



**PSEG**

*Nuclear LLC*

EPP 5.4.2 Appendix B

LR-E14-0041

MAR 18 2014

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
ARTICLE NUMBER: 7011 3500 0000 5084 9896

SUBJECT: **REPORT OF IMPINGEMENT OF ATLANTIC STURGEON  
SALEM GENERATING STATION  
DOCKET NO. 50-272**

The Nuclear Environmental Event Report, "Report of Impingement of Atlantic Sturgeon" is being submitted pursuant to the requirements of Section 5.4.2 of Appendix B, Environmental Protection Plan, to the Operating License for the Salem Generating Station, PSEG Nuclear LLC (PSEG).

Please find enclosed a letter and (2) attachments with further information regarding this impingement event. This report reflects a deceased Atlantic Sturgeon collected on February 20<sup>th</sup>, 2014.

If you have any questions or require additional information, please do not hesitate to contact Kenneth Strait, Manager – Biological Programs at (856) 339-3929.

Sincerely,

Lawrence M. Wagner  
Plant Manager - Salem  
PSEG Nuclear LLC

Attachments (2)

JE77  
NRR

## REPORT OF IMPINGEMENT OF ATLANTIC STURGEON

In accordance with Section 5.4.2 of Appendix B, Environmental Protection Plan, to the Operating License for the Salem Generating Station, PSEG Nuclear LLC (PSEG) hereby transmits notification of a nonroutine event, and documents the occurrence and removal of an Atlantic sturgeon (*Acipenser oxyrinchus*) from the Salem Generating Station circulating water intake structure trash bars.

Consultation pursuant to Section 7 of the Endangered Species Act of 1973 (ESA) between NRC and the National Marine Fisheries Service (NMFS) on the effects of the operation of Salem Station on threatened and endangered species has been ongoing since 1979. The most recent revision to the Biological Opinion and Incidental Take Statement issued in January 1999 exempts the specified annual take of shortnose sturgeon and sea turtles. In advance of relicensing for Salem Station, consultation pursuant to Section 7 of the ESA between NRC and NMFS was reinitiated in 2009. On April 6, 2012, the NMFS listed five Distinct Population Segments of Atlantic sturgeon as threatened or endangered under the ESA. In May 2012, NRC requested consultation on the effects of the continued operation of Salem Station on Atlantic sturgeon. The NMFS issued a draft Biological Opinion and Incidental Take Statement (ITS) in July 2012 that, when finalized, will authorize a specified incidental take of both Atlantic sturgeon and shortnose sturgeon associated with operation of the Salem Station circulating water intake system.

Pursuant to Section 5.4.2 of the Environmental Protection Plan for Salem Station, nonroutine events which require reporting to other federal agencies shall be reported in accordance with the other agencies' reporting requirements. Accordingly, enclosed please find two (2) attachments. Attachment 1 provides the information requested by the NMFS in Appendix II to the current ITS and in Appendix B, Part 2, to the revised draft ITS. Attachment 2 is a copy of a Sturgeon Salvage Form verbally requested by the NMFS.

There are no commitments contained in this letter.

cc: Mr. William Dean, Administrator - Region I  
U. S. Nuclear Regulatory Commission  
2100 Renaissance Blvd., Suite 100  
King of Prussia, PA 19406-2713

Mr. John Hughey, Licensing Project Manager  
U. S. Nuclear Regulatory Commission  
One White Flint North  
11555 Rockville Pike  
Mail Stop 0-4D-3  
Rockville, MD 20852

USNRC Senior Resident Inspector - Salem  
Mail Code X24

Ms. Lynn Lankshear  
National Marine Fisheries Service  
Protected Resources Division  
Lynn.Lankshear@noaa.gov

Mr. Dave Jenkins  
Endangered and Nongame Species Program  
New Jersey Department of Environmental Protection  
Dave.Jenkins@DEP.State.NJ.US

Jeanette Bowers  
Department of Fish and Wildlife  
New Jersey Department of Environmental Protection  
Jeanette.Bowers@DEP.State.NJ.US

Salem Commitment Coordinator  
Mail Code X25

## ATTACHMENT 1 (Sturgeon)

Observer's full name: Matthew S. Parris

Reporter's full name: Matthew S. Parris

Species Identification (Key attached): Atlantic Sturgeon (Acipenser oxyrinchus)

Site of Impingement (Unit 1 or 2, CWS or DWS, Bay #, etc.): SGS Unit 1; CWI 11B

Date animal observed: 2/20/14

Time animal observed: 13:50

Date animal collected: 2/20/14

Time animal collected: 13:50

Date rehab facility contacted: \_\_\_\_\_

Time rehab facility contacted: \_\_\_\_\_

Date animal picked up: \_\_\_\_\_

Time animal picked up: \_\_\_\_\_

Environmental conditions at time of observation (i.e., tidal stage, weather):

Air Temp. 3.5°C; Sal.- 8.0ppt; wind- SE; Sky- partly cloudy; wave- calm; tide - Flood slack (92.3ft)

Date and time of last inspection of screen: 2/20/14 at 10:52am

Water temperature (°C) at site and time of observation: 2.2°C

Number of pumps operating at time of observation: Unit 1 5

Unit 2 6

Average percent of power generating capacity achieved per unit at time of observation:

Unit 1 100

Unit 2 100

Average percent of power generating capacity achieved per unit over the 48 hours previous to observation:

Unit 1 100

Unit 2 100

### Sturgeon Information:

Species Atlantic Sturgeon (Acipenser oxyrinchus)

Fork length (or total length) 591mm (FL)/664mm (TL)

Weight 1.31kg

Condition of specimen/description of animal

Specimen was deceased at the time of retrieval by Salem Yard Crew. Inspection revealed the existence of minor bruising on the upper right and left side of the head and posteriorly just above the anal fin. State of NJ DEP & National Marine Fisheries (NMFS) were contacted at 1447 and 1450pm respectively. After processing, specimen was preserved on ice until transfer of custody to Delaware DNREC on 2/24/14.

Fish Decomposed: ☒ NO ☐ SLIGHTLY ☐ MODERATELY ☐ SEVERELY

Fish tagged: YES / ☒ NO Please record all tag numbers. Tag # \_\_\_\_\_

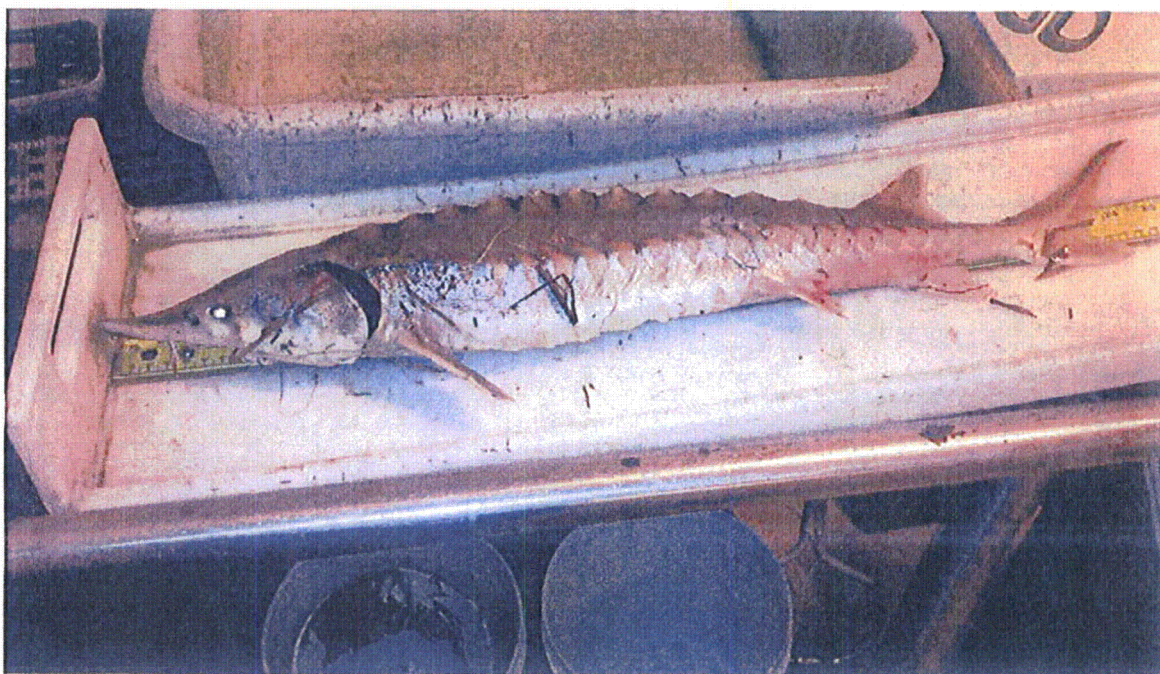
Photograph attached: ☒ YES / ☐ NO

(please label species, date, geographic site and vessel name on back of photograph)



ATTACHMENT 1 (Sturgeon) continued

Photographs



View showing size and condition of the deceased Atlantic Sturgeon (*Acipenser oxyrinchus*), retrieved on 02/20/14, at 13:50, by Salem Yard Crew personnel during routine trash rack cleaning at the Salem CWIB. Except for some slight bruising on the upper edge of the opercle on both the right and left side of the head and posteriorly just above the anal fin, the specimen did not provide any evidence of significant damage (02/20/14).

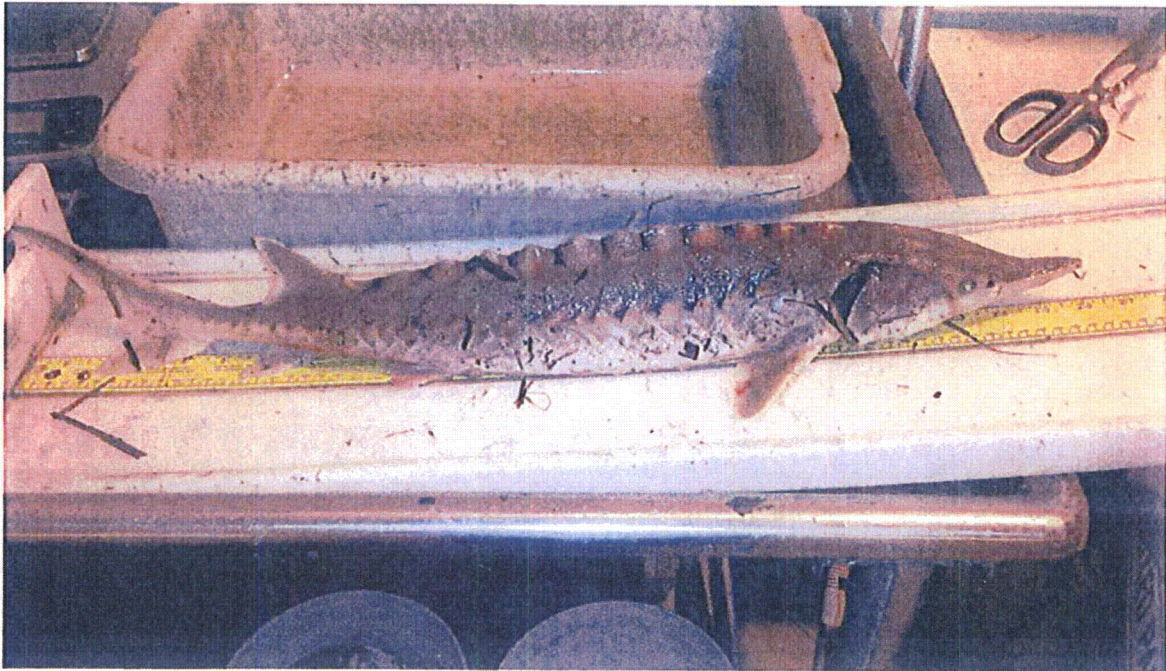


This view shows a close-up of the head and the area of slight bruising along the edge of the left opercle (2/20/14).

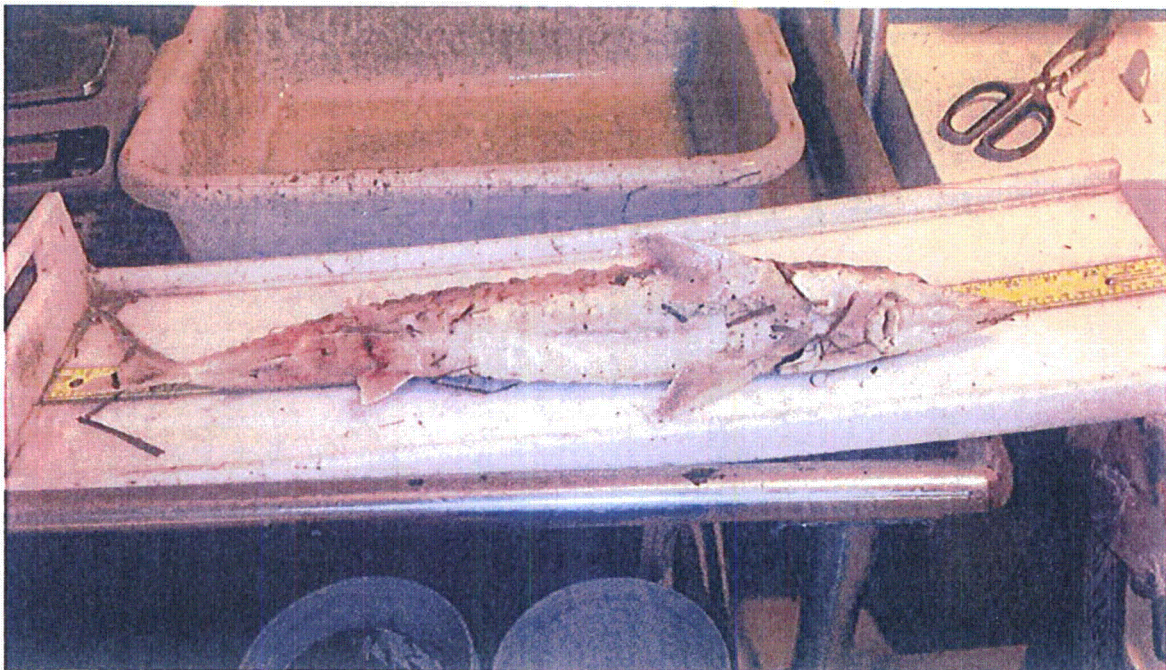


ATTACHMENT 1 (Sturgeon) continued

Photographs



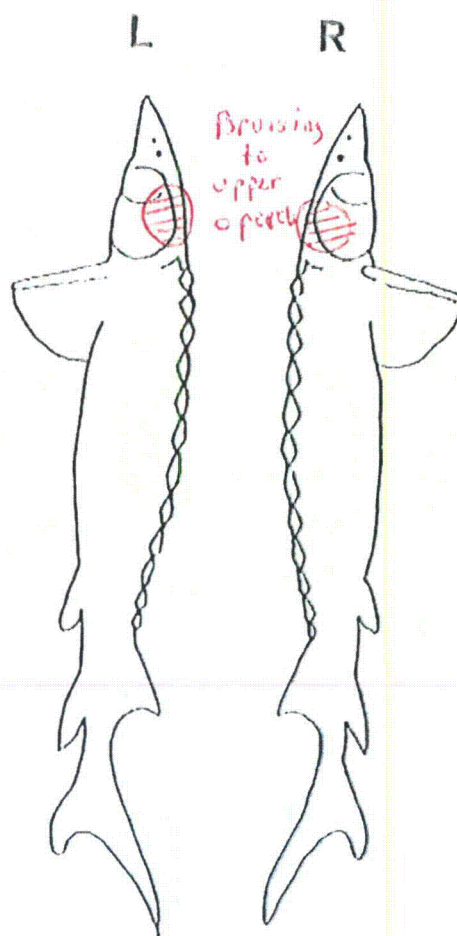
This view shows the right side of the body with an area of slight bruising along the upper edge of the opercle (2/20/14).



This view provides a ventral view of the specimen and shows the slight bruising in the tail, just above the anal fin. No other indication of damage was observed at the time of the inspection (2/20/14).

### ATTACHMENT 1 (Sturgeon) continued

Draw wounds, abnormalities, tag locations on diagram and briefly describe below



#### Description of fish condition:

At the time of the processing of the deceased specimen, some minor damage was observed in the form of bruising to the upper edge of the opercle on both the right and left side of the head and posteriorly just above the anal fin (refer to the illustration above). Based on these observations it appears that the specimen has been deceased only a short period of time, however there is no indication that the death was caused by plant operations prior to or at the time of collection.



# STURGEON SALVAGE FORM

For use in documenting dead sturgeon in the wild under ESA permit no. 1614 (version 05-16-2012)

## INVESTIGATORS'S CONTACT INFORMATION

Name: First Douglas Last Potts  
Agency Affiliation PSEG subcontractor Email dpotts@ecsi-del.com  
Address 100 South Cass Street, Middletown, DE 19709  
Area code/Phone number (302) 378-9881

## UNIQUE IDENTIFIER (Assigned by NMFS)

### DATE REPORTED:

Month 02 Day 20 Year 2014

### DATE EXAMINED:

Month 02 Day 20 Year 2014

## SPECIES: (check one)

- ☐ shortnose sturgeon  
☒ Atlantic sturgeon  
☐ Unidentified *Acipenser* species  
Check "Unidentified" if uncertain.  
See reverse side of this form for aid in identification.

## LOCATION FOUND:

☐ Offshore (Atlantic or Gulf beach) ☒ Inshore (bay, river, sound, inlet, etc)  
River/Body of Water Delaware River City Hancocks Bridge State NJ  
Descriptive location (be specific) Removed from Circulating Water Intake Structure (CWIS) intake trash racks, Intake bay 11B, during routine trash rack cleaning at the Salem Generating Station, PSEG Nuclear LLC.  
Latitude 39° 27'38.17 N (Dec. Degrees) Longitude 75° 32'10.08 W (Dec. Degrees)

## CARCASS CONDITION at time examined: (check one)

- ☒ 1 = Fresh dead  
☐ 2 = Moderately decomposed  
☐ 3 = Severely decomposed  
☐ 4 = Dried carcass  
☐ 5 = Skeletal, scutes & cartilage

## SEX:

- ☒ Undetermined  
☐ Female ☐ Male  
How was sex determined?  
☐ Necropsy  
☐ Eggs/milt present when pressed  
☐ Borescope

## MEASUREMENTS:

Circle unit

Fork length 59.1 cm  
Total length 66.4 cm  
Length ☒ actual ☐ estimate  
Mouth width (inside lips, see reverse side) 1.9 cm  
Interorbital width (see reverse side) 4.3 cm  
Weight ☒ actual ☐ estimate 1.31kg

TAGS PRESENT? Examined for external tags including fin clips? ☒ Yes ☐ No Scanned for PIT tags? ☒ Yes ☐ No  
Tag # Tag Type Location of tag on carcass

## CARCASS DISPOSITION: (check one or more)

- ☐ 1 = Left where found  
☐ 2 = Buried  
☐ 3 = Collected for necropsy/salvage  
☒ 4 = Frozen for later examination  
☐ 5 = Other (describe) \_\_\_\_\_

## Carcass Necropsied?

☐ Yes ☒ No

Date Necropsied: \_\_\_\_\_

Necropsy Lead: \_\_\_\_\_

## PHOTODOCUMENTATION:

Photos/video taken? ☒ Yes ☐ No

Disposition of Photos/Video: PSEG Nuclear Environmental Affairs and Nuclear Regulatory Affairs personnel.

## SAMPLES COLLECTED? ☐ Yes ☒ No

Sample	How preserved	Disposition (person, affiliation, use)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

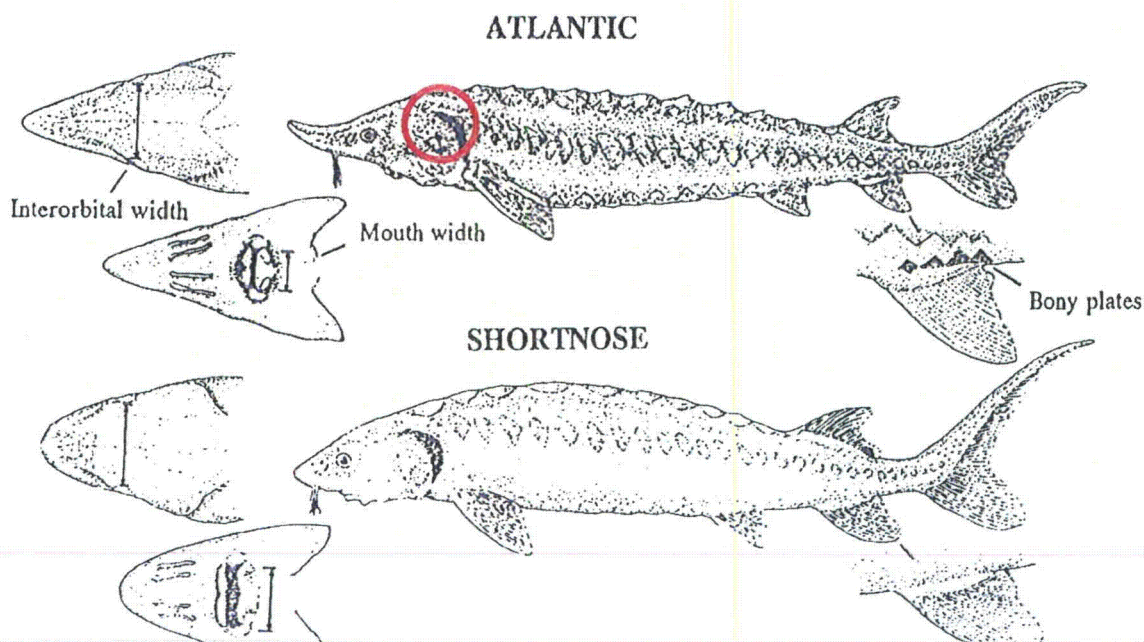
Comments: The deceased Atlantic Sturgeon was collected from the Salem Circulating Water Intake Structure during routine trash rack cleaning on 2/20/14. Positive identification was made by Environmental Consulting Services personnel at 14:00pm. Length measurements, photos, and inspection for fin clips and tags (external and PIT) was completed. No tags were found. The fish was transported back to the ECSI main office in Middletown, DE, and preserved (frozen). The State of New Jersey DEP, Division of Fish and Wildlife, and National Marine Fisheries (NMFS) were contacted in regard to the incidental take at 1447 and 1450pm respectively. At the request of the NMFS, Delaware DNREC was directed to take possession of the specimen. Transfer of custody, from ECSI to DNREC, occurred on 2/24/14 at 13:58pm.



# Distinguishing Characteristics of Atlantic and Shortnose Sturgeon (version 07-20-2009)

Characteristic	Atlantic Sturgeon, <i>Acipenser oxyrinchus</i>	Shortnose Sturgeon, <i>Acipenser brevirostrum</i>
Maximum length	> 9 feet/ 274 cm	4 feet/ 122 cm
Mouth	Football shaped and small. Width inside lips < 55% of bony interorbital width	Wide and oval in shape. Width inside lips > 62% of bony interorbital width
*Pre-anal plates	Paired plates posterior to the rectum & anterior to the anal fin.	1-3 pre-anal plates almost always occurring as median structures (occurring singly)
Plates along the anal fin	Rhombic, bony plates found along the lateral base of the anal fin (see diagram below)	No plates along the base of anal fin
Habitat/Range	Anadromous; spawn in freshwater but primarily lead a marine existence	Freshwater amphidromous; found primarily in fresh water but does make some coastal migrations

\* From Vecsei and Peterson, 2004



Describe any wounds / abnormalities (note tar or oil, gear or debris entanglement, propeller damage, etc.). Please note if no wounds / abnormalities are found.

The specimen was deceased at the time of initial observation and collection by Salem Yard Crew. Some minor damage was observed in the form of bruising to the upper edge of the opercle on both the right and left side of the head (refer to illustration above). Based on these observations it appears that the specimen has been deceased only a short period of time, however there is no indication that the death was caused by plant operations prior to or at the time of collection.

Data Access Policy: Upon written request, information submitted to National Marine Fisheries Service (NOAA Fisheries) on this form will be released to the requestor provided that the requestor credit the collector of the information and NOAA Fisheries. NOAA Fisheries will notify the collector that these data have been requested and the intent of their use.

**Submit completed forms (within 30 days of date of investigation) to:** Northeast Region Contacts – Shortnose Sturgeon Recovery Coordinator (Jessica Pruden, [Jessica.Pruden@noaa.gov](mailto:Jessica.Pruden@noaa.gov), 978-282-8482) or Atlantic Sturgeon Recovery Coordinator (Lynn Lankshear, [Lynn.Lankshear@noaa.gov](mailto:Lynn.Lankshear@noaa.gov), 978-282-8473); Southeast Region Contacts- Shortnose Sturgeon Recovery Coordinator (Stephanie Bolden, [Stephanie.Bolden@noaa.gov](mailto:Stephanie.Bolden@noaa.gov), 727-824-5312) or Atlantic Sturgeon Recovery Coordinator (Kelly Shotts, [Kelly.Shotts@noaa.gov](mailto:Kelly.Shotts@noaa.gov), 727-551-5603).