anticipated to have a substantial long-term beneficial impact to the hydrology of the park. In several places throughout the document, the final EIS concludes that the terms and conditions placed on FPL as part of any exchange would serve to avoid, minimize, and mitigate potential environmental impacts from transmission line construction and operation.

Regarding the comment about impacts of existing transmission lines, there are no major transmission lines in or adjacent to the project area, and the NPS has no data on impacts of other transmission lines in South Florida. There are distribution lines along roads in the project area, but these are not of the scope or scale of the transmission lines being proposed, and there are no data on their effects on area resources. Information about the presence of these distribution lines has been added to the “Adjacent Land Uses and Policies” section of the “Affected Environment” chapter of the final EIS.

Concern ID: 50862

CONCERN STATEMENT: Several commenters noted that alternative 3 sets a dangerous precedent for trading federal lands for private interests. The commenters also felt that the beneficial impacts under alternative 3 were overstated and that the adverse impacts should not be considered a viable management alternative. Commenters felt that impacts to resources under alternative 3 were unacceptable and would result in impairment to park resources. One commenter also requested that any exchange of lands only be completed after all necessary permitting has been secured.

Response: In the Omnibus Public Lands Management Act of 2009, Congress authorized the land exchange with FPL, specific to the exchange corridor at Everglades National Park. The NPS has reviewed all adverse and beneficial impacts for the final EIS and ensured that impacts meet the intent of the appropriate intensity threshold for each impact topic and alternative. Impairment will be addressed at the time of the Record of Decision for the selected alternative. Either exchange alternative will include specific terms and conditions (see appendices G and H) that will address broad resource and land protection goals of the NPS. The purpose and need for the project is to acquire FPL land to facilitate

hydrologic restoration of this portion of the Everglades. Waiting to acquire those interests until after FPL has secured all future permits for the transmission lines, given the unknown timeframe for receiving those permits, would not meet the purpose and need of the NPS for this action.

AL4000 - Alternatives: New Alternatives or Elements

Concern ID: 50863

CONCERN STATEMENT: One commenter suggested a new alternative that would allow the NPS to work with nonfederal partners to provide a land exchange of the FPL corridor for proprietary rights outside the Everglades National Park boundary.

Response: Although such an exchange was not made, on May 19, 2014, Florida's Governor and Cabinet, sitting as the Siting Board, issued a Final Order (FO) of Certification approving FPL's application to construct and operate two new nuclear generating units within FPL's Turkey Point plant property, as well as new electrical transmission lines and other off-site facilities. The location, construction, and operation of electrical transmission lines were certified for the West Consensus Corridor as the primary corridor and the FPL West Preferred Corridor as a backup if an adequate right-of-way within the West Consensus Corridor could not be secured in a "timely manner" and at a "reasonable cost." Information about the West Consensus Corridor is contained in the final EIS, and the impacts of such a corridor are analyzed as part of alternative 2.

AL5200 - Alternatives: Alternative 4 (Substantive)

Concern ID: 50854

CONCERN STATEMENT: One commenter stated that the analysis for alternative 3 should be the same as the analysis for alternative 4. If alternative 4 were selected, the commenter stated that the only environmental difference would occur if there were more stringent terms and conditions applied than are currently proposed.

Response: The NPS generally agrees with this comment. The basis for the difference in analysis for alternatives 3 and 4 is that the NPS would maintain the underlying ownership in alternative 4. The difference in environmental impacts between the two alternatives is not great.

AP2000 - Adjacent Land Use and Policies: Methodology and Assumptions

Concern ID: 50864

CONCERN STATEMENT: One commenter provided multiple comments about the study area and methodology for analyzing impacts to adjacent land owners. The commenter felt that the half-mile study area was not supported by literature and that the presence of transmission lines would not alter existing land use or patterns. The commenter requested that the final EIS be revised given that impacts to adjacent lands have no bearing on the NPS legal duties or obligations in deciding whether to pursue alternative 3.

Response: The NPS considers not only the direct impacts of its decision, but also the indirect impacts, which include impacts to adjacent lands from the connected action of transmission line construction, operation, and maintenance. The study area for the adjacent land uses and policies topic includes the entire area east of the park to the urban development boundary, but the discussion is focused on areas that fall within about one-half mile of the corridors because that is where the most intense impacts are from visual and noise impacts associated with transmission line construction and presence, as noted

in the analysis sections of chapter 4, in the "Viewshed (Visual Resources)" and "Soundscapes" sections.

Concern ID: 50879

CONCERN STATEMENT: One commenter noted that any easements for lands north or south of the NPS lands would need to come from the South Florida Water Management District (SFWMD) because the U.S. Army Corps of Engineers (USACE) has deeded those lands to the SFWMD.

Response: The NPS will coordinate with SFWMD should any easements on those lands be needed in the future.

AP4000 - Adjacent Land Use and Policies: Impact of Proposal and Alternatives

Concern ID: 50865

CONCERN STATEMENT: One commenter provided multiple comments about adjacent land use compatibility. Specifically, the commenter disagreed that adjacent land use was incompatible with transmission line construction, stating that construction of towers in a park-like setting was an inaccurate description because existing manmade structures, are compatible with the County Comprehensive Development Master Plan and the Comprehensive Everglades Restoration Plan (CERP). Additionally, the commenter stated that Florida has preempted the location and siting of transmission lines to the state level and prohibits local government regulation (through comprehensive plans, land development regulations, zoning regulations, or similar land use policies) of the location and siting of transmission lines. The commenter felt that there would not be major impacts because adjacent land uses would not change, and the analysis is not supported by literature.

Response: The draft EIS only notes when transmission lines would be in conflict with existing land use plans and does not make any judgment on those conflicts or state that transmission line siting could not occur as a result of a conflict. A major impact, based on the intensity definitions provided on page 388 of the draft EIS, is not determined based solely on land use conflict or a change in land uses, but also if "Adjacent property owners would experience readily measurable effects and changes would be of substantial consequence that would be noticed on a regional scale." Based on this intensity definition, the NPS concludes that a major, adverse impact determination is appropriate.

Concern ID: 50866

CONCERN STATEMENT: One commenter disagreed with the adjacent land use analysis completed under alternatives 3 and 4 and stated that retaining NPS land under alternative 4 would reduce land use incompatibilities.

Response: Transmission lines located in the exchange corridor would cause impacts, regardless of land ownership. The NPS believes that retaining ownership of the exchange corridor with an easement granted as opposed to exchanging it in fee could provide more control over activities on the corridor by both the NPS and others, and this could reduce land use incompatibilities.

Concern ID: 50867

CONCERN STATEMENT: One commenter provided multiple comments about alternative 2, including a comment noting that the draft EIS incorrectly describes the existing land uses in the area of the possible relocated corridor. The commenter felt that alternative 2 does not consider the uncertainty and risk associated with siting and obtaining property rights for transmission lines.

Response: Agricultural uses exist within the area of the possible relocated corridor and at the southernmost portion of the West Consensus Corridor and are described in chapter 3 of the final EIS. Agricultural uses were inadvertently left out of the discussion noted on page 391 of the draft EIS. The final EIS was revised to correct this error. Uncertainty and risks associated with transmission line siting are not applicable to the NPS action and are not be included in the final EIS.

Concern ID: 50868

CONCERN STATEMENT: One commenter noted that the potential for major impacts to adjacent land use under alternative 2 should be specifically described. The commenter felt that the existing text could be interpreted to mean that major impacts could be expected under the National Parks Conservation Association corridor, but agricultural land and transmission lines are compatible.

Response: The draft EIS goes into a more in-depth discussion than the public meeting banner that was referred to by the commenter. The draft EIS does not imply that the National Parks Conservation Association corridor would be a conflicting use.

APP1000 - Appendices: Appendix F

Concern ID: 50801

CONCERN STATEMENT: One commenter suggested that there are several incorrect assumptions in appendix F. The commenter noted that the land exchange does not in itself mean that power transmission lines will be constructed for Turkey Point Units 6 & 7, and that transmission lines could be designed in various configurations within the Fee Property or Exchange Property. The commenter further suggested that vegetation maintenance inspections will take place twice yearly, with vegetation maintenance undertaken as necessary, and that the dimensions and size of the structure pads could change.

Response: Information presented in appendix F was taken from the FPL's SCA, and it is recognized that final design will change configurations of the line and structure pads. For the purposes of the EIS, it was assumed that transmission lines would be constructed following the land exchange, and this was analyzed as a connected action for each alternative. The acreages presented for the pad sizes were inadvertently transposed on page F-10, although they were used correctly in the acre calculations presented in the document. These acreages have been corrected in the final EIS. Also, information about line maintenance was modified to clarify that inspections occur twice a year and maintenance actions would occur as needed (page F-18).

APP3000 - Appendices: Appendix J

Concern ID: 50893

CONCERN STATEMENT: One commenter provided four concerns about using the Avian Risk Assessment (ARA) as a basis for decision-making for the proposed land exchange. Ranked in order of their impact on the validity of the ARA, with the most significant first, these concerns include the following.

1. The nature of the bird-miles variable used is structurally flawed and therefore uninformative with respect to the risk of birds colliding with transmission line structures. The flaw in the bird-miles variable is evident in the hypothetical examples given the risk assessment.
2. The understanding of the relationship between bird flight speed and maneuverability contained within the ARA is the opposite of the scientific consensus view.
3. The habitat-based component of the ARA reaches an apparently erroneous conclusion using methodology that cannot be evaluated because of insufficient description, which may be based on including all habitats within 30 miles. The commenter asserted that the habitat based relative risk results in the analysis contradicts the potential avian habitat acreage results, and that the following concluding statement is inaccurate: "the FPL West Preferred Corridor poses intermediate level or risk to all species."
4. The use of technical literature to contextualize the principal risk issues and the results is incomplete and largely undocumented, and the authors failed to incorporate information on bird flight altitudes into the risk assessment. The commenter questioned missing references with poor documentation of technical literature. The commenter stated that without the full reference information, it is impossible to confirm the content and technical facts within the document.

Response: Responses are provided to coincide with the specific concerns 1 thorough 4, listed above.

1. The authors of the ARA concur with the commenter that the derivation of the relative risk used in the ARA as the primary measure of potentially adverse impacts to birds in relation to transmission lines is structurally flawed. The commenter suggested that the combination of distance and number of birds is sound, but instead of multiplying number of birds by distance, the number of birds should have been divided by the nearest distance to the corridor. However, this approach is also incorrect. The correct calculation of relative risk uses inverse distance weighting, and is described by the following formula:

$$P_{\mathrm{a}}(S_{\mathrm{i}}) = \sum_{j}^{n} \frac{1}{(D_{\mathrm{aj}})\text{^}2} \times S_{\mathrm{ij}}$$

Where $P_a(S_i)$ is the risk from transmission alternative *a* to species S_i as a function of the inverse distance D from colony ^2 (or bird location) *j* to transmission-line alternative *a*. D is the distance in miles, and S is the number of individuals for species S found in colony, or foraging area, *j*. Using this formula, an addendum to the ARA that includes results based on this correct formula for calculating risk has been appended to the final EIS.

With the change in the formula to an inverse distance weighting approach, the example calculations, shown in the table below, illustrate that the clusters of birds that are closest to the transmission lines and have the most birds, also have the highest relative risk, compared to the clusters that are further away with fewer birds.

Population (#)	Distance to Line (mile)	Weight (Multiplier)	Relative Risk
100	1	1	100
100	5	0.04	4
100	10	0.01	1.0
100	25	0.0016	0.2
200	1	1	200
200	5	0.04	8
200	10	0.01	2
200	25	0.0016	0.3
1000	1	1	1000
1000	5	0.04	40
1000	10	0.01	10
1000	25	0.0016	1.6
2000	1	1	2000
2000	5	0.04	80
2000	10	0.01	20
2000	25	0.0016	3.2

2. The ARA does not suggest that flight speed alone is what causes bird collisions. It is true that both wading birds and raptors are biologically more vulnerable than many other bird species and have greater risk of electrocution by and collision with electric utility structures and lines. Flight speed is only one aspect of flight behavior, and as discussed in the ARA, it is not the only indicator of risk. Specifically, APLIC (2012, page 36) states "Different bird species have different collision risks based on their biology, behavior, habitat use, and inherent ability to avoid risk [e.g., Savareno et al. 1996]." Presented in APLIC (2012) is research that describes an evaluation of different species and their collision susceptibility using wing loading and wing aspect ratio. Wing loading is the ratio of body weight to wing area, and with aspect ratio is the ratio of the square of the wingspan to the wing area. Specifically, the following is stated on page 37 of APLIC, "High wing loading birds are frequently reported as collision casualties, including large, heavy bodied birds with large wing spans such as herons, cranes, swans, pelicans, and condors. These and similar species generally lack the maneuverability to quickly avoid obstacles." Additionally, as specifically stated in the most recent APLIC Collision Manual (APLIC 2012), three orders of birds that are prevalent in the Everglades are reported to be most susceptible to collisions with transmission lines. These orders include the Pelecaniformes (pelicans and cormorants), the Ciconiiformes (storks, ibis, herons), and the Falconiformes (hawks, eagles) (APLIC 2012, page 32). Also according to APLIC 2012, "the reasons for this susceptibility are functions of species characteristics, in particular the birds' body size, weight, wing shape, flight behavior, and nesting habits." Therefore, the information presented in the ARA is consistent with and reflects the scientific consensus regarding avian risks resulting from stationary objects such as transmission lines.

3. The acres of habitat for each corridor presented in the ARA are based on total corridor width, which can vary for each corridor. In particular, the West Preferred Corridor

expands to about 900 feet wide in some places, and so the acreage figures for this corridor reflect that greater area; a direct comparison cannot be made to the other corridors that are not of the same width. An addendum to the ARA explains this and corrects the comparison that was made. However, this results in no change to the overall conclusions regarding relative risk of the FPL West Secondary and FPL West Preferred Corridors for focal bird species.

4. All references are documented in the final version of the ARA that is appended to the final EIS. Regarding the component of this concern about the incomplete incorporation of data on bird flight altitudes because both the wood stork and snail kite have had nests and can potentially nest in the future in the areas within and adjacent to the transmission line corridors, flight related to nesting behavior can increase collision risk if nests are near transmission lines. According to APLIC (2012), such behavior includes courtship (e.g., aerial displays and pursuit), nest building, fledgling flights, flights to and from the nest for feeding, territorial defense, and general flying around the nest or colony. These behaviors are most important for birds that nest in colonies, such as herons and egrets. Increased risks can also be associated with the age of a bird (i.e., adults and juveniles). Fledgling birds have less control of their flights and are more vulnerable to collisions than adults (APLIC 2012, page 41). There may also be risks for birds crossing a transmission line from the nesting site to a foraging area. Again, this is most important for colonial birds that will travel together to feed (APLIC 2012, page 44). For nonmigrating birds, flight altitude is likely to be within the range of transmission line height. Their flight is a function of their feeding, reproductive, and foraging behaviors. These behaviors usually occur within approximately 200 meters (660 feet) of the ground, which can expose birds to collision risk when in the proximity of transmission lines (APLIC 2012, page 39).

   In addition, the species that are using the Everglades and that are considered in the ARA are not only flying over the transmission lines, but are also using habitats for foraging, nesting and breeding, and raising young that are in the vicinity of the transmission lines. Because of this, even if wood storks or snail kites (both listed species) or other species typically fly or soar at heights predominantly above the transmission lines, their flight altitudes are variable especially within the corridors because they may land or take off from the areas adjacent to the transmission lines. As a result, there is a range of flight heights for the kites and storks that could potentially intersect the transmission lines during flight to and from the nest or foraging areas. As a result, the flight altitudes are variable for nesting and foraging birds that use areas within and adjacent to the corridors, which can translate into risk.

   Finally, as mentioned above, the wood stork and snail kites are considered threatened and endangered, respectively. Transmission line collisions may be significant to very small or declining populations and they may not be capable of compensating for this loss, resulting in biologically significant risk from (APLIC 2012, page 32). Therefore, for all reasons presented here, flight altitudes at which various species of birds typically fly were not included in the ARA.

APP4000 - Appendices: Appendix K

Concern ID: 50776

CONCERN STATEMENT: One commenter suggested that technical errors were made in the photographic simulations to include the locations of key observation points does not correspond to the key map and location where photographs were taken.

Response: The text in figure 23 on page 148 of the draft EIS has been revised for consistency between the key observation points represented and the various photos and simulations provided throughout the document.

Concern ID: 50777

CONCERN STATEMENT: One commenter suggested that the assumption used for the photographic simulations is incorrect and overstates the visual impacts of the transmission lines. One commenter suggested that the methodology used to develop the photo simulations resulted in an overstatement of the visual impacts of the proposed transmission lines.

Response: The NPS does not believe that impacts were misrepresented or overstated in the draft EIS; therefore, impacts in the final EIS remain as presented in the draft EIS. Key observation points were developed by the project team and represent the most visible or high use areas within this portion of Everglades National Park. Photographs were taken to best represent the views from the newly constructed one-mile bridge, airboat paths, and the existing L-31N canal levee road.

By comparing the existing conditions with the post-construction appearance via photo simulations, visual impacts have been accurately and reasonably presented throughout the visual analysis. Photo simulations were created using information provided in the SCA, and the methodologies employed have a proven record of accurately representing the impacts of transmission towers.

CC1000 - Consultation and Coordination: General Comments

Concern ID: 50802

CONCERN STATEMENT: Commenters suggested that the public comment process did not obey the procedural requirements for EISs or the Administrative Procedure Act because the cover sheet did not disclose the date by which public comments must be received and did not include a one-paragraph abstract of the EIS. One commenter suggested that the cover sheet and abstract are too extensive and not in keeping with 40 CFR 1502.1.

Response: The cover sheet was longer than usual because it sought to explain some of the complexities of this project, such as the exchange legislation and other historical background, and the combination of alternatives and build scenarios that appear in the EIS. The NPS agrees with the commenter, though, that this summary could be more concise and it is revised in the final EIS as possible.

Due to the printing schedule, the printed cover sheet in the draft EIS simply referred readers to the EPA Federal Register notice for information on commenting. NPS does not believe that this interfered with anyone’s ability to comment. Moreover, the draft EIS was also accompanied by a transmittal letter from the park superintendent, which included the comment deadline and generally conformed to the other cover sheet requirements.

Concern ID: 50803

CONCERN STATEMENT: Commenters suggested that the EIS should acknowledge that additional NEPA documents may be needed to address any discrepancies, and the NPS should provide additional consultation opportunities to further comply with Section 106 compliance.

Response: The State Historic Preservation Office (SHPO) was notified during the public scoping period and at the release of the draft EIS. The draft EIS is the vehicle to determine if additional Section 106 compliance is required. The SHPO has stated that the draft EIS complies with Section 106. However, consultation with multiple agencies will continue to be an ongoing process. Future NEPA documentation and permitting will be the responsibility of the USACE as it seeks to permit the corridor. If alternative 4 is selected, the NPS would be the responsible party for Section 106 consultation moving forward once the final design is identified and approved. A previous cultural resources survey was completed in the exchange corridor and found no cultural resources. Full surveys, in consultation with the SHPO, would be completed before construction.

Concern ID: 50805

CONCERN STATEMENT: One commenter suggested that the NPS should provide the public with a revised document that includes any updated information and the selection of a preferred alternative, so that the public has an opportunity to examine the most recent information and to provide comments to inform the selection of the preferred alternative.

Response: The NPS will release the final EIS to the public, in accordance with NEPA regulations. Given the development of the West Consensus Corridor as part of the SCA process, there will be no additional comment period for the selection of the preferred alternative.

Concern ID: 50832

CONCERN STATEMENT: One commenter suggested that before the location of the transmission lines is determined, the Nuclear Regulatory Commission (NRC) EIS for the Turkey Point should be completed and approved, noting that the transmission lines would not be needed without that expansion.

Response: The NPS action and decision are related to acquiring FPL lands in the EEEA and are not solely related to FPL transmission line construction or any future actions at Turkey Point. The inclusion of transmission line scenarios in the EIS was done based on the state siting certification and the need to consider connected actions. The construction of transmission lines depends on factors that are not fully within the control of the NPS.

FP4000 - Floodplains: Impact of Proposal and Alternatives

Concern ID: 50937

CONCERN STATEMENT: The commenter stated that proposed transmission lines can be appropriately engineered under any of the draft EIS alternatives to avoid adverse impacts to floodplain function or values and to avoid increasing flood risks. FPL can design the transmission structures, pads, and access roads to accommodate an increase in water levels that might result from restoration efforts in the Everglades. Impacts on groundwater recharge and downstream hydroperiods would be negligible and also would have negligible impacts, if any, on storage capacity within Everglades National Park, and storage capacity would depend primarily on hydrological restoration projects, such as the Modified Water Deliveries (MWD) project.

Response: The draft EIS analysis considers construction of features as described in appendix F. We recognize that transmission line construction may not be a certain outcome of this action, and that some of the potential impacts may be avoided through design of the transmission line. However, FPL has made no commitment to design transmission infrastructure in a manner that is consistent with Everglades restoration objectives, and the NPS consequently assumes impacts that would result from the design in appendix F. This includes impacts to floodplain function.

Concern ID: 50938

CONCERN STATEMENT: One commenter stated that the assertion of long-term, adverse impacts of transmission line construction is incorrect, and that impacts to floodplains under all alternatives are incorrect in the draft EIS. The commenter also indicated that the description and assumptions about the flowage easement are incorrect. The commenter stated that it was misleading to assume that the lack of a flowage easement would mean that increased restoration flows would not be accommodated or that ownership by NPS would ensure accommodation of restoration flows, as neither an easement nor ownership by NPS is a requirement for construction of a transmission line that can accommodate restoration flows.

Response: The NPS concludes that construction of structure pads and access roads that form a linear barrier to flow over a significant portion of the EEEA has the potential to have major, adverse impacts to floodplain natural resources or functions. In the absence of finalized plans that demonstrate impacts can be mitigated as described by the commenter, the NPS does not agree with the conclusion that impacts would be localized and negligible or that construction of transmission lines would protect, preserve, and restore floodplain natural resources.

Additionally, the commenter appears to assume that the United States can implement projects that increase flooding of private property without acquiring the property or obtaining a flowage easement. Statutory obligations on uniform real estate acquisition practices obligate federal agencies to acquire property needed for federal projects prior to federal use of the property. See 42 USC 4651.

GA1000 - Impact Analysis: Impact Analyses

Concern ID: 50806

CONCERN STATEMENT: One commenter suggested that the final EIS should note that there would be no impacts or negligible impacts to cultural resources, due to the project design and mitigation measures that would be employed.

Response: Beginning on page 31 of the draft EIS, the document provides an in-depth discussion of all cultural resources in and around the project area. The draft EIS cannot state that there would be no impacts or negligible impacts without final design and SHPO consultation.

Concern ID: 50807

CONCERN STATEMENT: One commenter suggested that hazardous, toxic, and radioactive waste should be discussed in the EIS. The commenter notes that high levels of naturally occurring arsenic can be found in otherwise pristine Everglades soils. Although this may not present an environmental or health risk, the presence of arsenic should be mentioned in the EIS.

Response: There are no reasons to assume that hazardous, toxic, or radioactive waste is present in Everglades National Park because there are no nearby sources that could introduce these chemicals into the park. By contrast, chemicals from agricultural practices upstream (south of Lake Okeechobee) and east (Homestead Agricultural Area) of the park have the potential to be of concern. However, a comprehensive ecological risk assessment recently conducted by the Everglades National Park in collaboration with Florida International

University (Contaminant Assessment and Risk Characterization CARE for Everglades National Park, Biscayne National Park, and Big Cypress National Preserve; Piero Gardinali, Joffre Castro, Natalia Quinete, and Gary Rand, in progress), which included 31 organochlorine pesticides, 20 polychlorinated biphenyls, 46 polynuclear aromatic hydrocarbons, 17 organonitrogen herbicides, 29 organophosphorus pesticides, 12 phenoxy acid herbicides, 20 pharmaceuticals, and 20 trace metals found that ecological risk to aquatic fauna was none to minimal. The study found that arsenic occurs naturally in soils, mostly as organic non-toxic compound and arsenic was not identified as a potential concern in the freshwater ecosystem of the park.

Concern ID: 50808

CONCERN STATEMENT: One commenter suggested that the NPS should provide the title of the New South Report that shows an archeological site that is within the west corridor location, so that the findings can be verified.

Response: The title of the 2009 New South Associates archeological report cited on page 31 of the draft EIS (page 32 of the final EIS) and included in the references on page 444 of the final EIS is shown in the following citation:

New South Associates

> 2009 Phase 1 Archaeological Survey for a 6-Mile Florida Power and Light Corridor, Everglades National Park, Miami-Dade County (Final Report). August 27, 2009.

The previous investigations discussion on pages 17–19 of this report includes a map of previously recorded sites in the project vicinity including Florida Master Site File # 8DA2104 located east of the L-31N canal. This site, called the Levee Cut, appears to be located within or adjacent to the West Consensus Corridor on the east side of the canal. The text states:

"New South Associates (Koski et al. 2005) conducted a Phase I Cultural Resources Survey east of the present study area for the proposed L-31N Seepage Management Area and performed a Phase II archaeological site evaluation of the Levee Cut site (8DA2104)…Results indicated that the site contained pre-Glades and Glades I Late through Glades IIIc materials and was deemed eligible for the National Register of Historic Places."

The citation for the 2005 report is shown below:

Koski, S., M., Sheffield, and J. Loubser

> 2005 Phase I Cultural Resources Survey of the L-31N Seepage Management Area and Phase II Archaeological Site Evaluation Study of the Levee Cut site (8DA2104), Dade County Florida. Report prepared for the US Corps of Engineers, Jacksonville, Florida., by New South Associates, Inc., St. Augustine, Florida

In 2009, Janus Research, Inc. completed a Preliminary Cultural Resources Report for the Turkey Point Units 6 & 7 and Associated Linear Facilities. The report provides a preliminary assessment of known cultural resources within and adjacent to the FPL West Preferred and Secondary Corridors for the proposed transmission lines. The discussion of previously recorded archaeological sites on page 18 of this report includes the following text regarding the Levee Cut site:

"Levee Cut (8DA2104) is a prehistoric midden with the potential for human remains that has not been evaluated for NRHP eligibility by the DHR/SHPO. Site 8DA2104 has been locally designated by the Miami-Dade County Historic Preservation Board (MDCHPB) and is located within the Nickernut Archaeological Zone. A Certificate to Dig and/or a

Certificate of Appropriateness may be required prior to commencement of work in a designated archaeological zone. Also note that many designated archeological sites include a buffer zone surrounding the identified resource that is also subject to protection."

The citation for the 2009 report is shown below:

> Preliminary Cultural Resources Report for the Turkey Point Units 6 & 7 and Associated Linear Facilities. Prepared for Florida Power and Light Company by Janus Research, Inc., Tampa, Florida, in cooperation with Golder Associates, Inc., Tampa, Florida, Revised June 2009.

Concern ID: 50809

CONCERN STATEMENT: One commenter suggested that a uniform mitigation assessment method should be conducted on the mitigation measures and impact sites.

Response: The NPS anticipates that a Uniform Mitigation Assessment Method or similar methodology will be used to determine the appropriate mitigation for impacts that may ultimately occur as a result of construction of transmission lines and associated infrastructure as part of the Section 404 permit review process by the USACE. Conducting this type of analysis is outside the scope of this EIS. For the purposes of this analysis, the NPS determined that mitigation within the Hole-in-the-Donut Wetland Mitigation Bank as compensation for potential wetland impacts represents a reasonable assumption until additional information becomes available.

Concern ID: 50810

CONCERN STATEMENT: One commenter suggested that the EIS should avoid making comparisons of impacts and instead focus on the actual impacts associated with each individual alternative.

Response: The draft EIS compares each alternative to the existing baseline and sometimes makes comparisons among alternatives to help explain the differences among alternatives. Text in the summary table was revised for clarity.

Concern ID: 50811

CONCERN STATEMENT: One commenter suggested that the public cost of acquisition is a socioeconomic factor that should properly be evaluated in the EIS.

Response: The cost incurred by the United States is not considered to be a socioeconomic impact, but it is a factor that is relevant and important to the overall decision, which will be considered by the NPS. Information related to the different costs of the alternatives is provided in chapter 2.

GA2000 - Impact Analysis: Use Trends and Assumptions

Concern ID: 50812

CONCERN STATEMENT: One commenter suggested that the estimated size of structures and corresponding amount of fill is a conservative estimate, and that this should be noted in the EIS. Additionally, the final amount of wetlands impacted may be reduced through avoidance and minimization in the selection of the final right-of-way and engineering design.

Response: The assumptions used to estimate the amount of fill and acres disturbed are presented in the draft EIS in chapter 4, page 195, and were taken from the FLP SCA as well as from other information provided by FPL (pad and road dimensions). These are not necessarily the most conservative assumptions (e.g., span length was estimated at 500 and 1,000 feet) but were considered reasonable assumptions to use at this stage of design. It is noted that the acres of wetlands lost as presented are based on preliminary design and are

subject to change with final design and site-specific mapping.

Concern ID: 50813

CONCERN STATEMENT: One commenter suggested that all alternatives except for alternative 2 are in opposition to the Fifth Amendment of the U.S. Constitution.

Response: The Fifth Amendment is not relevant to the commenter's concerns about an inequitable result for the public. The commenter otherwise simply appears to be stating a belief that previously stated estimates of the corridor's value have been too high, which is not a substantive comment about the analysis in the EIS. The "Takings" clause in the Fifth Amendment prohibits taking private property (such as FPL's) for public use without payment of just compensation, but it does not somehow require the selection of alternative 2, as the commenter suggests. In addition, there would not be a "taking" because FPL would be compensated for any land that would go to the United States under that alternative.

GA3000 - Impact Analysis: General Methodology for Establishing Impacts/Effects

Concern ID: 50814

CONCERN STATEMENT: One commenter suggested that the intensity of beneficial impacts should be disclosed in the EIS.

Response: Generally the NPS does not use intensity thresholds for beneficial impacts. Instead, the NPS uses qualitative and quantitative (if possible) descriptions and general descriptions of the beneficial impacts that would result from the alternatives.

Concern ID: 50815

CONCERN STATEMENT: One commenter suggested that the terms "noticeable impacts" and "appreciable" should be defined in the EIS.

Response: These terms are defined on page 197 of the draft EIS in the "Cumulative Impacts Analysis" section.

Concern ID: 50833

CONCERN STATEMENT: One commenter suggested that the Tribal cumulative impacts section does not discuss how the NPS made its determination that there were no cumulative projects to consider. Further, the commenter recommended that the NPS better describe the process or methodology used in determining the cumulative scenario.

Response: None of the past, present, or foreseeable future projects would impact tribal lands in the project area. Construction of the western corridor segment above the park is already accounted for within the EIS alternative analysis. Other projects are either water-related, located within the park boundary, existing operations, or not located near tribal lands.

GA4000 - Impact Analysis: Impairment Analysis-General Methodology

Concern ID: 50834

CONCERN STATEMENT: One commenter suggested that every alternative except for alternative 2 would result in an impairment of resources and, accordingly, the NPS is precluded from selecting any alternative other than alternative 2. One commenter suggested that alternative 3 would result in impairment of park resources. Another commenter suggested that alternative 3 would not result in an impairment of park resources.

Response: The procedural duty to take a "hard look" at the environmental consequences of a proposed action and its alternatives, and to prepare an EIS if there is the potential to cause significant impacts, is separate from the substantive prohibition against impairment of park resources and values found in the NPS Organic Act. It is NPS policy to analyze impairment in conjunction with the NEPA process, so that the NPS may be informed by the NEPA analysis. The requirements of the two statutes are nonetheless quite distinct. The non-impairment determination is not itself subject to NEPA procedural requirements. Pursuant to the Guidance for Non-Impairment Determinations and the NPS NEPA Process, a non-impairment determination will be attached to the Record of Decision, thus complying with the Organic Act and NPS *Management Policies 2006* regarding impairment findings.

Concern ID: 50888

CONCERN STATEMENT: One commenter suggested that the NPS should consider the results of the Line Route Evaluation in its entirety in the final EIS.

Response: The Line Route Evaluation has been overcome by events, as informed by the state certification process. The final EIS has been revised to reflect the updated status.

HD4000 - Hydrology: Impact of Proposal and Alternatives

Concern ID: 50918

CONCERN STATEMENT: One commenter stated that the EIS should do a better job explaining that FPL construction, operation, and maintenance of transmission lines under any of the alternatives would not obstruct hydrological restoration projects because FPL has specifically committed to coordinate with SFWMD regarding planned projects. Furthermore, the adverse impacts from transmission line construction on hydrology are overstated because FPL could design other utility facilities in this area to similarly avoid obstruction of hydrologic restoration projects.

Response: The NPS analysis of hydrologic impacts from transmission line construction presumes that hydrologic disruptions would be minimized through adherence to terms and conditions. However, transmission line construction, operation, and maintenance would result in hydrologic alteration to some extent. Because of the significance of the needed investment in restoration, assurances of compatibility with restoration in advance are needed to allow restoration to proceed.

Concern ID: 50940

CONCERN STATEMENT: One commenter stated that alternatives 3 and 4 reduce potential impacts on Northeast Shark River Slough (NESRS) by moving transmission line impacts adjacent to more developed areas east of the park. The commenter stated that construction, operation, and maintenance of transmission lines under any of the transmission line alternatives evaluated in the draft EIS would not obstruct restoration projects, including the goal of restoring NESRS, or otherwise adversely impact hydrology, including changes to overland or surface flows, regardless of land ownership.

Response: We agree that alternatives 3 and 4 may reduce impacts to hydrology compared to the potential for construction within the FPL West Secondary Corridor. However, transmission line construction within Everglades National Park increases hydrologic impacts compared to construction outside of the park, both with and without restoration. Land ownership, or a right to flow water over such lands, is an essential component to allow restoration efforts to proceed.

HD5000 - Hydrology: Methodology and Assumptions

Concern ID: 50941

CONCERN STATEMENT: One commenter stated that although all lands in the EEEA are needed for restoration, the 1991 Land Protection Plan does not specifically state what will be restored. To the extent that restoration is hydrologic restoration, the EIS ignores the fact that the exchange alternatives allow restoration of flows more rapidly than acquisition options because of the congressional action that would be required for the acquisition, whereas Congress has already authorized an exchange.

Response: The FPL corridor is not the only inholding in the EEEA (there are five other properties), and this EIS is not delaying restoration activities. On page 16 of the draft EIS, the document describes the associated restoration projects, plans, and the timing of those actions. The completion of the acquisition or exchange does not automatically mean water will flow. Alternative 2 would delay restoration of Everglades hydrology only if all other prerequisites have been completed in the restoration area, and sufficient interests in FPL lands have not been acquired (currently projected to be complete in 2018). Also refer to the response to Concern ID 50859.

II1000 - Irretrievable Impacts: General Comments

Concern ID: 50778

CONCERN STATEMENT: One commenter suggested that the EIS incorrectly asserts that the park would lose the ability to control all actions in the corridor pursuant to an easement agreement. The commenter further notes that a fee-for-easement is not acceptable for FPL and would not provide FPL with a like-for-like exchange of property rights or contiguous corridor.

Response: The arrangement by which a land exchange is consummated and the terms and conditions for that exchange are subject to negotiation between the NPS and FPL. It is not uncommon for utility corridors to be located on easements, and the West Primary Corridor would use property for which FPL has an easement and not a fee interest. A small portion of the FPL property is held as an easement and not in fee. It is not necessary to have a like-for-like exchange if the end result is agreeable to both parties and serves the purposes of the exchange. Text on page 421 of the draft EIS has been modified to state that NPS would have a reduced ability to control actions in the corridor with a fee-for-easement agreement, compared to owning the land outright with no encumbrance. The fee-for-easement exchange would provide the NPS with approval rights for actions occurring within the easement, but certain uses would be permitted, which is an irretrievable commitment of those lands.

Concern ID: 50779

CONCERN STATEMENT: One commenter suggested that conclusions relating to irreversible and irretrievable impacts are incorrect, including:

- prolonged continuation of altered hydrology in the area;
- irreversible or irretrievable loss of vegetation and wetlands; and
- irreversible or irretrievable loss of special-status species (individuals) and wildlife habitat.

Response: Impacts that are considered irretrievable include losses of production or use of natural resources and irreversible impacts are those that involve permanent losses of resources or values. The EIS states that the change of land use from current conditions to transmission line structures and roads would result in irreversible or irretrievable loss of vegetation and wetlands, and special-status species (individuals) and wildlife habitat.

Based on the impacts analysis presented for those topics, the NPS considers this to be correct. Mitigation would not fully offset impacts and there may be long-term effects on species, depending on the species present and area affected. Hydrology would be permanently altered by the construction and presence of pads and roads.

Concern ID: 50780

CONCERN STATEMENT: One commenter suggested alternative 2 would result in unprecedented commitments of resources as a result of FPL's cost to acquire a replacement corridor in privately owned land east of the park.

Response: Costs to purchase additional right-of-way outside the park are not lost resources. Funds for the acquisition of the FPL corridor in the park would not have been earmarked for other resource projects and are considered essential to the protection of the EEEA ecosystem.

Concern ID: 50781

CONCERN STATEMENT: One commenter suggested that permanent loss of soils from structure pads and access roads are based on conservative estimates and are expected to be refined based on final design, as noted on pages 219, 221, and 224 of the draft EIS. Additionally, while soils may be permanently lost within the construction footprint of the transmission lines, a greater acreage of wetlands would be restored in Everglades National Park.

Response: It is not unusual for there to be scales of magnitude associated with adverse impacts but not with beneficial impacts. Although purchasing credits from a mitigation bank offsets adverse impacts, the practice does not negate the proposed impact at the point of impact. Therefore, the NPS concludes the statements made on this topic in the draft EIS are valid and should not be changed.

Concern ID: 50782

CONCERN STATEMENT: One commenter suggested that the transmission lines and associated construction activities under alternatives 1b, 2, 3, 4, or 5 would not have long-term or more than negligible impacts on water quality because FPL has committed to various measures to avoid impacts and best management practices would protect against sediment and nutrients in nearby waters. The commenter also suggested that the alternatives would not have long-term or more than negligible impacts on hydrology because design of the transmission lines would:

- ensure construction, operation, and maintenance activities maintain existing hydrologic flows;
- not create artificial impoundments;
- accommodate projected or design flows that are known at the time of transmission line design;
- use culverts to maintain existing unimpeded flow patterns, hydroperiods, and pool equilibrium on either side of culverts for transmission line access roads and structure pads; and
- include implementation of erosion and sediment control best management practices throughout the work area.

Response: Although the transmission line structure pads and culverts could be configured to minimize impacts to both hydrology and water quality, and FPL proposes to use erosion control best management practices, the tower pads and culverts would still permanently alter the area, which in turn would permanently affect flows and water quality to more than a negligible degree. See response to Concern 50942.

Concern ID: 50785

CONCERN STATEMENT: One commenter suggested there are extra costs associated with constructing transmission lines within Everglades National Park, including permitting costs and litigation fees that were not considered.

Response: Permitting costs would be incurred by FPL and are not part of the alternatives analysis for land acquisition by the NPS. The nature and extent of any litigation fees cannot be reasonably foreseen at this time and therefore cannot be included for the purposes of analysis.

PN12000 - Purpose and Need: Relationship to other Projects and Plans

Concern ID: 50835

CONCERN STATEMENT: One commenter suggested that the term "critical" should be defined when referring to the FPL West Secondary and FPL West Preferred Corridors and ecosystem restoration efforts. The commenter further stated that FPL construction, operation, and maintenance of transmission lines under any of the alternatives evaluated in the EIS would not obstruct or impede hydrologic restoration projects.

Response: Congress expanded the park to include the entire boundary of the EEEA stating that "the existing boundary of Everglades National Park excludes the contiguous lands and waters of the Northeast Shark River Slough that are vital to long-term protection of the park and restoration of natural hydrologic conditions within the park" Impacts regarding hydrological restoration are addressed in the "hydrology" section in chapter 4.

Concern ID: 50836

CONCERN STATEMENT: One commenter noted that the EIS overstates the connection between the land exchange decision and the transmission line construction. The commenter stated that the FPL-owned corridor has independent utility from the proposed expansion of the Turkey Point Power Plant, and the land exchange has independent utility from the transmission lines.

Response: The NPS acknowledges that transmission line construction and the Turkey Point Expansion are separate projects with independent utility. The NPS action is a land acquisition decision, and as a result of that decision, transmission line construction is a reasonably foreseeable connected action. Impacts from transmission line construction are based on the SCA submitted by FPL, the Siting Board's non-appealable Final Order, and the ultimate outcome of the NRC/FPL EIS. The NPS EIS and the NRC/FPL EIS (for which the NPS is a cooperating agency) are two separate planning and decision-making actions.

Concern ID: 50837

CONCERN STATEMENT: One commenter suggested that alternative 3 is inconsistent with the restoration goals and objectives of the CERP. The same commenter suggested that the EIS assumes that the final disposition of FPL inholdings is the only obstacle preventing additional water from flowing into the park, but the EIS does not provide any basis for this conclusion.

Response: The FPL property in the EEEA is not the only remaining inholding and is not the final step in the CERP. As noted on page 17 of the draft EIS, CERP includes more than 60

elements and could take more than 30 years to complete. The NPS agrees that alternative 3 is inconsistent with the CERP. Table 2 (page 57 of the draft EIS) notes that the removal of 260 acres of wetlands and transmission line development would impede hydrologic functions, which would be inconsistent with CERP.

Concern ID: 50838

CONCERN STATEMENT: One commenter suggested that the EIS was developed during a time when supporting information related to FPL's stated intent to construct a utility corridor was rapidly changing, and as a result, portions of the EIS are out of date.

Response: The final EIS has been updated to reflect the latest information from the site certification process and other project-specific developments that have occurred since release of the draft EIS.

Concern ID: 50839

CONCERN STATEMENT: One commenter noted that the Everglades Restoration Transition Plan was not designed to improve habitat for the Cape Sable seaside sparrow. The same commenter suggested that text regarding the MWD project should be appropriately revised because the final determination regarding the remaining efforts to complete the MWD project has not been completed.

Response: The EIS has been changed to address these comments. On page 15, in the "Central and Southern Florida Project" section, the Everglades Transition Restoration Plan item has been revised to read: "This plan incorporates more flexible operating criteria than were used in the Interim Operational Plan to better manage WCA 3A, with objectives that include improving conditions in WCA 3A for the endangered Everglade snail kite, wood stork and wading bird species and their habitat, while maintaining protection for the endangered Cape Sable seaside sparrow."

Concern ID: 50840

CONCERN STATEMENT: One commenter suggested that the combined operational plan for the MWD project and the C-111 South Dade project would not be addressed in the Central Everglades Planning Project, but rather through a separate operational study. The commenter also suggested that the EIS cite the environmental benefits to the park that were associated with the seepage reduction function of the detention basins.

Response: The operations of the C-111 South Dade project and MWD project will be addressed through future planning efforts, but the specific project has not been determined.

Concern ID: 50841

CONCERN STATEMENT: One commenter suggested that the statement that a 3 to 5 mile extension of the Lake Belt Mitigation cutoff wall would "essentially complete a portion of the original CERP seepage management project" should be deleted because the final functional efficiency has not yet been determined.

Response: The seepage wall "is expected to" functionally complete a portion of the CERP seepage management project, pending certification of performance; therefore, the statement referred to by the commenter is accurate.

Concern ID: 50842

CONCERN STATEMENT: One commenter suggested that the EIS should add text to clarify that the C-111 Spreader Canal Project is being operated by the South Florida Water Management District.

Response: This change has been made to the section titled "Relationship to Other Projects and Plans" in chapter 1 on page 18 of the draft EIS.

Concern ID: 50843

CONCERN STATEMENT: Commenters suggested that the conveyance/acquisition of land easements to FPL has not yet been completed, and that this should be clarified in the EIS. Additionally, the commenter noted that any land easements would now need to come from South Florida Water Management District, rather than the USACE.

Response: The NPS concurs. No conveyance or easements have been completed. The final EIS has been revised for clarity.

PN3000 - Purpose and Need: Scope of the Analysis

Concern ID: 50845

CONCERN STATEMENT: One commenter suggested that a list of the alternatives should also include the alternatives outside of the park.

Response: The NPS action is a land acquisition decision. As a result, alternative transmission corridors are not alternatives to the proposed action.

PN4000 - Purpose and Need: Park Legislation/Authority

Concern ID: 50844

CONCERN STATEMENT: Commenters suggested that some of the alternatives are inconsistent with the Everglades National Park Protection and Expansion Act of 1989. One commenter suggested that the Tamiami Trail, the East Everglades, and the NESRS are treasured areas for millions of Floridians and, as such, these locations are inappropriate for inclusion within the project area. Another commenter suggested that the proposed project would not violate any potential wilderness designations, and that management of wilderness areas should be subject to existing private property rights.

Response: The NPS shares the commenter's concern for these resources but notes that these concerns apply to the FPL corridor lands as well as to the rest of the EEEA. If the NPS cannot acquire the corridor, then it is possible that lines could be constructed within the existing corridor. If the NPS cannot acquire the corridor, the NPS may be unable to proceed with the MWD project, which would benefit the entire park ecosystem, including the areas noted by the commenter. Chapter 1 explains the purpose and need for this project; the EIS considers a range of alternatives that could possibly meet that purpose and need. Management of wilderness is not subject to existing private property rights but is in the purview of the NPS, as described in chapter 3. Impacts on the resources and on wilderness referenced by the commenter are addressed in the EIS in chapter 4.

PN5000 - Purpose and Need: Regulatory Framework

Concern ID: 50818

CONCERN STATEMENT: One commenter suggested that the EIS fails to adequately recognize the valid existing rights of FPL, and instead asserts that previous planning documents restrict FPL from using its 50-year-old property rights. This conflicts with the 1989 Expansion Act and other congressional enactments.

Response: The NPS acknowledges that FPL possesses valid existing rights in the form of its ownership of the corridor. The goal of the EIS is to analyze a range of alternatives to meet the purpose and need for action, and the environmental impacts of those alternatives. The terminology used in the EIS is simply intended to further that goal and is not intended to diminish or otherwise suggest any particular characterization of FPL's property interest. In any event, the EIS is neither a regulation nor a deed, and statements in the EIS cannot alter that property interest.

Concern ID: 50819

CONCERN STATEMENT: One commenter suggested that Congress approved the fee-for-fee land exchange during the passage of the 2009 Omnibus Lands Act, and that the discussion on that statute should be revised in the EIS. The commenter also suggests that the fee-for-fee exchange fulfills the purposes of the 2009 Omnibus Lands Act by securing private land in the expansion area needed for MWD project flow restoration.

Response: The NPS agrees that the 2009 statute authorized a fee-for-fee exchange, and that such an exchange, as described under alternative 3, could meet the purpose and need for action.

Concern ID: 50820

CONCERN STATEMENT: One commenter provided reasons why constructing transmission lines would be incompatible with the Land Protection Plan. Another commenter suggested that the final EIS should explain why all of the alternatives except for alternative 2 fail to meet the requirements of the Land Protection Plan and of the Expansion Act, beyond a statement that they are indeed inconsistent. The same commenter suggested that the final EIS must analyze how each alternative is consistent with the NPS Organic Act, the United States obligations under the World Heritage Convention, and the United States obligations under the Ramsar Convention.

Response: The commenter's interpretation of the applicable authorities either ignores or somehow would nullify the 2009 statute expressly authorizing a land exchange. Although the NPS agrees that it is important to protect park resources and values as part of any alternative that is selected, the commenter's legal interpretation is incorrect.

The NPS will prepare a determination of non-impairment in compliance with the NPS *Organic Act*, as required by NPS policy, for the selected alternative.

The NPS is not aware of any conflicts between any of the alternatives and the World Heritage Convention or the Ramsar Convention, and accordingly does not discuss them. The comment does not name any specific conflicts that would require a response. Neither of those international conventions imposes any specific procedural requirements on the NPS; therefore, no further discussion is needed in the EIS.

Concern ID: 50821

CONCERN STATEMENT: One commenter suggested that FPL cannot expect to secure dredge and fill permits to construct its transmission lines and has no reasonable assurance that it would be able to secure a dredge and fill permit. Additionally, the commenter suggested that the final EIS must include a technical summary document, and consider the low likelihood that FPL could ever build the transmission lines in this area because it is unlikely that it would be able to obtain a dredge and fill permit from the USACE.

Response: The NPS does not make assumptions about whether any corridor can secure the necessary permits but provides the range of possibilities based on other agency decisions.

PN8000 - Purpose and Need: Objectives in Taking Action

Concern ID: 50870

CONCERN STATEMENT: One commenter provided multiple comments stating that transmission line construction under any of the alternatives would not obstruct hydrologic restoration projects and would avoid adverse impacts to hydrology, and would therefore be in line with all of the project objectives, including restored hydrology.

Response: Please see response to Concern 50918 and 50940 under the impacts to hydrology. Transmission line construction within the EEEA would not fully meet the objective to facilitate implementation of the MWD project, the Tamiami Trail Next Steps Project, and the CERP, as described in detail in table 2 of the draft EIS.

PO4000 - Park Operations: Impact of Proposal and Alternatives

Concern ID: 50871

CONCERN STATEMENT: One commenter stated that adverse impacts described in the draft EIS related to aerial park operations and fire management were overstated or inaccurate, including the potential electrical hazard. The commenter felt that the height of transmission lines would not impact aerial operations.

Response: The NPS disagrees with the commenter. Everglades National Park personnel routinely use aircraft to access remote areas of the park, conduct resource surveys, conduct fire suppression, and perform similar activities. Helicopters transport personnel to field sites on lands in Everglades National Park, and consequently operate at low altitudes. Similarly, helicopters used for wildfire suppression and prescribed fire management frequently fly at low altitudes during fire operations. Some wildlife surveys also require landing in the marsh and flying transects at less than 200 feet. In all of these cases, the addition of transmission lines would represent an increase in aerial hazards and would require changes in aerial operations and therefore would require changes in prescribed fire practices and would introduce additional obstacles to prescribed fire.

Concern ID: 50872

CONCERN STATEMENT: One commenter stated that the EIS was inaccurate in stating that NPS contractors would not have access to the land. Additional concerns expressed by this commenter were that access from the L-31N canal is off of NPS managed land and should not be considered as part of the analysis in this EIS.

Response: Although contractors and personnel may be able to access FPL land and Everglades National Park through FPL lands, there are proposed restrictions on access that have not been withdrawn by FPL. Consequently, the NPS cannot not assume that unrestricted access would be allowed, but recognizes that FPL may allow access in the future.

Concern ID: 50873

CONCERN STATEMENT: One commenter disagreed with the discussion of the potential for illegal activities, stating that standard operating procedures would be in place to prevent illegal access to the structures.

Response: Mitigation measures, including standard operating procedures, can reduce the potential for illegal activities. However, the introduction of the structures and access roads would allow for the potential for illegal activities where currently no structures exist.

Concern ID: 50874

CONCERN STATEMENT: One commenter stated that beneficial impacts to park operations and management, such as increased access by NPS officials, were not included in the analysis. The commenter also felt it was inaccurate to state that alternative 4 would provide more control over management of the land because of NPS ownership.

Response: The NPS disagrees. The NPS would have more control over land that it owns as opposed to FPL-owned land. There is the potential for benefits from increased ease of access by NPS officials.

SE4000 - Socioeconomics: Impact of Proposal and Alternatives

Concern ID: 50875

CONCERN STATEMENT: Several commenters stated the draft EIS failed to include the cost to taxpayers for alternative 2 versus alternative 3, the costs and benefits of reliable electricity for south Florida, and the costs and benefits of each alternative. Commenters also questioned the cost estimate for acquiring the right-of-way included in the site selection study and the property value analysis in the draft EIS. Commenters requested a larger cost analysis in the final EIS.

Response: Costs of the alternatives could vary considerably, depending on the acquisition alternative selected and how the FPL property is valued. The most reliable cost information currently available is set forth in the discussion on costs of the specific alternatives found on pages 46–47 of the draft EIS. The analysis found on pages 404–409 of the draft EIS concludes that there would be no socioeconomic impacts on the resources being analyzed for each alternative land acquisition action. Additionally, NEPA does not require a cost benefit analysis; seethe response to concern 50858.

Additionally, a commenter noted that there would not be adverse impacts to property values. The draft EIS socioeconomic analysis finds only the potential for negligible to minor adverse impacts on property values because very few homes are within a close distance to the planned transmission structures. Generally, the NPS agrees with this comment.

The NPS does not endorse the cost estimate of the right-of-way in the area of possible relocated corridor and would conduct its own analysis consistent with federal requirements, as further described in the response to comment 50858.

Concern ID: 50876

CONCERN STATEMENT: One commenter provided multiple comments requesting that the EIS remove discussion on the impact to FPL customer rates. The commenter also requested that the EIS should include a discussion on the final agreements with federal and state agencies to build transmission lines in the exchange corridor because the costs associated with building in the exchange corridor would be less than those associated with right-of-way acquisition. The commenter requested that the socioeconomic impact analysis include the cost differences between acquiring a new right-of-way versus construction of transmission lines in the exchange corridor.

Response: FPL notes that the footnote on page 406 of the draft EIS is outdated and irrelevant; as a result, it was deleted from the final EIS. However, the impact of the right-of-way acquisition on rates is uncertain because there are many other costs and information on which the Florida Public Service Commission bases rate increases.

SO4000 - Soils: Impact of Proposal and Alternatives

Concern ID: 50786

CONCERN STATEMENT: One commenter suggested that impacts from the construction of transmission lines under certain alternatives would not result in major, adverse impacts to soils in Everglades National Park because best management practices and terms and conditions of certification would minimize impacts. Additionally, wetland mitigation and restoration of an area greater than the acreage of soil lost would offset impacts.

Response: Best management practices for avoiding and minimizing construction-related impacts as well as soil and wetland mitigation and restoration measures are outlined in appendix F and in the current draft terms and conditions for both the FPL Fee Property and the FPL Vegetation Easement Area. Although mitigation measures would be imposed under permit conditions, the permanent loss of about 182 acres of wetland soils in the EEEA would constitute a long-term, major, adverse impact under alternatives 1b, 3, 4, or 5.

Concern ID: 50787

CONCERN STATEMENT: One commenter suggested that impacts to soils would include effects of the use of fill (nonnative soil) and would impact vegetation and the wildlife that depend on the vegetation and soils.

Response: Within the "Soils" section of chapter 4 of the draft EIS, it is clearly stated that clean fill would be obtained. This implies that, to the extent practicable, the fill material used at pad and access road locations would be free of seeds and other vegetation material of invasive species.

Concern ID: 50788

CONCERN STATEMENT: One commenter suggested that FPL's properly designed culverts would not lead to channelization or scour under any of the transmission line alternatives, and that related adverse impacts to soils, if any, would be localized and negligible. The commenter further suggested the description of the culverts may be misleading with respect to the placement of the culverts.

Response: The discussion of impacts to soils in the draft EIS (pages 215–227) states, in every reference to culverts, "Culverts along the length of the transmission line would, through channelization, contribute to some scour and subsequent erosion and resulting loss of additional soils." The text in the draft EIS, although not specifically stating such, infers that best management practices used in culvert construction would minimize impacts to soils from culverts. However, the cumulative permanent impacts to soils from the proposed alternatives would still be sufficient enough that the reported thresholds would not change. The commenter suggests that the statement, "'along the length of the transmission line' may be misleading." The exact location and spacing of the culverts is not known at this time, but it is expected that they would be required along most of the length of the transmission line and impacts would occur along the entire length of the line.

Concern ID: 50789

CONCERN STATEMENT: One commenter suggested that construction laydown areas would be placed in uplands to the fullest extent possible, and if laydown areas must be located where no uplands exist, such laydown areas would be permitted as a temporary impact and then fully restored.

Response: Although laydown areas would be placed in uplands, to the extent practicable, most of the construction area is wetlands; therefore, wetlands would be affected by these areas.

These impacts of construction disturbance are discussed as short term in the EIS. However, this does not affect the impact threshold analysis because the pads and towers would still be placed in wetlands and would result in permanent impacts, exceeding 145 acres. Thus, the impact thresholds to soils remain the same as reported in the draft EIS.

Concern ID: 50790

CONCERN STATEMENT: One commenter suggested that installation of the new transmission lines would not diminish soil productivity within Everglades National Park.

Response: Construction of an overhead transmission line would have long-term, adverse impacts on soils in Everglades National Park. Chapter 4 of the draft EIS describes the potential impacts to soils by the activities proposed under each alternative. Removing soil, compacting soil, or replacing soil reduces or removes soil productivity for decades to hundreds of years. Best management practices would be used to minimize the adverse impacts to soil; however, potential adverse impacts to 182 acres of soil would still be anticipated from the construction.

SP1000 – Special-status Species: Guiding Policies, Regulations, and Laws

Concern ID: 50895

CONCERN STATEMENT: One commenter indicated that the draft EIS incorrectly states that the ESA and Organic Act used the term “preserve” or “protection” instead of “conserve” because if preservation were the goal, takings or permit activities would never be authorized.

Response: While these words have had differing historical associations and meanings at various times, the NPS does not agree that the use of the word “preservation” (which appears in NPS Management Policies) would somehow preclude all permit activities. In any event, the use of one or the other of these words in the EIS is not intended to change the meaning of any of the applicable statutes or other authorities, nor could it do so.

Concern ID: 50896

CONCERN STATEMENT: One commenter indicated that the final EIS, especially chapter 4, should discuss statutory duties and purposes, instead of focusing on agency policies, planning guidelines, and Executive Orders, since statutes take precedence. The commenter added that policies, such as NPS Management Policies and Executive Orders, do not have the binding force and effect of statutes and cannot supplant Congressional enactments. Furthermore, this commenter stated that agencies have the latitude to broadly interpret their policies and waive them where they deem appropriate and therefore the NPS has considerable latitude to determine how it will act, consistent with the letter and spirit of applicable executive orders. Also, the final EIS should also include a discussion of the 1989 Expansion Act, a Congressional NEPA waiver, and the 2009 Omnibus Public Lands Management Act because they all have some bearing on the proposed land exchange.

Response: Although the NPS is aware that statutes generally have higher precedence, all of the authorities discussed by the commenter are relevant to the EIS. The purpose of chapter 4 is to discuss environmental impacts, not to provide a legal explanation for the agency's action, so that chapter generally focuses on the authorities most relevant to those impacts.

In any event, the CEQ regulations clearly state that an EIS should consider consistency with all of these authorities. For example, 40 CFR 1502.16 requires and EIS to discuss "[p]ossible conflicts between the proposed action and the objectives of Federal…land use plans, policies and controls for the area concerned."

Consistent with that mandate, the 1989, 2009, and other statutes applicable to the park are discussed extensively in chapter 1.

SP4000 – Special-status Species: Impact of Proposal and Alternatives

Concern ID: 50898

CONCERN STATEMENT: One commenter states that the construction of the transmission lines under alternatives 1b, 3, 4, and 5 would not have long-term, major, adverse impacts on special-status species and other wading birds because the majority of habitat within the corridor would remain undisturbed. This commenter noted that any loss of wetland habitats would have to be mitigated at an equal or increased value, and any potential impacts to listed plant and wildlife species would have to be avoided, minimized, or mitigated. Another commenter asserted that the draft EIS overstates the impacts to avian species of the proposed alternatives because the ARA and Exponent ARA contain significant flaws in the assumptions and analysis comparing the alternatives, based on sworn statements from an expert ornithologist, accepted and relied upon by an administrative law judge. Also, a commenter asserted that the draft EIS misrepresents the general relationship between flight speed and transmission line collision susceptibility, and thus indicates a weakness in the technical basis for the interpretation of risk contained within the ARA. The commenter asserted that any impacts to listed species would be short term (during construction) and minor.

Response: As noted in chapter 3, wood storks are federally threatened. There are currently only about 11,000 nesting pairs, down from about 20,000 pairs in the 1930s.). The decline is believed to be due primarily to the loss of suitable feeding habitat, especially in south Florida rookeries, where repeated nesting failures have occurred. Therefore, the introduction of a new barrier (transmission line) would partially fragment the ground and airspace between preferred wood stork habitats. This action would result in long-term, major, adverse impacts to wood storks and their fledglings, because the transmission line locations presented in alternatives 1b, 3, 4, and 5 would be constructed within proximity of known nesting and foraging areas.

Another example of an adverse impact on an avian special-status species is the effect on the Everglade snail kite, whose population is currently estimated to be fewer than 1,000 birds, and fewer than 20 nests that have successfully fledged young. Transmission lines presented in alternatives 1b, 3, 4, and 5 would be in proximity to known Everglades snail kite nesting and foraging areas, which would introduce a new barrier and could have a detrimental effect on this limited population.

Although habitats and wetlands impacted during construction would be mitigated to the maximum extent practicable, construction and the presence of the transmission lines and associated guy wires would result in potential long-term, major, adverse impacts in those proposed locations on these two listed and limited bird populations and other avian special-status species.

Concern ID: 50900

CONCERN STATEMENT: One commenter stated that alternative 3 would have substantial long-term impacts on wildlife, especially on endangered species (particularly wood storks), since a NPS letter to the Nuclear Regulatory Commission stated, "the construction of a large complex of transmission lines in this area creates a perpetual risk to birds that is inconsistent with the goals of Everglades restoration projects." This commenter also indicated that the draft EIS fails to mention the U.S. Fish and Wildlife Service "Habitat Management Guidelines for the Wood Stork in the Southeast Region," which states that a transmission line corridor should not be built within a colony, or its foraging habitat, since juvenile wood storks are at the greatest risk as they learn to avoid obstacles. A second commenter requested that the final EIS further investigate potential ultraviolet corona impacts on the federally endangered wood stork because it is unknown whether the proposed lines would interfere with their reproduction or feeding.

Response: As discussed in the response to Concern ID 50898, the NPS agrees that there is potential for significant impacts to wood storks from the construction of transmission lines, as well as some remaining uncertainty that may be addressed in the future through additional research or monitoring. The uncertainty in the ways storks may be affected by transmission lines is part of what led to the NPS determination that long-term, adverse impacts may range from moderate to major. Regarding potential ultraviolet corona discharges, the NPS agrees that corona discharges may affect some avian species, but in these cases, it is unclear how, and to what degree, these species may respond. Since the greatest impact would be expected to occur at night, most of the diurnal avian species may not be affected.

Concern ID: 50902

CONCERN STATEMENT: One commenter indicated that the draft EIS contains significant flaws in the assumptions and analysis and overstates impacts to wood storks and their foraging habitats. The commenter asserted that the final EIS should consider U.S. Fish and Wildlife Service Habitat Guidelines, the Turkey Point testimony, Dr. Cook's hearing testimony, and other relevant wood stork collision literature. Second, the commenter stated that impacts during construction of alternatives 1b, 2, 3, 4, and 5 would be minimal because construction would not occur during the breeding season near active colonies. Third, the discussion in the draft EIS on the overall growth of the wood stork population could be augmented by focusing discussion on how the growth occurred along increased economic development in this species range and in proximity to human actions. This commenter noted the success of the Tamiami West wood stork colony, which is adjacent to the Tamiami Trail roadway. The commenter stated that table 3 is inaccurate and has disputable statements because impacts would be fully mitigated and asserted that construction of transmission lines in the FPL West Preferred or West Secondary Corridors would not have a relatively high risk of impacting nearby nesting and foraging avian species because construction would not occur during the breeding season, and no nesting habitat and a small amount of foraging habitat would be lost.

Response: In analyzing impacts to wood storks and other species, the NPS considered a wide variety of information, including published scientific studies, agency reports, management guidelines, unpublished information, and several other sources. The NPS also consulted with species experts, and considered how the specific design of proposed infrastructure identified in the draft EIS would interact with these species. This evaluation included specific consideration of specific habitat associations, behaviors, and morphological differences among the different avian species. Based on consideration of all of these sources of information, the NPS continues to support the analysis and determinations in the draft EIS, while recognizing that individual reports and pieces of information may not be consistent with its analysis.

Concern ID: 50909

CONCERN STATEMENT: One commenter asserted that snail kite habitat would not be impacted, regardless of land ownership, because snail kites have low susceptibility to transmission line strikes and electrocution under all of the alternatives analyzed. Two commenters suggested that the discussion of impacts on the Everglade snail kite population is overstated and inaccurate regarding effects of collisions, electrocutions, noise, filling of wetlands, and flowage, and the discussion should recognize that hydrologic disturbances and recent management practices have reduced abundance of the prey snail species in the Everglades National Park area where transmission lines are considered. Therefore, several commenters stated that adverse habitat impacts would be minimal to negligible (because impacts would be mitigated and that snail kites do not have as restrictive a diet as once believed) and snail kites have low susceptibility to transmission line collisions (because they are extremely buoyant flyers).

Response: As discussed in the response to Concern ID 50898, adverse impacts to snail kites are expected to result from the reduced habitat suitability for foraging and nesting that would result from construction and presence of transmission lines. Although the draft EIS does not identify electrocution of snail kites as a primary concern, collisions are expected to occur. Kites may be generally less susceptible to collisions than some other avian species, but this does not remove the risk of collision or diminish the potential impacts to the population that may result from the consistent loss of a few individuals. The NPS also acknowledges that there are uncertainties that prevent the analysis team from accurately predicting the outcome of interactions between snail kites and transmission lines, and through rigorous monitoring the NPS hopes to learn more. Even recognizing these uncertainties, the NPS continues to support the analysis included in the draft EIS.

Concern ID: 50911

CONCERN STATEMENT: One commenter asserted that impacts under alternatives 1b and 5 to southern frog fruit, Bahama ladder brake, pineland allamanda, Everglades pencil flower, and meadow joint-vetch are overstated because these populations would recover and continue to thrive in these locations. This commenter also stated that FPL would perform listed species surveys within the right-of-way prior to construction, and work with respective agencies when any listed species are documented within the proposed right-of-way. Therefore, impact levels for these species should be changed to “negligible to minor, short term, and adverse.”

s ***Response:*** This comment includes two assertions: (1) that a numerical increase of a listed plant species mitigates impacts or duplicates a similar, naturally occurring population; and (2) that impacts were incorrectly characterized. The NPS agrees that southern fogfruit, Bahama ladder brake, and pineland allamanda could respond to an increase in disturbance by increasing numerically in both the FPL-owned corridor and in the corridor being considered for exchange. These species have been observed forming opportunistic populations in disturbed fill elsewhere in southern Florida. The NPS does not agree that meadow joint vetch and Everglades pencil flower would respond by increasing numerically to filling relatively undisturbed wetlands. These species generally occur in high quality wetlands with minimal disturbance and are not known to occur in areas with significant disturbance. The NPS does not consider a numerical increase in individuals of a listed plant species to necessarily constitute a benefit unless populations are considered to be below historic levels due to human influence in the area being considered. Given the general lack of data for these species in the area under consideration, the impacts of construction are not quantifiable. If naturally occurring populations of any of these species are present and highly restricted within either corridor, impacts from construction of transmission lines and associated infrastructure would be considered negligible. If naturally occurring populations are widespread within either corridor, impacts would be considered moderate.

Concern ID: 50912

CONCERN STATEMENT: One commenter asserted that the impacts are overstated for the Everglades mink under alternatives 1b, 2, 3, 4, and 5, because this species tends to use habitats farther west of the FPL West Preferred Corridor. Also FPL would be required to comply with permit conditions to protect this mink from some short-term disturbances under alternative 1b.

Response: Recent and comprehensive information on the distribution of Everglades mink in Everglades National Park is limited. While the NPS has relatively recent records of mink farther west, these records do not lead to a conclusion that mink do not occur in the vicinity of the proposed transmission lines, and they are historically known to occur in many parts of the park and surrounding lands. Permit conditions to protect mink and other species may reduce impacts to mink, but are unlikely to avoid impacts to mink entirely.

Concern ID: 50913

CONCERN STATEMENT: One commenter asserted that the impacts are overstated for eastern indigo snakes under alternatives 1b, 2, 3, 4, and 5, because there have been no recorded observations of this snake in the corridors. Furthermore, protective measures for this snake would be in place, and impacts should be short term and minor under any of the alternatives evaluated.

Response: In assessing the potential for impacts to indigo snakes, the NPS considered a wide variety of information, including published scientific studies, agency reports, management guidelines, unpublished information, and several other sources. The NPS also consulted with species experts, and considered how the design, operation, and maintenance of proposed infrastructure identified in the draft EIS would interact with this species. Based on this information, the NPS believes that indigo snakes do occur in the area and may be affected by the construction.

Concern ID: 50914

CONCERN STATEMENT: One commenter stated that the impacts on the Florida bonneted bat from alternatives 1b, 2, 3, 4, and 5 are overstated and there would not be “long-term moderate adverse impacts,” because this species is rare and there is a lack of suitable habitat in these corridors, and because FPL would avoid the removal of preferred habitat to the extent practicable. Furthermore, surveys would be conducted before construction, and both Florida Fish and Wildlife Conservation Commission and the U.S. Fish and Wildlife Service may impose additional avoidance or mitigation measures. Therefore the likelihood of occurrence in any corridor is low to moderate at best, and the potential impacts to roost sites should be minimal. One commenter disagreed with the draft EIS conclusion that the Florida bonneted bat has “a high probability” of occurrence in the vicinity of the FPL West Preferred Corridor, or “a moderate probability” of occurrence in the vicinity of the FPL West Secondary Corridor because very few sightings have been documented in Miami-Dade County in recent years. This commenter also believed the Florida bonneted bat sighting along L-31N canal levee was not substantiated and that most Florida bonneted bat sightings are in urbanized areas.

Response: Based on standard acoustic monitoring methods, Everglades National Park staff have documented the occurrence of bonneted bats along the L-31N canal, and this information has been adopted by the U.S. Fish and Wildlife Service. To date, there is no documentation of roosting in the immediate area, but foraging and occurrence of bonneted bats has been confirmed. Mitigation measures are expected to reduce potential impacts, but some impacts are expected to remain, and the NPS continues to support the analysis and conclusions included in the draft EIS.

Concern ID: 50917

CONCERN STATEMENT: One commenter stated that alternatives 1b, 2, 3, 4, and 5 would not have long-term adverse impacts to Florida panther or its habitat connectivity because no fragmentation or loss of habitat would occur due to construction under any of the transmission line alternatives, nor has any evidence surfaced that panthers have used the existing elevated berms along the eastern boundary of the EEEA. Also, only four sub-adult males have wandered into the general project area. Furthermore, FPL has specifically committed to coordinate with SFWMD regarding planned projects, including ecosystem restoration projects. Because Florida panthers are expected to adjust to the presence of the new transmission lines and maintenance activities, and they are likely to reoccupy affected areas once construction is complete, and road shoulders are expected to quickly revegetate, impacts to the Florida panther would equate to a "may affect, not likely to adversely affect" determination under ESA Section 7 consultation rules under alternatives 1b, 2, 3, 4, and 5. Also, construction of a new utility corridor and associated patrol road are not expected to result in a long-term, minor, adverse impact; instead the potential for impact is negligible. Finally, one commenter stated that the draft EIS should contain more than three literature citations pertaining to Florida panthers because there is a much larger body of scientific literature on panthers since 2008.

Response: In considering impacts to Florida panthers, the NPS considered a wide variety of information, including published scientific studies, agency reports, management guidelines, unpublished information, and several other sources. The NPS also considered information on panther occurrence and distribution from the network of wildlife cameras within Everglades National Park. Based on these data sources, the NPS has concluded that both male and female panthers occur in the project area, and based on information about habitat use in similar settings, the NPS would expect panthers to use levees along the periphery of Everglades National Park, especially during wet periods when the Everglades marshes are flooded. Consequently, construction, operation, and maintenance of transmission lines in these areas are likely to affect panther habitat and use in the area. The NPS continues to support the conclusions and analyses included in the draft EIS.

Concern ID: 50919

CONCERN STATEMENT: One commenter asserted that impacts on wildlife as a result of construction are overstated because temporary construction activities would enable much of the wildlife to escape direct impacts and would be timed to avoid sensitive times of the year. Furthermore, FPL could design other utility facilities to avoid adverse impacts and barriers to these species. Therefore, any impacts to wildlife from the noise and disturbance of construction would be minor and short term.

Response: The NPS disagrees with the commenter. The introduction of construction equipment and associated construction noise would likely disrupt wildlife behaviors and travel patterns in the selected alternative. Depending on the timing of the construction, the impacts to wildlife would range from minor (if construction occurs during noncritical periods) to moderate (if construction occurs during breeding or nesting seasons); however, it is impossible to completely avoid all species. For example, the avian nonbreeding season occurs when amphibians and reptiles are less active during colder and drier periods; thus making them most vulnerable to construction impacts. While temporary habitats to foraging and nesting habitats would be restored, full restoration areas could take years to match adjacent undisturbed habitats. Furthermore, line maintenance would occur about once every two years via helicopter or vehicle on an access road. While these impacts may be short term and minor to moderate, they introduce an adverse impact that is not currently occurring.

The construction would also introduce barriers (e.g., a transmission line) that could result in major, adverse impacts because of the proximity to many known nesting and foraging

locations, the potential loss or degradation of existing habitat, and the increased risk of line strikes and electrocutions on certain avian species (e.g., wood storks), regardless of which route is chosen for line installation. Less mobile or dormant species may not be able to move out of the construction area and may be injured or killed during construction activities.

Finally, the "escaping" of wildlife could result in injury or death to individuals, including, but not limited to, moving into an adjacent home range of the same species, crossing paths with a predator, vehicle or transmission line collisions, and an increase in stress.

Concern ID: 50921

CONCERN STATEMENT: One commenter disagreed that impacts to special-status species from transmission line construction would be the same for alternatives 1b and 5, because construction under alternative 5 would not result in permanent habitat loss for species or fragment habitat nor would it result in a net loss of wetlands. Additionally, the commenter notes that FPL could design other utility facilities to avoid adverse impacts to these species.

Response: Impacts to habitat and to listed species under alternatives 1b, 3,4, and 5 that would occur in the FPL West Preferred Corridor or FPL West Secondary Corridor are described in the EIS and include fragmentation of habitat and creation of edge, as well as permanent loss of habitat along access roads and in structure locations. Wetland mitigation and avoidance of particular sites would offset some impacts to wetland function and reduce impacts. However, mitigation and avoidance would not replace the wetland value to the species that occur in the project area or avoid adverse impacts. Based on the assumptions and method of evaluating impacts, the NPS continues to support the analysis and conclusions in the draft EIS.

Concern ID: 50922

CONCERN STATEMENT: One commenter disagreed that alternatives 1b, 3, 4, and 5 would contribute appreciable adverse impacts to the overall cumulative effects on special-status species. The commenter stated that FPL would be required to mitigate any loss of wetland habitats at an equal or increased value and, in any case, post-construction, the transmission line right-of-way would serve as suitable habitat for numerous species.

Response: The NPS disagrees with the commenter because alternatives 1b, 3, 4, and 5 would add appreciable adverse impacts to the overall cumulative impacts of several special-status species described in chapter 4 and in tables 27 and 28. Specifically, construction of the transmission lines would create a permanent electrocution and strike hazard for bird species, particularly wading birds (e.g., wood stork) because they are behaviorally more likely than other birds to take evasive action when confronted with flight obstacles. Also birds of prey are especially vulnerable to electrocution because of their size, relative rarity as top-of-the-food chain predators, hunting behavior, and habits of perching at the top of poles.

Additionally, regardless of the selected alternative, there are nearby nests of special-status avian species, including wood storks, Everglade snail kites, little blue herons, snowy egrets, tricolored herons, white ibises, and roseate spoonbills (see figures in draft EIS). Although impacts on wetland habitats may be mitigated through off-site wetland bank credits, habitats within the EEEA may be disturbed or permanently cleared to install and maintain the line.

SS4000 - Soundscapes: Impact of Proposal and Alternatives

Concern ID: 50823

CONCERN STATEMENT: One commenter suggested that the noise from transmission line construction activities would not disturb the natural soundscapes in Everglades National Park. The same commenter suggested that the draft EIS is incorrect regarding corona noise and baseline noise data, and finally stated that the statement that noise impacts would be greatest in winter, pointing out that there would be no construction activities during the winter.

Response: One commenter stated that construction noise for construction in land adjacent to the park would be attenuated by the berms associated with the L-31N canal levee. As noted in the "Assumptions, Methodology, and Impact Intensity Definitions" section, a conservative approach was used to compare the relative impacts of the alternatives disregarding attenuation from terrain and ground cover. To be effective and substantially reduce noise, berms would have to be tall enough to completely block line of sight between construction equipment and the residences, which is unlikely. Thus inclusion of the berms would not alter the analysis or conclusions regarding the alternatives with the least and greatest potential for temporary construction noise impacts. Attenuation due to distance was accounted for in the analysis.

The commenter incorrectly summarized the conclusion of the Tamiami Trail Next Steps Project EIS, which stated "the proposed project would cause short-term, moderate, adverse, localized, effects to the park's soundscape associated with project construction." Therefore, the conclusions of the Tamiami Trail Next Steps Project EIS and the Everglades FPL land acquisition EIS are identical with respect to temporary construction impacts being "moderate" and adverse.

Regarding the assumptions, the commenter correctly identified the fact that masking of corona noise due to weather noise was not accounted for in the analysis. This limitation of the analysis (making the results more conservative) has been acknowledged in the final EIS. However, it does not change the conclusions of the draft EIS because the corona noise impact was already considered "minor" and limited to foul weather events. Similarly, the commenter incorrectly stated that existing manmade noise was ignored. The "Soundscapes" section in the "Affected Environment" chapter discusses the sources of manmade sounds in the project area, with reference to ambient monitoring data.

Finally, the commenter suggested the location of the existing conditions monitoring site is not representative of the entire area where potential transmission corridors could occur. This is true and it is for this reason that a separate background level of 55 dBA L_{dn} was estimated for the residential areas. The Shark Valley background level was used for areas inside the park boundaries only. It is also true that the Shark Valley monitoring site levels would not be the same in other areas of the park, such as adjacent to a roadway. However, it would not be practicable to estimate existing noise levels for every portion of the study area and not necessary given the objective of the analysis to provide a reasonable comparison of the relative impacts of the alternatives.

Concern ID: 50824

CONCERN STATEMENT: One commenter suggested that the soundscapes analysis is incorrectly based on the maximum potential effect.

Response: The soundscapes analysis was based on reasonably foreseeable effects and included both quantitative and qualitative information. The conservative (over predicting as opposed to under predicting) nature of the quantitative assessment was acknowledged and supplemented with additional qualitative information, such as the relative length of time construction would occur near the park (see draft EIS page 256).

Concern ID: 50825

CONCERN STATEMENT: One commenter suggested that the draft EIS concluded that the Tamiami Trail Next Steps Project, which has very similar types of construction noise as the proposed project, has short-term, localized, minor adverse impacts. They suggested that the proposed FPL project also should be characterized as having short-term, localized, and minor adverse impacts.

Response: The Tamiami Trail Next Steps Project was different from the FPL project, both in location and the changes in soundscapes. While some aspects are similar, others are different, and consequently, it is not appropriate to adopt the assessment from another project.

TL4000 - Tribal Lands: Impact of Proposal and Alternatives

Concern ID: 50880

CONCERN STATEMENT: One commenter who represents the Miccosukee Tribe disagreed with comments attributed to the Miccosukee Tribe in the draft EIS and asserted that there would be adverse impacts to the casino property from the impact of transmission lines to the viewshed. Additionally, the commenter stated that the alternatives will adversely impact the Everglades, and that the transmission lines would "unreasonably impact the view-shed of not only the Miccosukee Resort, but of the Everglades National Park as well." The same commenter disagreed with the finding of moderate, adverse impacts on Indian Trust Resources and tribal lands, stating that there would be no economic impact to casino or hotel operations. The commenter stated that impacts should be revised for the final EIS.

Response: The NPS has updated the analysis to incorporate the concerns raised in the public comment letter from the Miccosukee Tribe.

UP1000 - Short Term/Long Term Use and Productivity: General Comments

Concern ID: 50791

CONCERN STATEMENT: One commenter suggested that long-term benefits to productivity would occur as a result the land exchange, better management of exotic species, wildlife, and special-status species by the NPS in the interior of the park, and facilitation of regional restoration goals.

Response: These benefits are recognized in the draft EIS on page 419 under the alternative 3 discussion. Alternative 4, which also includes the land exchange, refers back to this discussion.

Concern ID: 50792

CONCERN STATEMENT: One commenter suggested that impacts to threatened and endangered species would be avoided or minimized through:

- preservation of all habitats identified as critical to threatened and endangered species to the greatest extent practicable;
- preclearing surveys prior to construction to ensure adequate avoidance and minimization; and
- adoption of mitigation measures to address any unavoidable impacts.

The commenter further suggested that unavoidable impacts to wetland habitat would be fully mitigated and that the acreage of restored wetlands within the park would be several times greater than the acreage of the wetlands impacted, providing substantial benefit to the park.

Response: The mitigation measures and conditions of certification would minimize impacts to the extent possible, which is recognized in the analysis. However, construction and presence of the transmission lines have impacts that cannot be avoided. The presence of pads and access roads means that there would be a permanent loss of habitat for wildlife and listed species and a loss of wetland acreage in the EEEA; this cannot be fully mitigated by off-site wetland mitigation bank credits. See also the response to concerns 50826 and 50781.

Concern ID: 50793

CONCERN STATEMENT: One commenter suggested that there would be environmental benefits as a result of the land exchange under alternative 3 because the exchange property is on the eastern edge of the park, located parallel to a major artificial manmade flood control canal and levee system, and in the middle of numerous other manmade structures.

Response: The nature of the area in the exchange corridor is described and considered in the impacts analysis for alternatives 3 and 4. However, the exchange corridor is still valuable habitat for many species and is located close to several nesting locations for wood storks and other wading birds that are listed species. Impacts related to these qualities are identified and discussed. Although some impacts may be slightly different or less than impacts that would be experienced in the FPL West Secondary Corridor, this is not a net benefit but only a lessening of adverse effects.

VS1000 - Viewsheds: Guiding Policies, Regulations, and Laws

Concern ID: 50794

CONCERN STATEMENT: One commenter suggested that the two applicable statutory enactments providing the primary standards governing NPS action on the proposed exchange are (1) the Omnibus Public Lands Management Act of 2009, and (2) the 1989 Expansion Act, which take precedence over any NPS policy or guidance regarding scenic views and visual resources and acknowledge a degraded condition of the landscape in the area of the land exchange.

Response: These authorities are described extensively in chapter 1, but as indicated in the response to concerns 50818 and 50819, the EIS must discuss other authorities as well, including NPS policies.

VS4000 - Viewsheds: Impact of Proposal and Alternatives

Concern ID: 50795

CONCERN STATEMENT: Several commenters suggested that impacts to visual resources and park resources from the proposed transmission lines in the western corridors would be negligible to minor as a result of the existence of manmade structures in the area, which limit the incremental impacts of any proposed transmission lines and the distance of the transmission lines from key visitor areas of the park. One commenter provided multiple comments disagreeing with the level of adverse impact to visitor experience as a result of transmission line construction in the EEEA or area of possible relocated corridor. The commenter objected to the finding that there would be major, adverse impacts under alternatives 1b or 3, stating that there are no key visitor use areas in the vicinity, no key observation points nearby, and visitors would likely be unable to see the transmission line structures. The commenter also requested revising the EIS to state that the Chekika area is currently closed to visitor use with no plans to reopen it, and to reduce all impacts discussed under all alternatives to negligible to minor adverse impacts. Commenters suggested that potential impacts to viewsheds, soundscapes, and visitor experience is overstated for several reasons:

- the existence of manmade structures in the area;
- transmission lines would not be visible to any visitors at the Shark Valley Visitor Center or other key visitor areas in the park;
- there is not a significant concern regarding aesthetic impacts to park visitors along the L-31N canal;
- these areas are not key Everglades National Park visitor areas; and
- the setting is already degraded.

Response: The NPS does not believe that impacts were misrepresented or overstated in the draft EIS and, therefore, impacts remain as included in the draft EIS. Key observation points were developed in conjunction with the NPS and represent the most visible or high-use areas within this portion of Everglades National Park. Photographs were taken to best represent the views from the newly constructed one-mile bridge, airboat routes and trails, and the existing L-31N canal levee road.

By comparing the existing conditions with the post construction appearance via photo simulations, visual impacts have been accurately and reasonably presented throughout the visual analysis. Photo simulations were created using information provided in the SCA and the methodologies employed have a proven record of accurately representing the impacts of transmission towers.

Concern ID: 50796

CONCERN STATEMENT: One commenter suggested the final EIS should provide a citation of the discussion between NPS and the Miccosukee Tribe that supports the statement that the Tribe is not concerned about viewshed impacts.

Response: This statement has been removed from the document. The updated analysis considers the public comments provided by the Miccosukee Tribe during the draft EIS public review process.

Concern ID: 50798

CONCERN STATEMENT: One commenter suggests that there is no basis for the assumption that impacts on visual resources under alternative 4 are the same as those described for alternative 3, with the potential for slightly reduced adverse impacts.

Response: While the impacts remain within the same range of effect as described under alternative 3, impacts are by no means identical. The text of the EIS describes these impacts in detail.

VW4000 - Vegetation and Wetlands: Impact of Proposal and Alternatives

Concern ID: 50826

CONCERN STATEMENT: One commenter suggested that the proposed project would not reduce the integrity or the connectivity of wetlands within the project area, primarily because the majority of wetlands would remain undisturbed; their vegetative composition would be improved through exotic vegetation control; mitigation measures would be employed to prevent adverse impacts to wetlands; and because the amount of wetlands in the park would increase by 60 acres.

Response: The draft EIS describes the location of the impacts to wetlands as localized, which the commenters are inferring to mean that the impact intensity levels should be below those reported in the draft EIS. However, although the impacts would be localized, individually they would each affect up to an acre of wetlands because of the necessary area of the pads (appendix F, page F-10). As such, the cumulative area disturbed from each of the localized impacts contribute to the impact threshold reported in the draft EIS. The preparers of the draft EIS acknowledge that FPL would purchase credits to mitigate for impacts; however, purchasing credits only satisfies the need to maintain no net loss of wetland area within watersheds and would have no direct mitigation at the point of the proposed impacts. Similarly, the acres gained on a net basis do not negate the impacts that would occur from construction in the area exchanged.

Concern ID: 50827

CONCERN STATEMENT: One commenter suggested that vegetation management under the proposal would not impact wetlands because the vegetation management activities would be focused on the removal of nuisance exotic species of vegetation, resulting in beneficial impacts to wetlands.

Response: The presence of fill and other disturbance is likely to create conditions that are conducive to infestation of these areas by nonnative species that are already in the area or may recruit into the area following disturbance. Even if all nonnative species are controlled, the presence of this infrastructure in otherwise high-quality wetland areas would increase the likelihood of infestation of both the corridor and surrounding wetlands. The NPS determined that management of wetlands in the vegetation management easement may lead to minor, adverse impacts as described in the draft EIS. The NPS agrees that impacts from treatment of invasive species would be similar to those that occur when the NPS conducts similar activities. However, the NPS does not control wetland plant species that are incompatible with transmission lines. Control of vegetation on the basis of height is not a practice that ensures that wetland vegetation represents, to the extent possible, historic wetland and vegetation conditions in the area. As a result, the NPS does not agree that the vegetation management in the easement represents equivalent or better management of natural wetland plant communities.

Concern ID: 50828

CONCERN STATEMENT: One commenter suggested that some of the tree islands mentioned in the draft EIS are composed of exotic vegetation. Further, the commenter suggested that impacts to these tree islands would be minimal.

Response: The NPS did not find evidence demonstrating that construction activities could be constrained to the exact footprint of the fill pads and other infrastructure associated with construction of transmission lines in either corridor. In general, impacts from soil compaction and other disturbance within wetland plant communities of Everglades National Park would remain on the landscape for many years. This includes laydown areas for construction and use of low ground pressure vehicles. Although these impacts can be minimized to some extent, they cannot be prevented or eliminated. Until finalized construction plans are developed to demonstrate that impacts outside the areas of fill can be completely avoided, the NPS considers it reasonable to assume that impacts are likely to occur. These impacts would be localized and long term and would contribute to the overall impact level to wetlands and vegetation.

The NPS agrees with the commenter that there are very few areas of tree islands in the FPL West Secondary Corridor. However, if tree island vegetation within the corridor exceeds 14 feet within the wire management zone, it is assumed for the purpose of this analysis that FPL would trim that vegetation as part of maintenance as described earlier in the passage referenced by the commenter and those potential impacts are included in the analysis. The commenter also indicated that tree islands in the FPL West Secondary Corridor were largely composed of exotic species. For the purpose of conducting this impact analysis, the NPS assumed that the actual species composition of any area classified in the Florida Land Use, Cover and Forms Classification System (FLUCFCS) vegetation map was consistent with the written description of the habitat in the classification. The NPS considered this shortcoming when determining the best data source available and concluded that the FLUCFCS classification was the most suitable to conduct the impact analysis despite some shortcomings.

Concern ID: 50939

CONCERN STATEMENT: One commenter stated that the area of possible relocated corridor east of the Park varies considerably in vegetation cover depending on land use and proximity to highways and developments. The commenter requested that the final EIS include a summary of wetlands impacts associated with transmission corridors east of the park

Response: This issue raised by the commenter is more related to the draft EIS not identifying a line on the map for the corridor east of the park than to lacking information on vegetation in the area of possible relocated corridor. The draft EIS contains a generalized description of vegetation outside of the park that recognizes the variability in vegetation in the area of possible relocated corridor. The final EIS analyzes the West Consensus Corridor and includes acres of wetlands along a route that follows the eastern edge of that corridor.

VW5000 - Vegetation and Wetlands: Methodology and Assumptions

Concern ID: 50829

CONCERN STATEMENT: One commenter suggested that the draft EIS incorrectly infers that there is no ability to fill wetlands in the NESRS area under the federal Clean Water Act. The commenter further notes that the 1993 study that was used in the analysis suggests that permitting of wetland impacts within the study area would be subject to stringent review by the U.S. Environmental Protection Agency and the USACE, and that the study does not say no permits can be issued under the Clean Water Act or the guidelines issued under Section 404 of the Clean Water Act.

Response: The USACE and EPA will review the project based on the current design and analysis of impacts based on current conditions. Text relating to the 1993 document has been removed. Currently, it is not known whether the project as proposed would receive permits and, if so, under what conditions.

Concern ID: 50830

CONCERN STATEMENT: One commenter suggested that the draft EIS includes incorrect assumptions on the required amount of fill, such that the estimated 180.8 acres in the "area of analysis" in the "Nexus to Nexus" area is approximately 33 acres greater than currently estimated.

Response: Once certified designs are available, the estimates of fill can be finalized. However, the estimates of fill in the draft EIS are based on assumptions that include route locations, size of pads, and access roads as described on pages 195 of chapter 4 and page F-10 of appendix F of the draft EIS. A transposition of two numbers caused an error in the reporting of assumed acres of fill for pads on these pages of the EIS, but the calculations of acres as reported on pages 19, 20, and 21 of the draft EIS are correct based on the assumptions made. The corrected text in chapter 4 and appendix F now reads: "it is assumed that larger pads (where there are both 500-kV and 230-kV structures) would be 1 acre in wetlands and 0.63 acres in uplands. Smaller pads (where there are 230-kV structures only) are assumed for estimating purposes to cover about 0.35 acres in wetlands and 0.05 acres in uplands."

The 180.8 acres reported from nexus point to nexus point in the draft EIS may be reduced following final design. However, even if it were 33 acres less, this would still result in over 145 acres of wetland lost. Thus, the analysis of the impact thresholds would not change, even though the acres of impact would be somewhat lower that the current draft EIS reports.

WD1000 - Wilderness: Guiding Policies, Regulations, and Laws

Concern ID: 50884

CONCERN STATEMENT: One commenter provided multiple comments about the wilderness suitability in the EEEA. The commenter stated that the EEEA does not meet wilderness designation criteria. Additionally, the commenter stated that the NPS should not manage the lands as if already designated wilderness by Congress. As a result, the commenter stated that adverse impact findings under alternatives 1b, 3, and 4 should be revised in the EIS due to the existing development and lack of wilderness values in the EEEA.

Response: The NPS disagrees. Most of the lands in the EEEA meet wilderness eligibility criteria as described in the Everglades National Park Draft General Management Plan/East Everglades Wilderness Study/EIS (February 2013) and is considered potential wilderness. Under the NPS *Management Policies 2006* (Section 6.3.1), the NPS is required to manage all potential wilderness as wilderness until the legislative process of wilderness designation has been completed.

Concern ID: 50886

CONCERN STATEMENT: One commenter stated that because the majority of the EEEA has been determined to contain wilderness values and characteristics and is eligible for a wilderness designation, per the NPS *Management Policies 2006*, utility lines cannot be installed in wilderness-eligible locations until the legislative process of wilderness designation has been completed.

Response: The exchange corridor is not being proposed for wilderness designation, as described in the Everglades National Park Draft General Management Plan/ East Everglades Wilderness Study/EIS (February 2013). There is a quarter-mile buffer around the north and east boundaries of the EEEA, which includes the FPL West Preferred Corridor. The FPL West Secondary Corridor is within the potential wilderness designation area in the EEEA as described in the Draft General Management Plan/East Everglades Wildlife Study. However, because FPL owns these lands and because the corridor not under NPS management, these lands cannot be managed as wilderness at this time.

WH4000 - Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives

Concern ID: 50925

CONCERN STATEMENT: One commenter asserted that the draft EIS description of avian impacts should be better described because the text currently seems vague and lacks specific details.

Response: We recognize that the impacts to avian species are somewhat general in the EIS. However, after reviewing the description of avian impacts, including updates to the Avian Risk Assessment, we do not believe that additional specificity is appropriate because of the degree of uncertainty of future events that will affect the magnitude of impacts. For example, we recognize benefits through hydrologic restoration in the area that will likely improve habitat suitability for wading birds, but the amount of increased use will depend on many factors, such as water regulation schedules and the condition of the surrounding landscape. Impacts resulting from collision with transmission lines is similarly uncertain because the final design of transmission lines is not complete, therefore the specific collision risk mitigation features have not been specified (the terms and conditions specify use of state-of-the-art methods at the time of construction). Additionally, the risk of collision with transmission lines, as well as other impacts, depends partially on the amount of increased use of the area that may result from hydrologic improvements. These uncertainties illustrate why we could not confidently make specific predictions of impacts.

Concern ID: 50926

CONCERN STATEMENT: One commenter asserted that the draft EIS overstates the impacts to wildlife (particularly listed species) because FPL has agreed with comply with various certification conditions and has coordinated with various agencies. Another commenter asserted that alternative impact conclusions are overstated and incorrect because measures and conditions would be put in place to protect wildlife species, regardless of who owns the FPL corridor in the park.

Response: FPL compliance with the various conditions of certification does not equate to the complete absence of adverse impacts. While adherence to the terms and conditions would minimize the severity, location (e.g., sensitive habitats), and timing (e.g., breeding seasons) of the impacts, the impacts would still occur.

Concern ID: 50928

CONCERN STATEMENT: One commenter asserted alternative 3 would not result in a loss of 260 acres of suitable habitat for wildlife, because there would be a long-term net positive impact on wildlife because alternative 3 would result in a net gain of 60 acres of undisturbed habitat and additional flowage over the FPL West Secondary Corridor to restore Everglades habitats.

Response: Alternative 3, including transmission line construction, would result in a loss of habitat because in the baseline condition, all habitat, both in the park and in the FPL-owned corridor is available to wildlife because these areas are not developed and are in a relatively natural condition. Although the EIS does not address ownership, just habitat availability, it recognizes the indirect benefit to wildlife resulting from the ability to conduct hydrologic restoration under alternative 3.

Concern ID: 50929

CONCERN STATEMENT: One commenter asserted that there would not be long-term, moderate, adverse impacts from the construction of the transmission lines and access roads under alternatives 1b, 2, 3, 4, and 5 because the transmission line rights-of-way would not create barriers to animal movement and would not result in agricultural or wetland habitat losses. Individual losses of small animals would not affect local or regional populations, displacement of individuals would be temporary, and construction could be timed to avoid sensitive times of the year. Also, the post-construction right-of-way would serve as suitable habitat for many species.

Response: The NPS disagrees with the commenter; species that are less mobile or dormant at times may not be able to climb to the elevation of the access road, pass under the access road (e.g., where there is no culvert), or fly past the transmission lines or guy wires. Furthermore, the construction of the line and access roads increases the likelihood that early successional nonnative plants would replace native habitats, which would result at a minimum in temporary displacement during construction and the permanent introduction of habitat fragmentation.

Additionally, it is impossible for the project to avoid sensitive time frames of all species. Birds may be less abundant during the cooler and drier weather, but reptiles and amphibians would be most vulnerable during this time because they could be less active or dormant. Therefore, individual impacts to special-status species could adversely affect the entire population, depending on the size of the local population.

Concern ID: 50930

CONCERN STATEMENT: One commenter stated that the draft EIS is not accurate in its description that FPL would build some transmission lines in the area of possible relocated corridor because neither the 2008 Contingent Agreement nor the 2009 Omnibus Land Management Act place those limitations on FPL.

Response: The NPS disagrees with the commenter. The 2009 Omnibus Land Management Act, § 7107(b)(3)(B) states, “The Land exchange under subparagraph (A) shall be subject to such terms and conditions as the Secretary may require.” Further, the 2008 Contingent Agreement states that FPL also conditioned negotiations with the USACE, and obtained agreements with all other parties necessary to complete the exchange. The terms and conditions in these agreements do place such limitations on FPL.

Concern ID: 50931

CONCERN STATEMENT: One commenter noted that the draft EIS does not address the time value of hydrological benefits and subsequent impact on wildlife of any alternative, and that alternative 2 would delay hydrological restoration for years because the NPS would have to obtain a Congressional appropriation to pay for FPL property.

Response: The NPS disagrees with the commenter. Alternative 2, the direct acquisition alternative, was identified as the environmentally preferable alternative by the NPS. All other action alternatives (alternatives 1b, 3, 4, and 5) would result in construction of transmission lines within the EEEA boundary and would disrupt the hydrologic and ecologic restoration efforts within and around the park and/or cause adverse impacts on park wildlife.

Regarding alternative 2, land acquisitions would facilitate Everglades restoration efforts by removing an obstacle that prevents hydrologic restoration in the NESRS. Restoration currently planned under the MWD project would result in ecological benefits across 109,000 acres of Everglades National Park. This alternative would not necessarily delay restoration for years. See response to concern 50837. The EIS assumes, for the purpose of this alternative, the NPS would in fact be able to carry out the acquisition. Information about costs and the availability of appropriated funds will be relevant to the decision, but is not part of the environmental impact analysis.

The FPL property in the EEEA is not the final remaining inholding and its acquisition is not the final step in the CERP. Once completed, this action would fully meet the hydrologic objective and would have long-term, beneficial effects on species with aquatic-based habitats.

Concern ID: 50932

CONCERN STATEMENT: One commenter noted that the draft EIS does not define exactly what are “indirect long-term benefits to wildlife,” but does discuss adverse impacts in alternative 1a. The commenter requested that the final EIS should provide a balanced discussion of the benefits and impacts of each alternative.

Response: The NPS disagrees with the commenter. Indirect, long-term benefits to wildlife are discussed in table 3 and chapter 4, under alternatives 2 and 5. These indirect benefits include transferring the FPL property or flowage easement rights of the FPL West Secondary Corridor to the NPS and acquisition of flowage easements by the NPS. These actions have immediate, indirect, long-term benefits to wildlife because a transmission line would not be built in a location that would fragment the habitat. Instead, these actions would put the initial hydrologic pieces in place that would provide the flexibility required to directly benefit and restore wildlife populations, habitats, and water quality for the long term.

Concern ID: 50933

CONCERN STATEMENT: One commenter asserted that the draft EIS overstates impacts to wildlife under alternatives 1b-5 because FPL would manage vegetation on the transmission line right-of-way by a variety of methods that would enhance wildlife use potential.

Response: The NPS disagrees with the commenter. Numerous species in the project area would be disturbed in the short term during construction and would be affected by the presence of transmission lines, guy wires, and roads in what is now undisturbed wetland habitat. Furthermore, the transmission line and access roads would result in the fragmentation of existing habitat. The text recognizes that impacts would vary among species and alternatives.

Concern ID: 50935

CONCERN STATEMENT: One commenter asserted that proposed culverts would not affect a number of large fish or disrupt the natural fish community because a combination of various sizes and types of culverts are expected to be used to maintain existing unimpeded flow patterns, hydroperiods, and pool equilibrium.

Response: The text on page 269 of the draft EIS states that "The impacts… on movement of aquatic wildlife are expected to be long term, moderate adverse, depending on culvert or wildlife crossing design" and the NPS believes that is an accurate assessment of potential impacts based on the current level of design and the effects that can occur. The NPS maintains that culverts can alter native habitats by creating areas of warmer water temperatures and longer hydroperiods, and that these factors can alter native fish populations in ways that would be outside the range of natural variability.

WQ4000 - Water Quality: Impact of Proposal and Alternatives

Concern ID: 50942

CONCERN STATEMENT: Commenters stated that the construction, operation, and maintenance of transmission lines, including access roads and structure pads, would avoid adverse impacts to water quality under any alternative in the draft EIS. Impacts in the draft EIS are overstated because adverse impacts to water quality under any alternative would be no more than short term and negligible. FPL has committed to using measures to avoid impacts, including use of clean fill where required, and implementation of industry accepted best management practices (BMPs) for sedimentation and erosion control. Additionally, the transmission lines would be designed to preserve flows and hydroperiods. FPL would not contribute to drying and wetting periods in the wetlands that could impact phosphorus concentration or methylation of mercury.

Response: Although the transmission line structure pads can be configured to minimize impacts to both hydrology and water quality, and FPL may design transmission lines as stated, the tower pads would still permanently alter the area, which would in turn permanently affect flows and water quality. Impacts during construction can be mitigated but residual impacts would still be noted along the length of the line and are characterized as negligible up to moderate in intensity, meaning that impacts would be measurable and regional. In addition, without a flowage easement under alternative 1b, it is not possible to assume that enhanced flows would be accommodated. Therefore the NPS must assume that associated impacts to water quality would occur, including extended periods of drying and rewetting and associated production of methyl mercury. Under alternatives 2, 3, 4, and 5, the NPS would ensure that enhanced flows could be accommodated and impacts related to drying and wetting would be reduced.

Concern ID: 50943

CONCERN STATEMENT: One commenter disagreed with the statement in the draft EIS that the fill typically used in the region has higher levels of phosphorus and suspended solids that would affect surface runoff, even with the use of BMPs. The commenter stated that the FPL would implement such BMPs to protect against sediment and any sorbed nutrients that may reach nearby waters and vegetation. These BMPs are accepted standards in the industry for controlling sedimentation, turbidity, and erosion where construction would otherwise impact waterways. The commenter also stated that the use of a personal communication as the basis for a finding in an EIS is not appropriate.

Response: Implementation of BMPs is a good engineering practice to control sediment transport. In many construction projects, BMPs are effective in preventing adverse effects from sediment mobilization. In the Everglades, adverse effects from construction activities are

much more difficult to control or mitigate. A change in vegetation, from sawgrass to cattails or woody vegetation, is typically observed near sites where roads, canals, or levees have been built. While a change in vegetation is readily observed, the cascading adverse effects in the rest of the flora and fauna is not always apparent. For example, cattail/wood vegetation often blocks sunlight and hinders photosynthesis in the aquatic system, depressing oxygen levels. Without adequate oxygen levels, fish densities decrease, which decreases the value of the habitat for sustaining upper level trophic species, such as wading birds. The personal communication cited only identifies a potential impact and was included to robustly consider the potential effects of the project. This information was not the sole basis for the NPS evaluation of impacts. The personal communication was from a local expert in water quality in the Everglades, and the NPS believes it is appropriate to at least consider this information and cite its source.

Concern ID: 50944

CONCERN STATEMENT: The commenter disagrees with the statement in the impact analysis that dewatering in connection with the use of the auger truck and hole would create localized, minor to moderate impacts on water quality because FPL would use industry standard management practices to prevent or minimize adverse impacts on water quality. Additionally, returning the groundwater to the park would not cause water quality impacts because it is the same groundwater that is currently returned to the park from the levee systems.

Response: The NPS disagrees with the commenter because localized, adverse impacts to water quality may result from discharge of sediment-laden water, ground disturbance resulting from driving an auger truck to drill sites, and the activity associated with drilling. Following industry standard measures would reduce potential impacts and prevent them from becoming widespread, but these standards would not avoid all impacts. Returning groundwater from augering is expected to include sediment and different or elevated levels of chemical constituents that result from the augering and would not otherwise be present in groundwater. These impacts would result in localized, minor to moderate impacts, although they are not expected to be extensive.

Concern ID: 50945

CONCERN STATEMENT: One commenter stated that the cumulative impacts and conclusions sections for water quality impacts focus on the corridors and not on the broader Everglades area and do not appropriately consider the regional hydrologic benefits from alternatives 1b, 3, 4, and 5.

Response: The projects considered as contributing cumulative impacts to water quality under all the alternatives, including alternatives 1b, 3, 4, and 5 are the same, and they are all regional in magnitude. The placement of the transmission line corridor and whether or not a flowage easement is in place that would legally allow for the enhanced flows, are considerations in the magnitude of the impact of the alternative and the relative contribution of the impacts of that alternative to the overall cumulative scenario. Beneficial effects from the flowage under alternatives 1b, 3, 4, and 5 are recognized in the cumulative impact analyses. The farther west the transmission line is located, the more potential it has to affect the success of the restoration efforts regionally. This factor is also included in the cumulative impacts analysis.

Concern ID: 50946

CONCERN STATEMENT: One commenter questioned the conclusion that alternative 1b would have “appreciable long-term impacts” because the conclusion is vague and does not comply with the EIS thresholds for adverse impacts. The commenter also disagreed that the impacts would be appreciable and stated that impacts on water quality from alternative 1b would be short term and negligible. Similarly, the commenter stated that impacts under alternative

5 would be short term and negligible because of the management practices that would be used during construction and the overall design of the transmission line.

Response: The use of the terms "noticeable" and "appreciable" when discussing cumulative impacts is to give the reader an idea of the relative contribution of impacts from a given alternative to the overall cumulative scenario, with "appreciable" being greater in magnitude than "noticeable." These terms are not used to quantify the impacts. See an explanation of this terminology in the draft EIS, chapter 4, page 197. See also the response to concern statement 50942 concerning impact analysis for this alternative.

Concern ID: 50947

CONCERN STATEMENT: One commenter disagreed with text in the EIS regarding impacts of construction of transmission lines in the FPL West Preferred Corridor and stated that the preferred corridor would be designed with water conveyance systems such as culverts to avoid compartmentalization and additional water quality impacts between the transmission lines and the levee.

Response: Although the proposed culverts would allow surface water conveyance across a proposed access road, the hydrologic conveyance/connectivity would be reduced relative to the fully connected marsh. Consequently, the NPS concludes that the EIS accurately characterizes the condition after construction of an access road in the marsh as "more compartmentalized."

Concern ID: 50948

CONCERN STATEMENT: One commenter stated that the FPL proposed corridor would stop sheetflow and create point sources that adversely affect water quality, as indicated by Dr. Richards in his testimony. The final EIS should incorporate details from Dr. Richards' work and hearing testimony.

Response: In assessing expected impacts on water quality, the NPS considered published literature, technical reports, unpublished reports, and professional experience, including testimony provided. The NPS agrees that at some scale, construction of transmission lines and infrastructure would alter sheetflow and potentially result in point-source discharges, such as with the use of culverts. These results may affect water quality. This information has been included in the final EIS.

As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic places, and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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