

**National Park Service  
U.S. Department of the Interior**

**Everglades National Park**

**Florida**



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**Acquisition of Florida Power & Light Company Land in the East Everglades Expansion Area /  
Environmental Impact Statement**

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**Record of Decision**

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Recommended:

Pedro M. Ramos  
Superintendent  
Everglades National Park

Date:

2/10/2016

Approved:

Stan Austin  
Southeast Regional Director  
National Park Service

Date:

3/16/16

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**UNITED STATES DEPARTMENT OF THE INTERIOR**

**NATIONAL PARK SERVICE**

**RECORD OF DECISION**

**Acquisition of Florida Power & Light Company Land in the East Everglades Expansion Area -  
Environmental Impact Statement**

**Everglades National Park**

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**INTRODUCTION**

The Department of the Interior, National Park Service (NPS), has prepared this Record of Decision (ROD) on the Final Environmental Impact Statement (EIS) for the Acquisition of Florida Power & Light Company Land in the East Everglades Expansion Area, Everglades National Park, Florida. This ROD states the decision, describes the other alternatives considered and the environmentally preferable alternative, discusses the basis for the decision, lists measures to minimize environmental harm, and briefly describes public and agency involvement in the decision-making process. The non-impairment determination for the selected action, which is required by NPS *Management Policies 2006* (NPS 2006), is attached to this ROD.

**PROJECT BACKGROUND**

The NPS prepared an 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 must acquire the FPL parcel and several other properties, or a 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 purpose and need for this project include the following:

- 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. 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).

The objectives of the project are listed below.

- Ensure consistency with the Everglades National Park Protection and Expansion Act of 1989 (Expansion Act) and the 1991 Land Protection Plan 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, Tamiami Trail Next Steps Project, and 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.

Between 2006 and 2008, the NPS, U.S. Army Corps of Engineers (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 hydrologic restoration objectives.

In July 2008, the NPS and FPL executed a non-binding 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).

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 of the final EIS.

NPS began an environmental assessment (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, NPS analyzed the reasonably foreseeable construction and operation of transmission lines on lands that would be conveyed to FPL by the exchange. NPS also consulted 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 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.

The focus of this project is the acquisition of the FPL corridor located within the park for ecosystem restoration purposes. The final EIS analyzed 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 based on various FPL submissions. 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 described below.

In June 2009, FPL filed a Site Certification Application 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. For the sake of clarity, these corridors are referred to as the "FPL West Preferred Corridor" and "FPL West Secondary Corridor" throughout the EIS, although the terms are strictly based on FPL's designation in its siting application, and do not reflect a preference by the NPS.

The State certification process provided an 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 Florida Department of Environmental Protection (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 of the final EIS.

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 of the final EIS.

On October 3, 2013, at the site certification hearing, FPL announced its withdrawal of 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 West Consensus Corridor was certified as the primary corridor for the location, construction, and operation of electrical transmission lines, and the FPL West Preferred Corridor was certified as a back-up, if an adequate right-of-way within the West Consensus Corridor cannot be secured in a timely manner and at a reasonable cost. "Timely manner" is defined as within 36 months from the date of the final non-appealable site certification. "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. The final site certification order also included additional conditions of certification. The Siting Board's final site certification order is currently under appeal by Miami-Dade County.

Upon completion of a non-appealable final site certification order, FPL must 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. 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 site certification order and its conditions of certification, FPL must 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 must 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 must return to installing structures to the east side of the L-31N canal at the first available and practicable location.

## **DECISION (SELECTED ACTION)**

Alternative 3 from the final EIS is the selected action. Under the selected action, the NPS will 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 will consist of 260 acres along 6.5 miles of the eastern boundary of the EEEA (exchange corridor). 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 will no longer own or have control over the 260-acre exchange corridor; lands currently within Everglades National Park will become FPL property once the land exchange is completed. The selected action will 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 will 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 will 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.

As described in the "Project Background" section of the final EIS and summarized in this ROD, in accordance with the final site certification 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 will 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 will minimize or eliminate the amount of property in the exchange corridor required for the western transmission lines. FPL shall reconvey to the NPS any and all acreage in the exchange corridor determined, through the execution of the final site certification 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 will return to the NPS land in the exchange corridor that it would no longer need to complete the transmission line requirements. Compensation to FPL for the reconveyance of any lands to NPS will come as wetland mitigation credits from the Hole-in-the-Donut wetland mitigation program. The park boundary will be adjusted after the reconveyance is complete to reflect final land ownership between FPL and NPS. These commitments will be identified in a binding exchange agreement between the two parties.

For the purposes of completing development of the western transmission lines, FPL will adhere to the West Consensus Corridor development activities and timelines described in the final site certification 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 will 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 will be automatically extinguished wherever and whenever adjacent lands in the exchange corridor are no longer owned or controlled (under lease) by FPL.

The final site certification order established an expected sequence of events as well as a process to document compliance with the final site certification order for the purposes of pursuing the West Consensus Corridor. The NPS will participate in the review of FPL submittals that demonstrate the good faith that FPL will exercise to fulfill the sequence of events and comply with state and local regulatory requirements related to the acquisition of interests within the West Consensus Corridor. These submittals to NPS will 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 selected alternative is subject to terms and conditions agreed upon between NPS and FPL and incorporated into a binding exchange agreement. The purpose of the terms and conditions is 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 will be subject to a perpetual flowage easement. FPL will 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, FPL will refrain from construction activities in the exchange corridor until after FPL has identified the final alignment and determined how much NPS land, if any, is needed for the FPL western transmission lines.

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 U.S. Department of Interior staff developed draft terms and conditions in consultation with FPL, SFWMD, and Miami-Dade County staff as to 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 will seek to be consistent with known requirements of other agencies. The terms and conditions are discussed under "Measures to Minimize Environmental Harm," below.

### **Transmission Line Construction Scenario**

For the purposes of analysis of impacts in chapter 4 of the final EIS, the construction scenario associated with the selected alternative assumes that FPL is 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). In this instance, FPL would be unsuccessful in acquiring adequate right of way within the West Consensus Corridor and will pursue full construction of transmission lines in the exchange corridor as a back-up as described in the final site certification order. FPL will 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 Site Certification Application, summarized in appendix F of the final EIS, 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. The construction scenario for the selected alternative 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 pursue the development and property rights interests in this corridor upon receipt of a final non-appealable site certification order. If FPL is successful in pursuing the West Consensus Corridor, it is possible that a large portion of the west transmission line will be built to the east of the park. In that case, some portion within the exchange corridor will 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 the selected action and more similar to the impacts described for alternative 2 (direct acquisition of the FPL corridor) in the final EIS.



## **Measures to Minimize Environmental Harm**

The exchange agreement with FPL will include various provisions designed to mitigate impacts from any construction and operation of powerlines within the exchange corridor. Principal mitigation measures include:

**Property Use:** The exchange corridor will only be used for placement of FPL's Western Transmission Lines to the extent that an adequate right-of-way within the West Consensus Corridor cannot be secured in a timely manner and at a reasonable cost. Any portion of the exchange corridor ultimately used by FPL must be used solely for conservation or for the purpose of accessing, constructing, operating, maintaining, etc. utility facilities and appurtenant equipment and facilities. FPL will refrain from construction activities in the exchange corridor until after FPL has identified the final alignment and determined how much NPS land, if any, is needed for the FPL western transmission lines.

**Consistency with Other Regulatory Actions and Legislative Direction:** FPL shall obtain all required federal, state and local permits, including incidental take permits from the U.S. Fish & Wildlife Service (USFWS) as appropriate, for all facilities constructed on the exchange corridor.

**Flowage:** The United States will have the right to flow water in perpetuity over the entirety of the exchange corridor, up to a design level of -10.5 NGVD 1929.

**Vegetation Management:** FPL shall use best management practices within the exchange corridor to control exotic, non-native vegetation species, such as mechanical methods and selective application of herbicides. FPL and NPS will coordinate the development and implementation of an Integrated Pest Management (IPM) Plan for control of exotic vegetation within the exchange corridor.

**Avian Species Protection:** In the northernmost five (5) miles of the exchange corridor, nearest to where wood storks and other wading birds integral to the character, purpose, and ecological health of the park are known to utilize habitat. FPL 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:

- construction without guy wires to the maximum extent practicable;
- varied transmission structure spacing and sizing to minimize risk of avian impacts; and
- maximizing use and effectiveness of flight diverters and powerline marking.

Powerline design will be submitted to the NPS for review and comment. Any proposal to reduce the area where maximum avian protection is required must be preceded by a peer-reviewed pre-construction avian risk study. The results of the study will be agreed in advance by FPL and the NPS to determine the locations where the design must maximize protection of avian resources.

**Best Management Practices:** FPL must utilize best management practices for all construction, operations and maintenance activities within the exchange corridor to the maximum extent practicable to avoid, minimize, and mitigate adverse impacts to natural and cultural resources of the park. In addition, FPL must use best management practices within the exchange corridor to control exotic, non-native vegetation species, such as mechanical methods and selective application of herbicides.

**Work Plans:** FPL must develop construction work plans and operations and maintenance plans for any construction activities within the exchange corridor. These plans will provide details on proposed activities and steps taken to avoid and minimize impacts to adjacent park resources from construction, operation, and maintenance activities. FPL will provide the NPS with an opportunity to review and comment on the plans prior to finalization.



**Reconveyance:** FPL shall reconvey to the NPS any and all acreage in the exchange corridor determined, through the execution of the final site certification order and its conditions of certification, to be unneeded by FPL to build transmission lines.

## **ENVIRONMENTALLY PREFERABLE ALTERNATIVE**

Under 40 CFR 1505.2(b), the *environmentally preferable alternative* must be identified in a ROD. It is the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The NPS has identified alternative 2, the direct acquisition alternative, as the environmentally preferable alternative. 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 is 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 MWD project and the CERP. All other alternatives (alternatives 1b, 3, 4, and 5) would result in construction of transmission lines within the EEEA boundary (or at least a portion of 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.

## **ALTERNATIVES CONSIDERED BUT NOT SELECTED**

### **Alternative 1a: No Action**

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, which is 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 was considered to represent a status quo baseline for NEPA purposes. The impacts of constructing transmission lines, as analyzed in other alternatives, are compared to this baseline.

### **Alternative 1b: No Action**

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 acquisition of property interests, 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 (the FPL West Secondary Corridor). Although it represents the same management option as alternative 1a, this alternative was considered 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 was considered 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 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 the selected action, 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 would 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 the selected action 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 the selected action, 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 the selected action, 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.

## **BASIS FOR DECISION**

In selecting alternative 3 (the fee-for-fee land exchange) for implementation, the NPS evaluated each alternative based on its ability to meet the plan objectives (see table 2 of the final EIS), environmental impacts (see "Chapter 4: Environmental Consequences" of the final EIS), public comments on the draft EIS, and discussions with FPL, including property rights concerns. Alternative 3 allows 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. This alternative allows the park to address its highest priority to provide for more water in a timely manner according to the MWD project, Tamiami Trail Next Steps project, and Comprehensive Everglades Restoration Plan. Alternative 3 provides the opportunity to proceed expeditiously with restoration projects now and in the future with no additional acquisition cost to the federal government. For the purposes of this alternative, the values of the land involved in the land exchange under consideration are considered equal. All other action alternatives would require lengthy acquisition processes and negotiations with FPL, including securing the necessary federal funding to acquire FPL's interests, that would likely delay implementation of restoration goals and result in a much higher cost to the government.

Alternative 3 best balances the need to proceed expeditiously with restoration projects with the potential for greater environmental impacts as compared to the environmentally preferable alternative (alternative 2). Alternative 3 was revised between the draft and final EIS based on completion of the state site certification process and after a number of meetings with FPL to determine how best to incorporate the site certification requirements into the NPS land acquisition process and reduce overall impacts to park resources. The most important new provision is the commitment by FPL to reconvey portions of the exchange corridor back to the NPS in the event that FPL is successful in securing an adequate right-of-way within the West Consensus Corridor. In this instance, a large portion of the transmission line could be constructed outside the park, requiring significantly less land from the NPS in a final exchange, reducing impacts to park resources and allowing for hydrologic projects in the region to move forward.

Another important aspect of Alternative 3 is FPL's acceptance of mitigation measures and specific terms and conditions described previously and included in appendix G in the final EIS. Both parties will agree to these terms and conditions in an exchange agreement such that future uses would have minimal impact on park resources and values and Everglades ecosystem restoration. (These terms and conditions will take the form of covenants that run with the land.) The most critical mitigation measures to the NPS are those

that allow the perpetual ability to overflow and submerge the exchange corridor consistent with hydrologic restoration requirements and in furtherance of ecosystem restoration and/or environmental projects within or adjacent to the exchange corridor.

Other important additional mitigation measures in alternative 3 focus on avoiding and minimizing adverse impacts to park resources associated with potential FPL construction and operation of electric transmission lines in the exchange corridor. These terms and conditions address long-term operations and management of the exchange corridor including such topics as control of non-native and exotic species, fire management, long-term restoration activities, natural resource monitoring, access control, and law enforcement activities. Additional terms and conditions address construction-related issues and require FPL to avoid and minimize impacts to park resources during construction. NPS will be given the opportunity to concur on all construction work plans. And in the northernmost five miles of the exchange corridor, nearest to where wood storks and other wading birds integral to the character, purpose, and ecological health of the park are known to utilize habitat, FPL commits 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. All of these measures have been incorporated into alternative 3 and are an integral component of the selected alternative and the rationale for identification as such.

## **PUBLIC AND AGENCY INVOLVEMENT IN THE PLANNING PROCESS**

### **Public Scoping**

**Public Notification**—A Notice of Intent to prepare an EIS was published in the Federal Register on May 26, 2011.

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 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.

**Public Scoping Meeting**—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 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.

**Public Scoping Comments**—During the public scoping period, the park received 10,120 pieces of correspondence 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 3: 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 Plan/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.

During the prescribed comment period, 275 pieces of correspondence were received. Two were petitions or letters containing 14,075 total signatures; a third form letter contained 178 signatures and 70 individual pieces of correspondence, which are included in the total of 275 pieces of correspondence received. All letters that were submitted outside of the PEPC system (letters received by email, through the U.S. mail, and comments received at the public meetings) were entered into the PEPC system for analysis. Each piece of correspondence was read, and specific comments within each piece of correspondence were identified. Substantive comments, those comments that "raise, debate, or question a point of fact or policy," were further analyzed and responses were prepared. All comments received were carefully considered and incorporated into the final EIS as necessary. A total of 707 comments were derived from the pieces of correspondence received. The Public Comment Report containing all concern statements and NPS responses to substantive comments is provided in appendix L of the final EIS.

## **Final Plan/EIS**

The final EIS was available for public inspection for a 30-day no-action period, which began with the publication of the EPA Notice of Availability of the final EIS on December 4, 2015, and ended on January 3, 2016. The NPS also announced the availability of the final EIS on the park's website and by press releases. As with the draft EIS, notification of the availability of the final EIS was sent directly to the park's mailing lists of interested parties, elected officials, and appropriate local and state agencies. The final EIS was made available on the PEPC website and at local libraries; hard copies were available upon request by contacting the park superintendent. During the no-action period, letters were received from the EPA, the Florida Fish and Wildlife Conservation Commission (FWC), and the National Parks Conservation Association (NPCA). The EPA letter reiterated the EPA's previously stated position that it lacks objections to the NPS's overall proposed action, but recommended that the NPS consider the Council on Environmental Quality's "Revised Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions" for future planning projects and sought clarification on NPS' plans for continued tribal consultation. NPS will review the CEQ guidance in future NEPA documents as recommended. The tribal consultation information is provided elsewhere in this ROD. The FWC letter finds that the final EIS is consistent with FWC's authorities under the Coastal Zone Management Act/Florida's Coastal Management Program. It also acknowledges that the final EIS: (a) incorporates the agency's prior recommendations by including the Recommended Order and Conditions of Certification in the alternatives analysis; and (b) reiterates the commitment for FPL to work with FWC staff to design a post-construction mitigation effectiveness monitoring study.

The NPCA letter voiced support for that part of the selected action that could result in construction of power lines outside the exchange corridor, but asked that the terms and conditions governing construction and maintenance activities in the exchange agreement be made publicly available. All applicable terms

and conditions are identified in the ROD under the section "Measures to Minimize Environmental Harm." The NPCA letter also raised questions about valuation and payment of the reconveyance lands, allowable uses on the exchange corridor, and accountability and due diligence by FPL. It is the intent of NPS to compensate FPL for all reconveyed lands using wetland mitigation credits from the Hole-in-the-Donut wetland mitigation program. The reference to use of appropriated funds for compensation (in lieu of mitigation credits) is as a contingency measure and not anticipated to be required. The reference to use of appurtenant equipment and facilities is a term utilized in the site certification process, and is generally defined there. Additional information about FPL's due diligence process and the ability of the NPS to review and comment on FPL filings submitted in accordance with the final site certification order is included in the description of the selected action, described previously in the ROD.

### **Agency Consultation**

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 FDEP, the Florida Department of State and the 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 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).

Copies of these letters and any responses received are provided in appendix E of the final EIS.

### **Agency Scoping**

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, USFWS, the Advisory Council on Historic Preservation, and the 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; 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.

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, Miami-Dade County Department of Environmental Resources Management, Miami-Dade County Department of Planning and Zoning, Florida Fish and Wildlife Conservation Commission, and members of the EIS contractor team.

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, and discussed the next steps and path forward. This meeting was attended by representatives from the following entities: Everglades National Park, U.S. Department of the Interior, FPL, MDLPA, National Parks Conservation Association, Miami-

Dade Department of Environmental Resources, SFWMD, Miccosukee Tribe of Indians of Florida, and FDEP.

### **U.S. Fish and Wildlife Service**

In accordance with Section 7 of the Endangered Species Act of 1973, consultation with the USFWS concerning impacts to threatened and endangered species was initiated by the NPS. 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. The USFWS also attended the June 21, 2011, agency scoping meeting.

The NPS did not seek 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. However, the NPS included information for such lines in a zone outside the park in the EIS 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 (the selected action), 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 the selected action 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 for consultation is limited to those effects resulting from the land exchange itself. 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.

The NPS contacted the USFWS on October 22, 2015, and requested consultation on the land exchange action described in alternative 3. The NPS determined that the land exchange may affect, but is not likely to adversely affect, the threatened eastern indigo snake (*Drymarchon corais couperi*), the endangered Everglade snail kite (*Rosthrhamus sociabilis plumbeus*), the endangered Florida bonneted bat (*Eumops floridanus*), the endangered Florida panther (*Puma concolor coryi*), and the threatened wood stork (*Mycteria americana*). The USFWS responded in a letter dated November 23, 2015, in which they concurred with NPS's determinations and expressed support for the implementation of the preferred alternative. The USFWS letter also confirmed that any future construction of transmission lines will require a separate consultation under section 7 of the Act with the U.S. Army Corps of Engineers or the Nuclear Regulatory Commission, and therefore, the transmission line construction is considered a separate future Federal action. The letter notes that USFWS, NPS, and FPL are currently coordinating to site the transmission line along a corridor that is the least environmentally impactful, that FPL needs to reconvey any lands not necessary for construction of the line back to NPS, and that FPL will be obligated to manage the corridor acquired in accordance with the terms and conditions of the land exchange. Consequently, the USFWS concluded that no appreciable change in habitat quality is anticipated and the 320 acres acquired by the park in the exchange represent a net gain of 60 acres of habitat that will be owned and beneficially managed by NPS, resulting in a net benefit of conservation to species.

The November 23, 2015, letter with USFWS's response fulfills the requirements of Section 7 of the Act and no further action is required. If modifications are made to the project, if additional information



involving potential effects to listed species becomes available, or if a new species is listed, reinitiation of consultation may be necessary.

### **National Historic Preservation Consultation**

The NPS initiated consultation with several groups under Section 106 of the National Historic Preservation Act. Representatives from the Florida Division of Historical Resources were 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 was 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 State Historic Preservation Office 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 Advisory Council on Historic Preservation 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 of the final EIS. Possible impacts and mitigation relating to the protection of cultural resources are addressed in the EIS in chapter 1 of the final EIS in the section titled "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 Section 404 permit with Section 106 consultation and avoidance/mitigation measures would be needed prior to any construction of transmission lines in any corridor selected.

### **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 the 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.

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 of the final EIS. 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 were 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 these comments, the tribal analysis was revised

for the final EIS. The NPS will continue to consult with Native American Tribes during project implementation.

## **CONCLUSION**

Overall, among the six alternatives considered, the selected action best meets the purpose, need, and objectives of the EIS and is expected to provide the greatest amount of benefits by allowing the NPS to achieve the majority of the restoration goals in a timely manner, while considering relative costs to the government. The selected action incorporates all practical means to avoid or minimize environmental harm and will not result in the impairment of park resources and values or violate the NPS Organic Act.

The required “no-action period” before approval of the ROD was initiated on December 4, 2015, with the EPA’s Federal Register notification of the filing of the EIS (79 FR 61303). The official responsible for implementing the selected action is the Superintendent of Everglades National Park, Florida.

## **ATTACHMENT A: NON-IMPAIRMENT DETERMINATION**

Pursuant to the National Park Service (NPS) *Guidance for Non-Impairment Determinations and the NPS NEPA Process* (NPS 2011), a non-impairment determination for the selected action is included here as an appendix to the Record of Decision.

Chapter 1 of the final environmental impact statement (EIS) describes the related federal acts and policies regarding the prohibition against impairing park resources and values in units of the national park system. The prohibition against impairment originates in the NPS Organic Act, which directs that the NPS shall:

promote and regulate the use of the National Park System by means and measures that conform to the fundamental purpose of the System units, which purpose is to conserve the scenery, natural and historic objects, and wild life in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wild life in such manner and by such means as will leave them unimpaired for the enjoyment of future generations. (54 USC 100101).

According to *NPS Management Policies 2006*, an action constitutes an impairment when its impact “would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (NPS 2006, sec. 1.4.5). To determine impairment, the NPS must evaluate “the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts” (NPS 2006, sec. 1.4.5).

National park system units vary based on their enabling legislation, natural and cultural resources present, and park missions. Likewise, the activities appropriate for each unit and for areas in each unit vary. For example, an action appropriate in one unit could impair resources in another unit.

As stated in the *NPS Management Policies 2006* (NPS 2006, sec. 1.4.5), an impact on any park resource or value may constitute an impairment, but an impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified in the park’s general management plan or other relevant NPS planning documents as being of significance

The NPS-selected action is the same as the preferred alternative (alternative 3) in the final EIS. A non-impairment determination has been completed for this alternative. The resource impact topics analyzed for the selected alternative are water resources, including hydrology and water quality; soils; vegetation and wetlands; floodplains; soundscapes; wildlife; special-status species; viewshed (visual resources); and wilderness.

### **WATER RESOURCES, INCLUDING HYDROLOGY AND WATER QUALITY IN THE EVERGLADES**

Hydrology and water quality were considered as separate impact topics in the EIS, but both relate to determining whether the water resources in Everglades National Park might be impaired, and are addressed together here.

## 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 2010b). 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 2010b). This is largely the result of the placement of canals, levees, and other hydrological engineering structures in key areas throughout the greater Everglades ecosystem. 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 water conservation areas (WCAs) located north of Tamiami Trail (U.S. Highway 41) and the 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. With such an immense alteration in annual flows, hydrology in NESRS does not currently resemble what might be expected under historic conditions.

## WATER QUALITY

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. Historically, the central and southern Everglades were a phosphorus-limited, oligotrophic system within a very slow-flowing system. 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. Nutrients, specifically phosphorus, can be of particular concern when in excess given the Everglades' naturally phosphorus-limited and oligotrophic character. 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. 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. 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). Pesticide levels and high dissolved organic matter are also monitored in NESRS. 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).

Hydrology and water quality are fundamental characteristics of the water resources of the park and key to the natural integrity of the park. These water resources are crucial to the goals and objectives of the Expansion Act. The purpose of expanding the park included enhancing and restoring ecological values, natural hydrologic conditions, and public enjoyment of such areas. The hydrology and water quality of the park provide important ecological bases for the development and productivity of park wetlands and support of park wildlife. Statements of significance for the park include the recognition that it 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. The State of Florida included the park as an Outstanding Florida Water and requires that Outstanding Florida Waters receive special consideration in issues related to water quality.

### **Land Acquisition Action**

Implementation of the selected action, the land acquisition, will allow the NPS to accommodate enhanced flows across both the current Florida Power & Light Company (FPL) corridor and the exchange corridor, and to proceed with flow-dependent ecosystem restoration projects that seek to increase the annual flows in NESRS and allow more natural conditions to occur, benefiting hydrology and water quality within the park.

### **Transmission Line Construction**

The installation of the transmission line support towers will require augering holes for structures, which may 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 will be relatively small and localized, but the water will have different water chemistry characteristics than the surrounding water, and will not be free of sediment, and will adversely impact water quality. Other indirect impacts on water quality will result from the disturbance of sheetflows as water is pushed through the culverts associated with access roads. It is reasonable to expect that there will 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 may also increase methylation of mercury.

Scour could also occur in the vicinity of the culverts, creating localized long-term negligible to minor adverse impacts along the transmission lines. There will also be adverse impacts related to the small to large-scale interruption of hydrologic processes that will 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. There could be localized and possibly regional obstructions and alterations of flow due to the presence of equipment and fill materials, depending on the method of construction.

Under the transmission line construction scenario that is associated with the selected action, water will continue to flow toward the canal in the area where transmission lines will be constructed and will do so until the seepage barriers are put in place. There will be possible impacts on water quality from sediment discharge into the surrounding waterways, which will increase total suspended solids, turbidity, and nutrients, particularly phosphorus. The more confined water in the channel between the levee and a parallel access road might be more stagnant, with less flow, and that can adversely affect water quality by encouraging localized eutrophication, although FPL is committed to maintaining the hydroperiod and preserving sheetflow through the FPL transmission line corridor.

Implementation of the selected action with the associated transmission line construction will result in short and long-term minor to moderate adverse impacts to hydrology and water quality, but water resources will not be impaired for several reasons. First, there will be substantial long-term beneficial impacts on hydrology and water quality as the result of the ability for the NPS to increase water levels across the acquired FPL property and implement flow-related ecosystem restoration activities. The selected alternative's contributions to cumulative impacts on hydrology and water quality are primarily beneficial based on this enhanced ability to increase flow over the East Everglades Expansion Area (EEEA). Also, in accordance with the final site certification order, FPL must avoid siting any transmission lines in the park and only use the FPL West Preferred Corridor in the event that an adequate right-of-way within the FPL West Consensus Corridor outside the park cannot be secured in a timely manner and at a reasonable cost. FPL's success in doing that would minimize or eliminate impacts on hydrology and water quality in the park. The final site certification order and the selected alternative also require terms and conditions that minimize impacts to water resources, including use of best management practices (BMPs). Overall, the adverse impacts of the selected alternative will be effectively mitigated to

protect water resources through the implementation of BMPs and required consultation and permitting, as well as the mandate to have the transmission lines located off park property as much as possible. The overall integrity of the park's water resources will continue and will be enhanced by the additional flow capability provided by the land exchange, and the opportunity for future generations to enjoy water resources in the park will continue. Based on the above reasons and particularly due to the long-term beneficial impacts from the ability to move forward with ecosystem-wide restoration projects, the selected action will not result in impairment to water resources.

## **SOILS**

The soils in the EEEA are mainly characterized as peat or marl, although there may be areas of rock outcropping. 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 NESRS is typified by Loxahatchee peat, a peat type that occurs within the deepest marsh areas that contain remnants of slough vegetation. 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. Marls (muds high in calcium) cover the extensive peat deposits of the central Everglades and appear within portions of the EEEA in the area of analysis. Marl soils are typically very low in phosphorus content and take many years to form. Alteration of historic hydrology and degraded water quality has led to substantial changes in soil conditions throughout the project area.

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 both 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, which caused changes in soils after three years (Gaiser et al. 2005; Gaiser et al. 2007). Soils are key to the natural integrity of the park and are both important to the park purpose and significance, as soil provides the foundation for the vegetation and wetlands characteristic of the park and its views and vistas.

### **Land Acquisition Action**

Implementation of the selected action will result in beneficial impacts on soils due to the acquisition of FPL land in the EEEA. NPS management will extend to an additional 320 acres of soils within the acquired area, and improvements to soils associated with enhanced water levels will occur. Flowage will allow for the development of soils from seasonal drying and wetting and will lead to improvements in soil conditions over time. However, these gains are offset to some degree by long-term moderate adverse impacts resulting from the removal of 260 acres of soils from the park and associated park management activities in the exchange corridor.

### **Transmission Line Construction**

Long-term major indirect adverse impacts on soils will occur from compaction within the footprint of towers and roads and the permanent loss of an estimated 194 acres for transmission line construction, including up to 80 acres within the exchange corridor. Additionally, culverts along the length of the transmission line will contribute through channelization to some scour and subsequent erosion and resulting loss of soils. Because terms and conditions will accommodate enhanced flows across the property, the regional ecosystem restoration activities that rely on enhanced flow will be possible. However, impacts such as compaction and erosion from excavation for pole placement, earthmoving, and grading will occur. Implementation of the selected alternative will 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 will minimize impacts where possible.

The permanent loss of 194 acres of soils including up to 80 acres in the exchange corridor is a significant impact, and there will be short-term minor to moderate adverse impacts during construction from excavation, earth moving and grading; however, there will not be impairment of soils for several reasons. The adverse impacts will be partially offset by the 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. While the selected alternative will result in the permanent loss of up to 80 acres of soils within the current park boundary, it will also allow ecosystem restoration projects and increased water flow to occur in the entire EEEA which is crucial to the goals and objectives of the Expansion Act, as described above. These impacts would contribute appreciable beneficial impacts to the overall cumulative effects on soils in this area. Also, in accordance with the final site certification order, FPL must avoid siting any transmission lines in the park and only use the FPL West Preferred Corridor in the event that an adequate right-of-way within the FPL West Consensus Corridor outside the park cannot be secured in a timely manner and at a reasonable cost. FPL's success in doing that would minimize or eliminate impacts on soils in the park.. Terms and conditions of the exchange include adherence to erosion control measures that will help to minimize impacts on soils. Overall, the adverse impacts of the selected alternative will be effectively mitigated to protect soils through the implementation of erosion control measures, restoration of soils following regrading and seeding, and requirements of permitting, as well as the mandate to have the transmission lines located off park property as much as possible. The overall integrity of the park's soils will be enhanced by the additional flow capability provided by the land exchange. Based on the above reasons and particularly due to the long-term beneficial impacts from the ability to move forward with ecosystem-wide restoration projects, the selected action will not result in impairment to soils.

## **VEGETATION AND WETLANDS**

As described under "Water Resources, including Hydrology and Water Quality in the Everglades," during pre-drainage conditions, NESRS was characterized by wide expanses of open water slough with elevated sawgrass ridges interspersed with tree islands. 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. Today, 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 in the vicinity of the exchange corridor 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. 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 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.

Exotic plants are found within the park; primary exotic plants 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. 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.

Wetlands are key to the natural integrity of the park, given that its International Biosphere Reserve, World Heritage Site, and Wetland of International Importance designations are based largely on the unique hydrologic and wetland environment found in the Everglades ecosystem. The park is nationally and internationally significant because it is a unique subtropical wetland, which serves as the hydrologic connection between central Florida's freshwater ecosystem and the marine systems of Florida Bay and the Gulf of Mexico. In 2010, Everglades National Park was relisted as a World Heritage Site in Danger because of serious and continuing degradation of its aquatic ecosystem. Everglades' unique flora and wetlands are recognized in its enabling legislation and general management plan, as well as in other resource management plans. Statements of significance for the park include the recognition that the park comprises the largest subtropical wilderness reserve in North America and 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.

#### **Land Acquisition Action**

The selected alternative will remove a large area of non-NPS ownership of land in the interior of the park, and add 320 acres of wetlands in the FPL right-of-way. This will ensure that no other development will be proposed in the corridor and that the various Everglades ecosystem restoration projects will be able to proceed without obstacles related to the presence of the FPL parcel. However, the selected alternative will result in a loss of 260 acres of wetlands within the park, resulting in a net gain of 60 acres.

#### **Transmission Line Construction**

The selected alternative will result in a permanent loss of wetlands in areas of access road and pad locations, or approximately 80 acres within the exchange corridor. Short- and long-term minor to major adverse impacts are expected from construction of the transmission lines. Impacts such as soil compaction and erosion from excavation for pole placement, earthmoving, and grading will occur that could affect vegetation and wetlands. Also, disturbance caused by the removal of soil and vegetation will be expected to make the area more vulnerable to nonnative species growth and disruption of native plant species composition.

Mitigation measures as such as various erosion control devices would be implemented to minimize adverse impacts to wetlands. The selected alternative also includes certain terms and conditions for the use of the exchange corridor that include provisions for the protection of wetlands and the control of nonnative and invasive species. A construction work plan will be developed by FPL, with concurrence from NPS, and will 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 will also protect wetlands. For the selected alternative, the wetland mitigation plan requires a 1:1 compensation using the Hole-in-the-Donut wetland mitigation bank in the park, however, there will be a permanent loss of acres for pads and roads.

The selected alternative will have adverse impacts to wetlands that may be significant. The loss of 260 acres of wetlands within the park boundary is considered a major adverse impact on wetlands and vegetation, and adherence to terms and conditions cannot guarantee that wetland impacts are avoided or fully compensated, although this effect is limited to a small portion of the park. However, the selected alternative will not impair wetlands for several reasons. Of most importance, the land exchange will have

substantial beneficial impacts to vegetation and wetlands from 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 will enhance the conservation of the resources and values of the park, including vegetation and wetlands, once increased flows are possible in this area. The contribution of the selected alternative to the overall cumulative impacts will include appreciable benefits from the ability to flow water over the wetlands of the Everglades, as well as appreciable adverse impacts that will be mitigated to some degree by the terms and conditions that are designed to minimize construction related impacts. The selected alternative also includes plans for compensatory mitigation that restore wetlands on NPS lands at a minimum acreage ratio of 1 to 1 for the selected alternative, in accordance with Director's Order #77-1 (NPS 2002). Also, in accordance with the final site certification order, FPL must avoid siting any transmission lines in the park and only use the FPL West Preferred Corridor in the event that an adequate right-of-way within the FPL West Consensus Corridor outside the park cannot be secured in a timely manner and at a reasonable cost. FPL's success in locating the transmission lines outside of the park boundary will minimize or eliminate impacts on wetlands and vegetation in the park. As a result of the mitigation measures and the expected improved functions and values from restoration projects for the EEEA as a whole that will be possible due to the land exchange, and the mandate to FPL to locate the transmission lines off park lands to the maximum extent possible, wetlands and vegetation will not be impaired.

## **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. 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). 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.

Preservation of the floodplain is key to the integrity of the park wetlands and indirectly necessary for the fulfillment of the purpose of the park, including enjoyment of a healthy ecosystem. The *Final General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement* (NPS 2015) describes the significance of the park as a unique subtropical wetland that is the hydrologic connection between central Florida's freshwater ecosystem and the marine systems of the Florida Bay and the Gulf of Mexico.

### **Land Acquisition Action**

The land exchange under the selected action will result in long-term beneficial impacts to floodplains, since this action will 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 Line Construction**

Under the selected alternative, there will 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 will be less than would occur if the lines were built further to the west; these impacts will be reduced further assuming that FPL is able to construct the transmission lines outside of the exchange corridor.

Although construction of the transmission lines under the selected alternative will result in adverse impacts to floodplains, there will not be impairment of floodplains for several reasons. First, the long-term beneficial impacts of acquiring the FPL land will 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, improving the hydrologic connection. Long-term moderate adverse impacts on floodplain functions and values from construction and presence of transmission lines in the exchange corridor from increased compartmentalization and the effects of the disrupted sheetflows on floodplain values will occur, but in limited areas. The impacts may be lessened due to the required terms and conditions relating to flow and culverting, and the mandate under the site certification order to construct transmission lines outside of the EEEA if possible. The selected alternative will contribute appreciable long term beneficial, and only minimal adverse impacts to the cumulative impacts on floodplains in the area. For these reasons, the selected action will not result in impairment to floodplains.

## **SOUNDSCAPES**

Overall, 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 A-weighted decibels (dBA) energy equivalent sound levels ( $L_{eq}$ ) (similar to a quiet office). Natural sounds such as wind, insects, and amphibians are the dominant sounds. Human-caused sounds are audible most often during the daytime. 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. 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 are an important part of providing a primitive wilderness experience for visitors and a natural soundscape is key to the natural integrity of the park and opportunities for enjoyment of the park.

### **Land Acquisition Action**

There will be no impacts on soundscapes from the exchange of FPL and NPS lands in the EEEA.

### **Transmission Line Construction**

The construction and operation of transmission lines in the EEEA would impact the soundscapes and natural character of the sounds that currently dominate the landscape. Heavy equipment used in the construction of the transmission lines (potentially including the use of helicopters in stringing the conductor) will result in short-term moderate adverse impacts on soundscapes in the park and on adjacent lands. Construction noise will be intense (over 90 dBA within 50 feet), but also intermittent and will 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 will 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 will be the greatest in the winter when the natural ambient level is the lowest at which time the construction activity could equal the natural ambient level 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 will be greatest within 4.3 miles of the construction activity, where sound levels will be

10 dBA (perceived by humans as a doubling of loudness) or higher than the natural ambient level. Approximately 43 square miles of the park are within 4.3 miles of the FPL West Preferred Corridor.

Long-term impacts to soundscapes will include corona noise, which will be greatest during foul weather. During these events, the corona noise will be up to 49 dBA at 50 feet from the lines, which will increase ambient levels in the park by 3 dBA or more for a distance of 0.23 miles, impacting approximately 1.4 square miles of the park. This change would be barely perceptible during foul weather events and barely audible within the transmission line corridor during dry weather.

Although construction of the transmission lines associated with the selected alternative will have adverse effects on soundscapes, there will not be impairment of the park soundscapes for several reasons. Most impacts will be short term, during the period of construction, and limited to specific areas of the park at any one time. Long-term impacts will be limited to occasional maintenance activity noise and adverse impacts from corona noise. The contribution of these impacts to the overall cumulative impacts in the park will be somewhat noticeable, but not significant. There is also the site certification order for FPL to move transmission line construction out of the park, and this action could decrease noise somewhat based on distance to park receptors, although it would not eliminate noise in the park that originates just outside park boundaries. Overall, the level of impact will not harm the integrity of the park's soundscapes to the point that opportunities will not be present for the enjoyment of the park's soundscapes. Therefore, the selected alternative will not result in impairment of soundscapes.

## **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. 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 the functions of many native wildlife species.

The habitats 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; details can be found in chapter 3 of the EIS. There are over 150 species of birds that breed or forage in the park year round, using both land and water habitats (NPS 2010a). 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 2010a). 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 2010a) and more than 20 of these are anticipated to occur within NESRS (NPS 2010a).

Wildlife is necessary to fulfill the purposes of the park as stated in the enabling legislation and key to the natural integrity of the park and opportunities for enjoyment of the park. Statements of significance for the park include the recognition that the park 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. It is also significant in that it is the largest subtropical wilderness reserve in North America and supports a diverse mix of tropical and temperate plants and animals.

### **Land Acquisition Action**

Beneficial impacts will occur as a result of the exchange; the park will realize a net gain of 60 acres of higher value wetlands. The exchange corridor given to FPL will be 260 acres of mostly wetlands located at the edge of the park, close to developed areas, with a relatively high coverage of nonnative plants, which thereby reduces its value as wildlife habitat. The FPL corridor gained by the park will be 320 acres that is further from developed areas and has fewer nonnative species. Although the park will realize a net gain of 60 acres, the loss of park habitat (260 acres) and the loss of ability to maintain the habitat in the exchange corridor per NPS standards are still considered a significant impact on wildlife.

### **Transmission Line Construction**

During construction, there will be construction equipment and associated noise in the vicinity of the construction area, which may disrupt wildlife behaviors and travel patterns. Construction of access roads and structure pads will result in permanent loss of habitat for some species. If helicopters are needed during construction, they will 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 will also occur due to ground disturbance and vegetation removal or treatment in work areas outside the access road and pad areas during the construction period; this will 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 will 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 will be adverse, temporary, and minor as death of individual animals is not expected to have population-level impacts on non-special-status species.

Construction of access roads and structure pads will result in permanent loss of habitat for some species. 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 will have long term minor to moderate adverse impacts, depending on the type of habitat impacted and the species that use the habitat.

Line maintenance will be done about once every 2 years and will consist of line surveys conducted by helicopter and/or vehicle using the access road that was constructed. Noise from these activities will cause impacts similar to those from vehicle use and helicopter use during construction, but there will be less equipment used and lower noise levels for ground work.

Bird species are of special concern to the significance of the park. The behavior of bird species may be impacted by construction noise and traffic. The greatest impacts on avian species will 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 will also result in a loss of foraging and nesting habitat for avian species. The loss of these habitats will have long-term moderate adverse impacts. Avian electrocutions and strikes on transmission lines and guy wires are considered long-term adverse impacts. The magnitude of the impact will 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. The EIS provides additional detail regarding potential impacts to birds, mammals, reptiles, and amphibians for the selected alternative.

Implementation of the selected alternative will have adverse impacts on wildlife, but these will not result in impairment of wildlife for several reasons. First, by gaining the FPL lands within the park, the NPS is able to provide future restoration to the entire EEEA, which will provide a better natural habitat for existing wildlife, and NPS acquisition of the FPL West Secondary Corridor will allow for application of NPS policies and procedures in that area. The impacts on wildlife in the exchange corridor will be tempered by the fact that the exchange corridor is generally less desirable habitat than any corridor in the interior of the park, due to its proximity to already disturbed upland and wetland areas outside the park. Impacts of construction will be mitigated by implementation of the terms and conditions of the land exchange, which include specific avian protection measures. Impacts to birds and other wildlife in the park will be further lessened if FPL is able to construct outside of the park boundary per the site certification order. Impacts on wading bird species would be mitigated because of the increased distance from the transmission lines to known nesting colonies. 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 exchange corridor. Although NPS will no longer own or control the exchange corridor, unless unneeded lands are reconveyed back to the federal government, the effects will be mitigated by the terms and conditions of the exchange. Impacts of the selected alternative will contribute noticeable adverse but appreciable beneficial impacts to the overall cumulative effects on wildlife in this area.

As a result of the mitigation measures included in the terms and conditions, the expected improved functions and values from restoration projects for the EEEA as a whole that will be possible due to the land exchange, and the mandate that FPL locate the transmission lines off park lands to the maximum extent possible, wildlife will not be impaired.

## **SPECIAL-STATUS SPECIES**

Maintaining the integrity of local populations of state and federally-listed species and their habitat is important because listed species are rare, have specialized habitat requirements, and because the park serves as a refuge from surrounding habitat loss and alteration due to development in the region. There are six federally listed and eleven state-listed species likely to occur in the project area. Federally listed species include the wood stork and Everglades snail kite, which have known nesting locations within a relatively short distance of the exchange corridor. Four wood stork rookeries are located within 5 miles of the corridors in the vicinity of Tamiami Trail. 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 nearest wood stork colony to the exchange corridor is 0.51 miles away, while the West Consensus Corridor, where FPL would likely construct transmission lines outside of the park, is approximately 0.8 miles to the northwest of the same colony (Tamiami Trail East 1). Wood storks occasionally forage in both locations. The wood stork population is listed as threatened, primarily due to loss, fragmentation, and degradation of the wetland habitats that they depend on.

The Everglades snail kite is an endangered raptor that inhabits the freshwater marshes and marl prairies of the Florida peninsula. Managing the hydrology of these marshes is important to the survival of the snails that they eat. The Everglade snail kite has been recorded within and adjacent to the exchange corridor. The closest recorded Everglade snail kite nest to the West Consensus Corridor is within 0.16 mile of the corridor. 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.

Four federally listed or candidate plant species are also of concern in the study area; however, these have a low likelihood of occurrence in the exchange corridor or the West Consensus Corridor. Of the state-listed species, the main species of concern that are more likely to occur in the consensus corridor in the

park include several wading birds such as the limpkin, little blue heron, tri-colored heron, white ibis, and snowy egret. Additional information about all listed species and known nesting locations is extensive and is provided in the final EIS.

The viewing of special-status species, such as the wood stork, is an important component of the visitor experience in the park. Their presence is key to the natural integrity of the park and identified as significant in park planning documents. Statements of significance for the park include the recognition that it 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.

### **Land Acquisition Action**

The land exchange will result in beneficial impacts to special-status species because the exchange will remove a large area of non-NPS ownership of land within the interior of the park, ensuring that no other development will be proposed in this area and that the various Everglades ecosystem restoration projects can occur without any obstacles relating to the presence of this parcel. The connectivity of the EEEA wetlands will be ensured, and a potential source of nonnative vegetation not under NPS control will be removed. Placing ownership of this area solely with the NPS will enhance the ability to provide more natural water flows to the park, which will in turn 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 will 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 reduce their 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.

### **Transmission Line Construction**

Impacts will result from the construction of transmission lines within the exchange corridor, directly adjacent to park lands on the eastern edge of the park. 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. Construction of transmission lines in this area will affect species, with indirect short- and long-term impacts, ranging from negligible to potentially major adverse impacts accruing to special-status species from transmission line construction and presence along the exchange corridor. Construction of transmission lines in this corridor will have a relatively high risk to avian species because of the proximity to nesting and foraging locations. Details of the impacts expected for each species are found in the final EIS.

Specific mitigation measures taken from the FPL Site Certification Application (SCA) will be used to minimize impacts on special status species. These measures include working with the USFWS (for any federally listed species) or Florida Department of Agriculture and Consumer Services or Florida Fish and Wildlife Conservation Commission (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. FPL has also committed to construct, operate, and maintain the transmission line in compliance with its Avian Protection Plan (FPL 2007). In addition to the mitigation measures included in the SCA, any construction in this corridor will adhere to all terms and conditions of the land exchange.

In general, construction and operation of transmission lines under the selected alternative will 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. However, there will be no impairment of special status species for several reasons. First, the selected alternative will allow flowage/implementation of the



ecosystem restoration projects that will benefit many species and contribute beneficial impacts to the overall cumulative effects on special-status species in this area. The cumulative contribution to adverse effects on avian species will be high under this alternative because of the proximity to nesting and foraging locations, and the construction of the transmission lines in the exchange corridor will result in short- and long-term negligible to major adverse impacts on listed birds. However, the mitigation measures discussed above will serve to reduce impacts. Some losses may be unavoidable and will need to be addressed by FPL in its permitting for the transmission lines. However, the site certification order mandating that FPL use the West Consensus Corridor that avoids the most northern end of the park and move the transmission lines off the park as much as possible may help reduce impacts to wood stork and snail kites that nest in the park close to L-31 canal and Tamiami Trail. With implementation of these mitigation measures, and especially the ability to move the transmission line off park property and further away from known wood stork and snail kite nests, the selected alternative may have adverse effects, but will not harm the overall integrity of special-status species or their habitat. Park visitors will continue to have opportunities to enjoy special status species in the park, and there will be no impairment of the resource.

## **VIEWSHED (VISUAL RESOURCES)**

Visual character encompasses the patterns of landform (topography), vegetation, land use, and aquatic resources (i.e., lakes, streams, and wetlands). The terrain in the study area is predominantly flat and three general landscape characters are observed (natural, residential, and industrial). 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 including the existing mining operation, and residential development along the eastern border of the study area. Land within the national park consists of natural vegetation with marshland features preserved in-situ. Along the northernmost extent of the 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).

The Organic Act identifies scenery as a key resource and the enabling legislation for the park specifically identifies a lack of development as a key aspect of the park in able to preserve the essential primitive natural conditions in the area.

### **Land Acquisition Action**

The land acquisition under the selected action will not directly impact the existing viewshed; there would be no changes in visual resources from this action alone. However, the exchange of FPL and NPS lands in the EEEA will remove a large area of non-NPS ownership in the interior of the park, ensuring that no other development could be proposed in the FPL corridor. The exchange would thus ensure long-term protection of the existing viewshed.

### **Transmission Line Construction**

Indirect impacts from the selected action will occur from the construction of transmission lines along the exchange corridor (parallel to the L-31N canal). Impacts on visual resources will be most apparent looking at the park from Tamiami Trail, along the eastern edge of the park, and on the L-31N canal. During construction, there will 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 will be affected over the operational lifetime of the transmission lines. The area of greatest visual impact will 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. Visual impacts along the L-31N canal will be long-term major and adverse due to prolonged exposure to views of the transmission lines in the park.

The selected alternative will result in unavoidable adverse impacts because transmission line structures will remain a visible intrusion that degrades the existing scenic quality of the area that the lines traverse. However, the adverse impacts of the selected alternative will not impair visual resources for several reasons. The transmission corridor affects a specific portion of the park along a border with a moderate to highly developed adjacent land use, and the existing man-made structures along the park boundary lessen the impact of the visual intrusion. The impacts of the selected alternative will contribute noticeably to appreciable impacts to overall cumulative impacts on visual resources, but will be limited to one area of the park.

The adverse impacts from the presence of transmissions lines will also be slightly lessened assuming FPL is able to construct outside of the exchange corridor, as directed by the final site certification order. Even with the intrusion of the transmission line, visitors will continue be able to enjoy expansive views of the primitive interior of the park. For these reasons, the selected alternative will not result in impairment of visual resources.

## **WILDERNESS**

Land within the EEEA has been proposed as suitable wilderness, as determined in the *Final General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement*. With that suitability determination and selected action, the proposal will now be forwarded to the Secretary of the Interior and eventually to Congress for possible legislative action. Only Congress can designate wilderness. Until the time of formal designation, the proposed areas identified in the *Final General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement* and *Record of Decision* within the EEEA are to be managed as wilderness. The existing FPL lands within the park are proposed as potential wilderness lands; however, the exchange corridor lands were not determined eligible as wilderness, and therefore were not proposed as wilderness.

The park's wilderness value is recognized in its enabling legislation language and in the statements of significance for the park that recognize that it provides the public with the opportunity to experience Everglades wilderness for recreation, reflection, and solitude in proximity to a major metropolitan area. 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.

### **Land Acquisition Action**

The exchange of FPL and NPS lands in the EEEA will result in benefits to wilderness from the acquisition of the FPL parcel in the interior of the park, because the exchange will 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 nearly all of the corridor as wilderness (the area within ¼ mile of the Tamiami Trail is not eligible nor proposed as wilderness). The portion of the exchange corridor that may ultimately be removed from the park's boundary (depending on the outcome of FPL's efforts to utilize the West Consensus Corridor and keep transmission lines outside of the park) has been determined as ineligible for wilderness in the *Final General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement*.

### **Transmission Line Construction**

Indirect short-term moderate adverse construction-related impacts will result from the construction of transmission lines in the exchange corridor or the West Consensus Corridor, directly adjacent to park

lands. These impacts on wilderness values within the park (resulting from noise and visual effects of the construction activities) will occur during the period of construction. Effects will 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 will be moderate in severity due to the proximity of these activities to lands proposed as potential wilderness in the *Final General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement and Record of Decision* and the increased potential for them to result in measurable impacts upon wilderness. The viability of the wilderness proposal will not be affected by the short-term effects to wilderness values that will occur during construction activities. However, the future construction of the transmission lines, towers, and structure pads in the exchange corridor or the West Consensus Corridor could affect the wilderness character and values of adjacent lands in the EEEA, especially those lands in which transmission lines and structures will be prominently visible, resulting in long-term moderate adverse impacts. Furthermore, the *Final General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement and Record of Decision* identified the exchange corridor as a buffer between potential wilderness and adjacent developed areas; the construction of transmission lines, towers, and structure pads in the exchange corridor will reduce the size of that buffer. Finally, 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 will impact the “undeveloped” and “solitude or primitive and unconfined recreation” criteria in the Wilderness Act.

Although adverse impacts on the wilderness character of the EEEA will result from the construction of the transmission lines within the exchange corridor or the West Consensus Corridor, and the continued presence of the transmission lines in these corridors will alter the wilderness character of this section of the EEEA, this will not result in impairment of park wilderness for several reasons. Overall, the selected alternative will help achieve the purpose of the park, to remain as a permanent wilderness preserving essential primitive conditions. The acquisition of FPL land will gain lands proposed as wilderness while exchanging non-eligible wilderness lands. The park will gain 320 acres of lands proposed for wilderness designation while exchanging lands not eligible for wilderness designation. The selected alternative will allow for flowage/implementation of the ecosystem restoration projects that will benefit wilderness character throughout the park. While the construction of transmission lines within the exchange corridor would be adjacent to proposed potential wilderness lands, the impacts of construction are limited to one area of the park, and primarily short-term, and the requirement for FPL to locate the transmission lines outside of the park boundary as much as possible will reduce adverse impacts to adjacent wilderness in the park. Benefits will occur from the exchange itself, resulting in flow restoration that will benefit wilderness character and the ownership of this area being placed solely with the NPS, who could then manage the corridor as wilderness. These impacts will contribute both appreciable beneficial impacts and noticeable adverse impacts to the overall cumulative effects on wilderness in this area. Overall, because the selected action will contribute to the integrity of park wilderness by acquiring lands proposed as wilderness while exchanging non-eligible lands, and because of the limited area affected along the park border, the selected action will not impair the opportunity to enjoy wilderness in the park.

## SUMMARY

The NPS has determined that the implementation of the NPS selected action (alternative 3, as implemented per the final site certification order for approval of the consensus corridor) will not constitute an impairment of the resources or values of the park. As described above, implementing the selected action is not anticipated to result in adverse impacts constituting impairment of resources or values. This conclusion is based on the consideration of the park’s purpose and significance, a thorough analysis of the environmental impacts described in the final EIS, relevant scientific studies, the comments provided by the public and others, and the professional judgment of the decision maker guided by the direction of the NPS *Management Policies 2006* (NPS 2006).

## REFERENCES

Aiken, G., C.C. Gilmour, D.P. Krabbenhoft, and W. Orem

- 2011 "Dissolved Organic Matter in the Florida Everglades: Implications for Ecosystem Restoration." *Environmental Science and Technology* 41: S1, 217-248.

Florida Power & Light Company (FPL)

- 2007 *Avian Protection Plan*. Prepared by Pandion Systems, Inc., Gainesville, Florida, to Florida Department of Environmental Protection, Tallahassee, Florida, as part of Florida Power and Light First Response to Incompleteness Determination.
- 2011 *Turkey Point Units 6&7 U.S. Army Corps of Engineers Request for Additional Information Response – Transmission Lines* (document # SAJ-2009-02417 (IP-MLC)). December 21, 2011.

Florida Power & Light Company (FPL) and National Park Service (NPS)

- 2008 *Contingent Agreement for Exchange of Lands between the United States of American 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*. July 2008.

Gaiser E.E., J.C. Trexler, J.H. Richards, D.L. Childers, D. Lee, A.L. Edwards, L.J. Scinto, K. Jayachandran, G.B. Noe, and R.D. Jones

- 2005 "Cascading ecological effects of low level phosphorus enrichment in the Florida Everglades." *Journal of Environmental Quality* 34:717–723.

Gaiser, E., L. Scinto, D.L. Childers, and J.C. Trexler

- 2007 Developing ecosystem response Indicators to Hydrologic and Nutrient Modifications in Northeast Shark River Slough, Everglades National Park. Year 1 Annual Report to Everglades National Park July 31, 2007.

National Park Service (NPS)

- 2002 Director's Order #77-1: *Wetland Protection*. U.S. Department of the Interior. National Park Service, Washington, D.C. October 30, 2002. Accessed online at: <http://www.nps.gov/applications/npspolicy/DOrders.cfm>.
- 2006 *NPS Management Policies 2006*. U.S. Department of the Interior, National Park Service. Washington, D.C. 137 pp. Accessed online at: <http://www.nps.gov/policy/MP2006.pdf>. 180 pp.
- 2010a *Evaluation of Potential Impacts of Proposed Florida Power and Light Company Power Transmission Lines on Avian Resources in Everglades National Park*. U.S. Department of the Interior, National Park Service, South Florida Natural Resources Center. Homestead, Florida. October 6, 2010.
- 2010b *Tamiami Trail Modifications: Next Steps Project/EIS*. Accessed online at: <http://parkplanning.nps.gov/projectHome.cfm?parkId=374&projectId=>.

- 2011 Guidance for Non-Impairment Determinations and the NPS NEPA Process. September 2011
- 2015 Final General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement. August 2015

U.S. Army Corps of Engineers (USACE) and National Park Service (NPS)

- 2008 Modified Water Deliveries to Everglades National Park Tamiami Trail Modifications Final Limited Reevaluation Report and Environmental Assessment. Accessed online at: <http://www.saj.usace.army.mil/dp/mwdenp-cl111/index.htm>. 236 pp.

U.S. Geological Survey (USGS)

- 2000 Mercury in the Environment: Fact Sheet 146-00. October 2000. Accessed online November 16, 2012 at: <http://www.usgs.gov/themes/factsheet/146-00/>.

