



**US Army Corps  
of Engineers®**  
New York District

---

**WESTCHESTER COUNTY STREAMS,  
BYRAM RIVER BASIN**

**FLOOD RISK MANAGEMENT FEASIBILITY STUDY**

**FAIRFIELD COUNTY, CONNECTICUT AND WESTCHESTER COUNTY, NEW YORK**

**FINAL INTEGRATED FEASIBILITY REPORT &  
ENVIRONMENTAL IMPACT STATEMENT**

**APPENDIX A.9:**

**Section 7 Endangered Species Act  
Coordination**

Byram River Basin, Connecticut and New York  
Flood Risk Management Feasibility Study

USFWS

Section 7, Endangered Species Act Coordination

## Westchester County Stream, Byram River Basin Flood Risk Management Study

### Endangered Species Act

### No Effect Determination

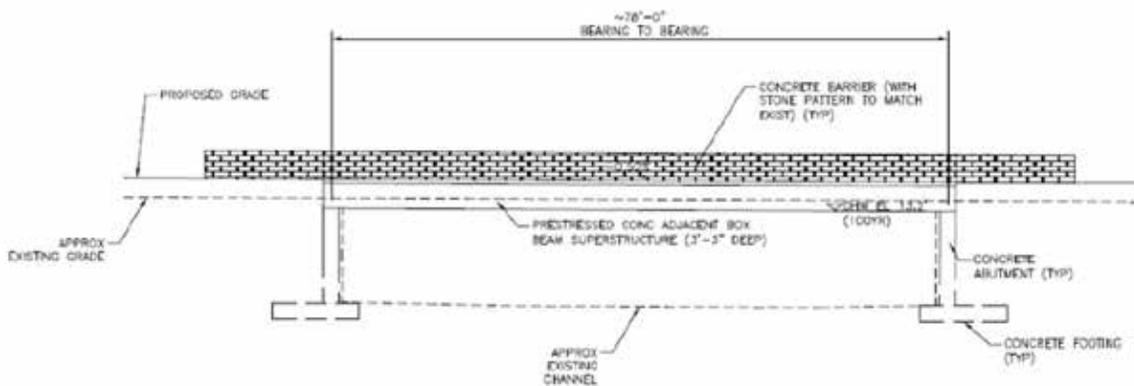
#### Bog Turtle

Project Area. There are two bridges that carry Route 1 over the Byram River (the Route 1 bridges) that constrict water flow and induce flooding upstream. Storm events deposit large amounts of precipitation in the Byram River Basin, all of which must pass beneath the Route 1 bridges. These bridges were built in the 19<sup>th</sup> and early 20<sup>th</sup> centuries and are currently owned and operated by the New York State Department of Transportation. The Route 1 bridges have a low profile and a central pier that constrict water flow beneath them. The bridges serve as a bottleneck in the river, causing the water surface elevation to increase upstream of the bridges (Figure 2).

Proposed Federal Action. The Tentatively Selected Plan (TSP) for the Byram River project is comprised of the following (Figure 1):

- Removing the Route 1 bridges that straddle the Byram River in Port Chester, NY and replacing them at a higher elevation (above MHW) to allow more water to pass underneath.
- The bridges would be replaced with two bridges in the same location that have roadway profiles about three feet higher than the existing profile and do not have center piers.
- Minor channel improvements to remove accumulated sediment. The average depth in the project area is 1'6".

Figure 1. TSP Replacement Bridge Design.



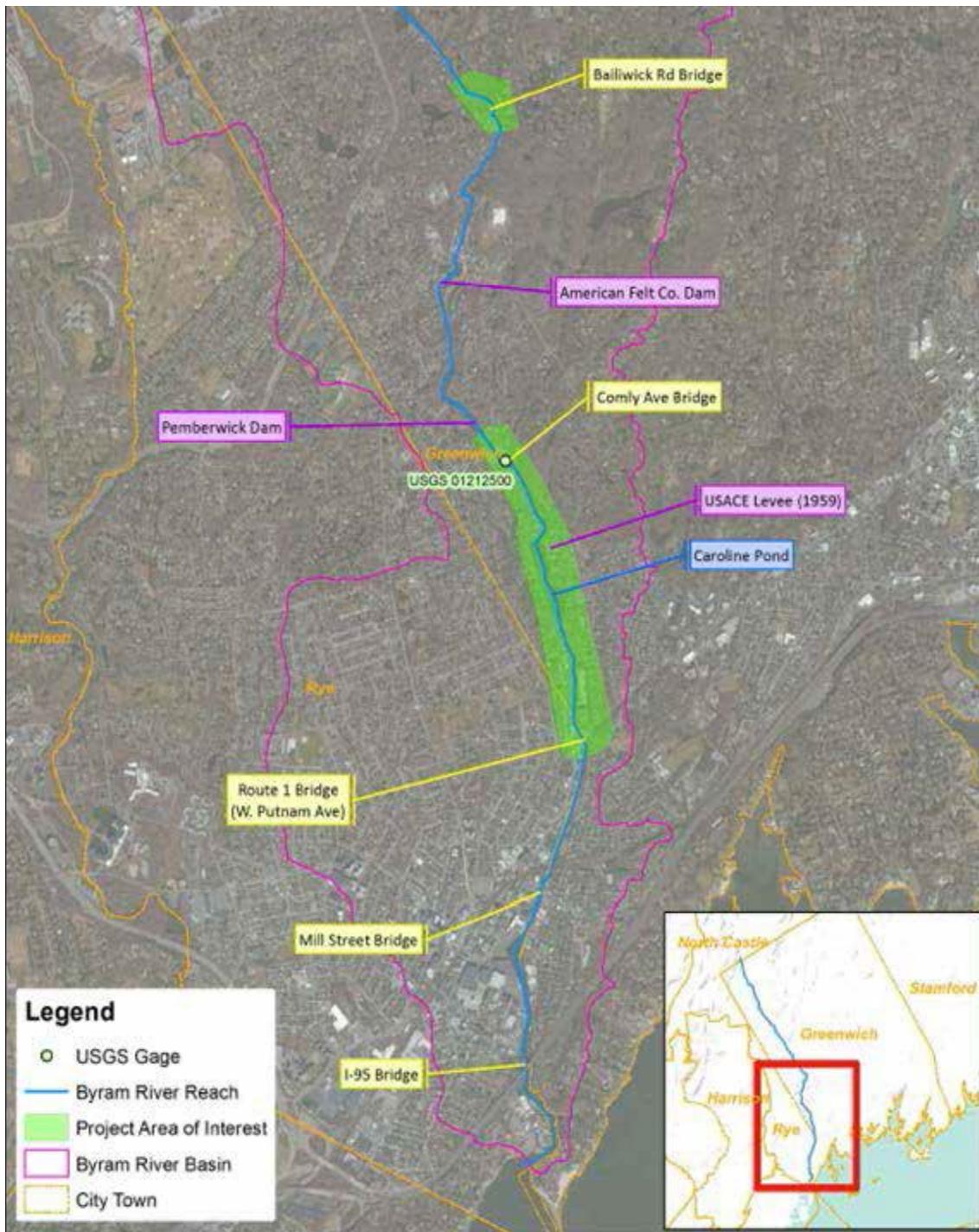


Figure 2. Project Area.

Effects Determination.

Stressor	Impact
Direct Habitat Structure and Disturbance	No Effect
Indirect Habitat Structure and Disturbance due to hydrological changes	No Effect
Water Quality	No impact due to coffer dam utilization, and other BMPs to reduce turbidity
Prey Quantity/Quality	No Effect

Discussion. The project area is characterized by steep slopes and a narrow riparian zone that has experienced disturbance as a result of development. The proposed Federal Action is to restore natural flow to the Byram River, so as to reduce flooding, by removing the existing two bridge abutments which are currently placed within the river banks and below MHW (i.e. footings) and elevating them approximately three (3) feet above the elevation of the current abutments, and removing the middle of the stream bridge abutment, entirely.

The project area does not contain any wetlands which is the requisite habitat of bog turtle. The federal action will not result in any hydrological changes that would adversely affect wetlands upstream of the project area. The Byram River downstream of the project area is tidally influenced. As bog turtle is a freshwater species, it would not occupy any wetlands downstream. Consultation with the Connecticut Department of Energy and Environmental Protection through a Natural Diversity Database search did not identify the occurrence of known or potential bog turtle habitat within or upstream/downstream of the project area.

Conclusion. USACE has determined that there will be No Effect to bog turtle as a result of implementing the Westchester County Stream, Byram River Flood Risk Management project, as currently proposed. If there are any changes to the project or within the action area that might result in adverse effects to protected species, USACE will undertake consultation with the U.S. Fish and wildlife Service as required By Section 7 of the Endangered Species Act.



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New York Ecological Services Field Office  
3817 Luker Road  
Cortland, NY 13045-9385

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

In Reply Refer To:

May 14, 2019

Consultation Code: 05E1NY00-2019-SLI-2013

Event Code: 05E1NY00-2019-E-06297

Project Name: Byram River Flood Risk Management Study

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (<http://www.fws.gov/windenergy/>)

[eagle\\_guidance.html](#)). Additionally, wind energy projects should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

### **New York Ecological Services Field Office**

3817 Luker Road

Cortland, NY 13045-9385

(607) 753-9334

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

### **Long Island Ecological Services Field Office**

340 Smith Road

Shirley, NY 11967-2258

(631) 286-0485

### **New England Ecological Services Field Office**

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

---

## Project Summary

Consultation Code: 05E1NY00-2019-SLI-2013

Event Code: 05E1NY00-2019-E-06297

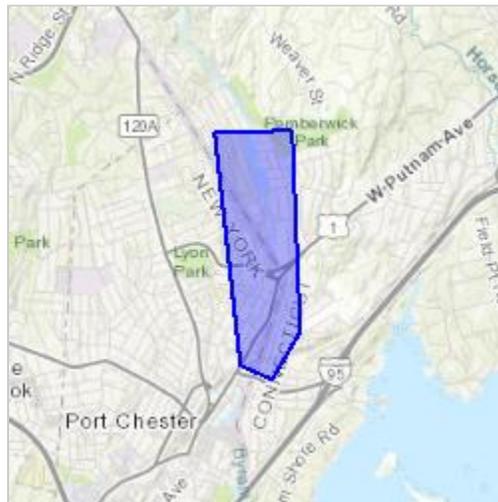
Project Name: Byram River Flood Risk Management Study

Project Type: LAND - FLOODING

Project Description: Removal and replacement of two bridge decks (Rte1) in Greenwich, CT

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/41.01374504982482N73.65740564822255W>



Counties: Fairfield, CT | Westchester, NY

---

## Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

---



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104  
<http://www.fws.gov/newengland>

In Reply Refer To:  
Consultation Code: 05E1NE00-2019-SLI-1707  
Event Code: 05E1NE00-2019-E-04153  
Project Name: Byram River Flood Risk Management Study

May 14, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

## To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

### **New England Ecological Services Field Office**

70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
(603) 223-2541

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

### **Long Island Ecological Services Field Office**

340 Smith Road  
Shirley, NY 11967-2258  
(631) 286-0485

### **New York Ecological Services Field Office**

3817 Luker Road  
Cortland, NY 13045-9385  
(607) 753-9334

---

## Project Summary

Consultation Code: 05E1NE00-2019-SLI-1707

Event Code: 05E1NE00-2019-E-04153

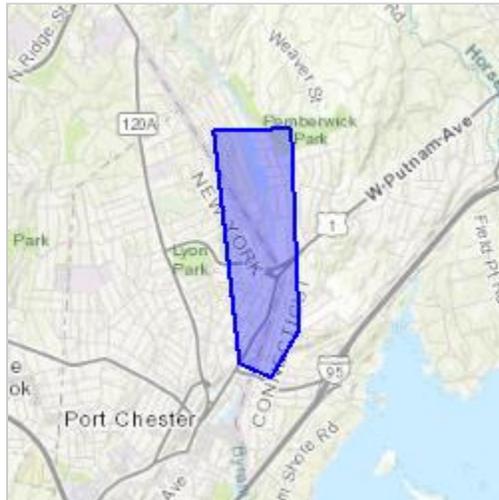
Project Name: Byram River Flood Risk Management Study

Project Type: LAND - FLOODING

Project Description: Removal and replacement of two bridge decks (Rte1) in Greenwich, CT

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/41.01374504982482N73.65740564822255W>



Counties: Fairfield, CT | Westchester, NY

---

## Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

---



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Long Island Ecological Services Field Office  
340 Smith Road  
Shirley, NY 11967-2258  
Phone: (631) 286-0485 Fax: (631) 286-4003

In Reply Refer To:

May 14, 2019

Consultation Code: 05E1LI00-2019-SLI-0467

Event Code: 05E1LI00-2019-E-01056

Project Name: Byram River Flood Risk Management Study

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

### **Long Island Ecological Services Field Office**

340 Smith Road  
Shirley, NY 11967-2258  
(631) 286-0485

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

### **New England Ecological Services Field Office**

70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
(603) 223-2541

### **New York Ecological Services Field Office**

3817 Luker Road  
Cortland, NY 13045-9385  
(607) 753-9334

---

## Project Summary

Consultation Code: 05E1LI00-2019-SLI-0467

Event Code: 05E1LI00-2019-E-01056

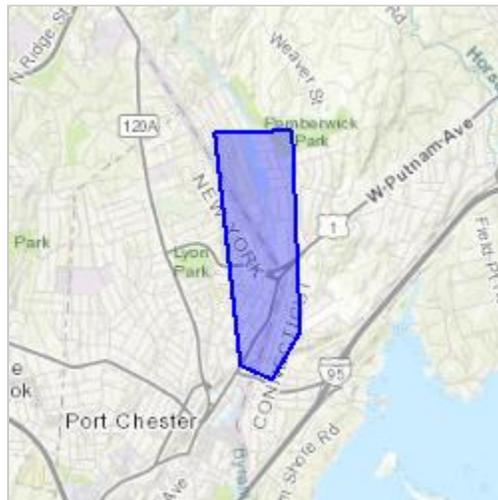
Project Name: Byram River Flood Risk Management Study

Project Type: LAND - FLOODING

Project Description: Removal and replacement of two bridge decks (Rte1) in Greenwich, CT

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/41.01374504982482N73.65740564822255W>



Counties: Fairfield, CT | Westchester, NY

---

## Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Reptiles

NAME	STATUS
Bog Turtle <i>Clemmys muhlenbergii</i> Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6962">https://ecos.fws.gov/ecp/species/6962</a>	Threatened

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

---

**From:** [Susi vonOettingen](#)  
**To:** [Rightler, Kimberly CIV USARMY CENAN \(US\)](#)  
**Subject:** [Non-DoD Source] Re: [EXTERNAL] Byram River Flood Risk Management Draft Feasibility Report/EIS  
**Date:** Thursday, August 2, 2018 6:41:01 PM

---

Dear Kim,

Thank you for clarifying the Army Corps of Engineers' request for concurrence with the determination that the removal and replacement of the Route 1 bridge decks, in Port Chester, NY and Greenwich, CT will not adversely affect federally threatened northern long-eared bats during our telephone conversation on August 1, 2018. The project is currently in the project planning phase and has a draft Integrated Feasibility Report and Environmental Impact Statement for the Byram River Flood Risk Management Feasibility Study.

The proposed project will clear approximately 0.13 acres of vegetation. Tree clearing will be conducted outside of the bat active season (between September 30 and April 1). Based on this information, we would agree that adverse effects are unlikely to occur to northern long-eared bats due to the minimal acreage being affected and tree clearing activities that avoid direct adverse effect through implementation of a time of year restriction.

Thank you for your cooperation and please let me know if I can be of further assistance.

Sincerely,

Susi von Oettingen

\*\*\*\*\*

Susi von Oettingen  
Endangered Species Biologist  
New England Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301  
(W) 603-227-6418  
(Fax) 603-223-0104

Blockedwww.fws.gov/newengland <Blockedhttp://www.fws.gov/newengland>

On Wed, Aug 1, 2018 at 11:38 AM Rightler, Kimberly CIV USARMY CENAN (US)  
<Kimberly.A.Rightler@usace.army.mil <<mailto:Kimberly.A.Rightler@usace.army.mil>> > wrote:

Hi Susi,

I received your message from yesterday regarding the streamlined assessment form for northern long-eared bat. I just left you a message but figured I would also send an email.

I am aware of the stream line assessment form and we typically reserve submitting that form for projects that are in construction.

For Feasibility Reports, unfortunately, our HQ requires us to obtain some form of written documentation from USFWS concurring with our assessment that there will be no adverse impacts to Fed E&T species.

A simple email stating that your office reviewed the report, concur with our assessment of no adverse impacts

to northern long-eared bat and have no further comments would suffice.

I'll be in the office until 3:30 if you would like to discuss further.

Thank you,  
Kim

(917) 790-8722



DEPARTMENT OF THE ARMY  
NEW YORK DISTRICT, CORPS OF ENGINEERS  
JACOB K. JAVITS FEDERAL BUILDING  
NEW YORK, N.Y. 10278-0090

REPLY TO  
ATTENTION OF

Environmental Analysis Branch

June 28, 2018

Mr. Tom Chapman  
Field Supervisor  
U.S. Fish and Wildlife Service  
New England Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301

Dear Mr. Chapman:

Enclosed is the Draft Integrated Feasibility Report and Environmental Impact Statement (Draft Integrated FR/EIS) for the Byram River Flood Risk Management Feasibility Study located in the Village of Port Chester, Westchester County, NY, and the Town of Greenwich, Fairfield County, CT (Encl. 1).

Per previous coordination with your office (Encl. 2) will conduct a review of the Draft Integrated FR/EIS pursuant to Section 7 of the Endangered Species Act.

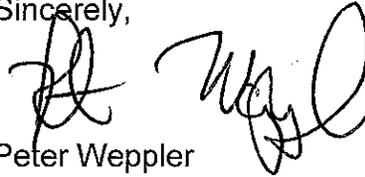
The project involves the removal and replacement of the Route 1 bridge decks within the Byram Circle in the Town of Greenwich and the Village of Port Chester. Approximately 0.13 acres of mature riparian and upland vegetation will be removed as part of construction.

Based on an official endangered and threatened species list (Encl. 3) obtained by the District, there is a potential occurrence of the northern long-eared bat within the project area. The District will implement a tree clearing restriction from 1 April through 30 September during construction to avoid adverse impacts to this species. Native tree species will be replanted in the disturbed areas once construction is completed.

This letter serves as a request for written concurrence from your office that the proposed project is *not likely to adversely affect* the threatened northern long-eared bat (*Myotis septentrionalis*).

The District will continue to coordinate with your agency as it relates to Federally endangered and threatened species. Should any questions regarding the study arise during your review of the Draft Integrated FR/EIS, please contact Ms. Kimberly Rightler at (917) 790-8722.

Sincerely,

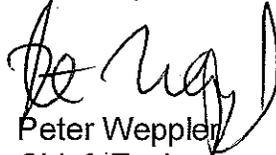
A handwritten signature in black ink, appearing to read 'Peter Weppeler', written in a cursive style.

Peter Weppeler  
Chief, Environmental Analysis Branch

Enclosures

The District will continue to coordinate with your agency as it relates to Federally endangered and threatened species. Should any questions regarding the study arise, or if impacts to rufa red knot should still be evaluated in the Draft FR/EIS, please contact Ms. Kimberly Rightler at (917) 790-8722.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Wepler", written over a printed name.

Peter Wepler  
Chief, Environmental Analysis Branch

Enclosures



DEPARTMENT OF THE ARMY  
NEW YORK DISTRICT, CORPS OF ENGINEERS  
JACOB K. JAVITS FEDERAL BUILDING  
NEW YORK, N.Y. 10278-0090

REPLY TO  
ATTENTION OF

Environmental Analysis Branch

April 18, 2018

Mr. Tom Chapman  
Field Supervisor  
U.S. Fish and Wildlife Service  
New England Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301

Dear Mr. Chapman:

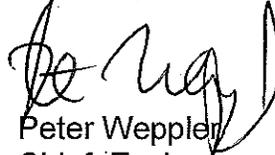
This letter is in reference to correspondence dated March 20, 2018 sent to your office by the U.S. Army Corps of Engineers, New York District (District) requesting to initiate coordination under the Fish and Wildlife Coordination Act regarding the Byram River Flood Risk Management Feasibility Study located in the Village of Port Chester, Westchester County, NY, and the Town of Greenwich, Fairfield County, CT (Encl. 1).

Based on a conversation between Mr. David Simmons of your office and Ms. Kimberly Rightler of the District on April 11, 2018, your office has opted not to prepare a FWCA report. Your office will still conduct a review of the project under Section 7 of the Endangered Species Act. This review will occur during the 45 day public and agency comment period of the Draft Integrated Feasibility Report and Environmental Impact Statement (Draft FR/EIS), which is scheduled to be released in June 2018.

The District originally conducted a review of the Information for Planning and Consultation (IPAC) database in November 2017 when preparing the NEPA Scoping document. At the time, the IPAC database indicated the potential presence of northern long-eared bat (*Myotis septentrionalis*) and rufa red knot (*Calidris canutus rufa*) within the project area. However, the District recently obtained an official endangered and threatened species list (Encl. 2) that only indicates the potential occurrence of the northern long-eared bat within the project area. Therefore, the District will only assess potential impacts of the project to northern long-eared bat in the Draft FR/EIS.

The District will continue to coordinate with your agency as it relates to Federally endangered and threatened species. Should any questions regarding the study arise, or if impacts to rufa red knot should still be evaluated in the Draft FR/EIS, please contact Ms. Kimberly Rightler at (917) 790-8722.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Weppeler". The signature is written in a cursive style with a large, sweeping initial "P".

Peter Weppeler  
Chief, Environmental Analysis Branch

Enclosures



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104  
<http://www.fws.gov/newengland>

In Reply Refer To:

April 16, 2018

Consultation Code: 05E1NE00-2018-SLI-1586

Event Code: 05E1NE00-2018-E-03622

Project Name: Byram River Flood Risk Management Feasibility Study

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New England Ecological Services Field Office**

70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
(603) 223-2541

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

**Long Island Ecological Services Field Office**

340 Smith Road  
Shirley, NY 11967-2258  
(631) 286-0485

**New York Ecological Services Field Office**

3817 Luker Road  
Cortland, NY 13045-9385  
(607) 753-9334

---

## Project Summary

Consultation Code: 05E1NE00-2018-SLI-1586

Event Code: 05E1NE00-2018-E-03622

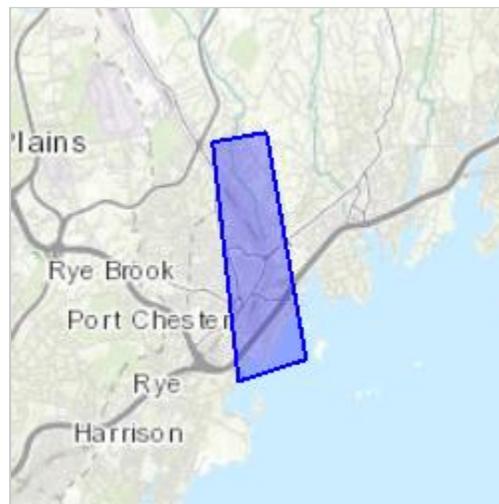
Project Name: Byram River Flood Risk Management Feasibility Study

Project Type: LAND - FLOODING

Project Description: Plan will involve raising the Route 1 bridge decks at the Putnam Circle in order to provide flood risk management related to fluvial flood events.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/41.01241244391962N73.65861297589493W>



Counties: Fairfield, CT | Westchester, NY

---

## Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

---



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New York Ecological Services Field Office  
3817 Luker Road  
Cortland, NY 13045-9385

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

In Reply Refer To:

April 16, 2018

Consultation Code: 05E1NY00-2018-SLI-1772

Event Code: 05E1NY00-2018-E-05405

Project Name: Byram River Flood Risk Management Feasibility Study

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (<http://www.fws.gov/windenergy/>)

[eagle\\_guidance.html](#)). Additionally, wind energy projects should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New York Ecological Services Field Office**

3817 Luker Road

Cortland, NY 13045-9385

(607) 753-9334

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following offices, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

**Long Island Ecological Services Field Office**

340 Smith Road

Shirley, NY 11967-2258

(631) 286-0485

**New England Ecological Services Field Office**

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

---

## Project Summary

Consultation Code: 05E1NY00-2018-SLI-1772

Event Code: 05E1NY00-2018-E-05405

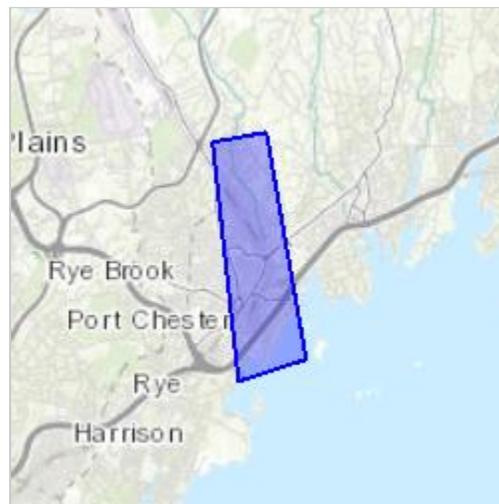
Project Name: Byram River Flood Risk Management Feasibility Study

Project Type: LAND - FLOODING

Project Description: Plan will involve raising the Route 1 bridge decks at the Putnam Circle in order to provide flood risk management related to fluvial flood events.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/41.01241244391962N73.65861297589493W>



Counties: Fairfield, CT | Westchester, NY

---

## Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

---

Byram River Basin, Connecticut and New York  
Flood Risk Management Feasibility Study

NOAA-NMFS  
Section 7, Endangered Species Act Coordination

# SPECIES LISTED UNDER THE ENDANGERED SPECIES ACT UNDER THE JURISDICTION OF NMFS's GREATER ATLANTIC REGION (MAINE - VIRGINIA)

For a list of Candidate Species in the Greater Atlantic Region (GAR), please visit <https://www.greateratlantic.fisheries.noaa.gov/protected/pcp/cs/index.html>

For a list of Species of Concern in the GAR, please visit <https://www.greateratlantic.fisheries.noaa.gov/protected/pcp/soc/index.html>

FISH
<b>Atlantic Salmon (<i>Salmo salar</i>) (Gulf of Maine DPS)</b>
<p><b>Year listed:</b> 2000; More recent listing for Gulf of Maine Atlantic salmon as a Distinct Population Segment (DPS) encompassing a wider range in the state of Maine in 2009; Atlantic salmon are listed jointly with U.S. Fish and Wildlife Service.</p> <p><b>Status:</b> Endangered</p> <p><b>General distribution:</b> The distribution of endangered Atlantic salmon extends from the Androscoggin River in South Western Maine to the Dennys River in Eastern Maine.</p> <p><b>Critical habitat in GAR:</b> Critical habitat for Atlantic salmon was designated in 2009. Forty-five specific areas containing over 19,000 kilometers of rivers and streams and 799 square kilometers of lakes and ponds were identified as having the physical and biological features essential to the conservation of the species, which may require special management or protections. For more information, please visit the map book at <a href="https://www.greateratlantic.fisheries.noaa.gov/protected/atlsalmon/">https://www.greateratlantic.fisheries.noaa.gov/protected/atlsalmon/</a></p> <p><b>Additional Information:</b> For additional distribution information, select references, and other relevant information, please visit <a href="https://www.greateratlantic.fisheries.noaa.gov/protected/atlsalmon/">https://www.greateratlantic.fisheries.noaa.gov/protected/atlsalmon/</a> and <a href="http://www.fisheries.noaa.gov/pr/species/fish/atlantic-salmon.html">http://www.fisheries.noaa.gov/pr/species/fish/atlantic-salmon.html</a></p>
<b>Shortnose Sturgeon (<i>Acipenser brevirostrum</i>)</b>
<p><b>Year listed:</b> 1967</p> <p><b>Status:</b> Endangered</p> <p><b>General distribution:</b> Shortnose sturgeon occur in marine and estuarine habitat, including freshwater reaches of large rivers with access to the sea, which extends from the Minas Basin, Nova Scotia to the St. Johns River, Florida. There have been documented coastal movements between some of the major rivers.</p> <p><b>Critical habitat in GAR:</b> None</p> <p><b>Additional Information:</b> For additional distribution information, select references, and other relevant information, please visit <a href="https://www.greateratlantic.fisheries.noaa.gov/protected/snsturgeon/index.html">https://www.greateratlantic.fisheries.noaa.gov/protected/snsturgeon/index.html</a> and <a href="http://www.nmfs.noaa.gov/pr/species/fish/shortnose-sturgeon.html">http://www.nmfs.noaa.gov/pr/species/fish/shortnose-sturgeon.html</a></p>
<b>Atlantic Sturgeon (<i>Acipenser oxyrinchus oxyrinchus</i>)</b>
<p><b>Year listed:</b> 2012 (Effective April 6, 2012)</p> <p><b>Status:</b> Five Distinct Population Segments (DPSs) designated along the U.S. East Coast. The Gulf of Maine population is listed as threatened while the New York Bight, Chesapeake Bay, Carolina, and South Atlantic populations are listed as endangered.</p> <p><b>General distribution:</b> Atlantic sturgeon belonging to each of the five DPSs occur in marine and estuarine habitat, including freshwater reaches of large rivers with access to the sea, from Hamilton Inlet, Labrador, Canada to Cape Canaveral, Florida, U.S. The range of all five DPSs overlap.</p> <p><b>Critical habitat in the GAR:</b> Proposed in select rivers from Maine through Virginia: Please visit: <a href="https://www.greateratlantic.fisheries.noaa.gov/protected/atlsturgeon/docs/maps_proposed_ch_for_gom_nyb_cb_dpss.pdf">https://www.greateratlantic.fisheries.noaa.gov/protected/atlsturgeon/docs/maps_proposed_ch_for_gom_nyb_cb_dpss.pdf</a></p> <p><b>Additional Information:</b> For additional distribution information, select references, and other relevant information, please visit <a href="https://www.greateratlantic.fisheries.noaa.gov/protected/atlsturgeon/index.html">https://www.greateratlantic.fisheries.noaa.gov/protected/atlsturgeon/index.html</a> and <a href="http://www.fisheries.noaa.gov/pr/species/fish/atlantic-sturgeon.html">http://www.fisheries.noaa.gov/pr/species/fish/atlantic-sturgeon.html</a></p>
MARINE MAMMALS
<b>Blue Whale (<i>Balaenoptera musculus musculus</i>)</b>
<p><b>Year listed:</b> 1970</p> <p><b>Status:</b> Endangered</p> <p><b>General distribution:</b> The distribution of the blue whale in the western North Atlantic generally extends from the Arctic to at least mid-latitude waters. The blue whale is best considered as an occasional visitor in U.S. Atlantic Exclusive Economic Zone (EEZ) waters, which may represent the current southern limit of its feeding range (CETAP 1982; Wenzel et al. 1988). The actual southern limit of the species' range is unknown.</p> <p><b>Critical habitat in GAR:</b> None</p> <p><b>Additional Information:</b> For additional distribution information, select references, and other relevant information, please visit <a href="http://www.fisheries.noaa.gov/pr/species/mammals/whales/blue-whale.html">http://www.fisheries.noaa.gov/pr/species/mammals/whales/blue-whale.html</a> and <a href="http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2010whbl-wn.pdf">http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2010whbl-wn.pdf</a></p>
<b>Fin Whale (<i>Balaenoptera physalus</i>)</b>
<p><b>Year listed:</b> 1970</p> <p><b>Status:</b> Endangered</p> <p><b>General distribution:</b> Fin whales are common in waters of the U. S. Atlantic Exclusive Economic Zone (EEZ), principally from Cape Hatteras northward. Fin whales are migratory, moving seasonally into and out of high-latitude feeding areas, but the overall migration pattern is complex, and specific routes have not been documented. However, acoustic recordings from passive-listening hydrophone arrays indicate that a southward "flow pattern" occurs in the fall from the Labrador-Newfoundland region, past Bermuda, and into the West Indies (Clark 1995).</p> <p><b>Critical habitat in GAR:</b> None</p> <p><b>Additional Information:</b> For additional distribution information, select references, and other relevant information, please visit <a href="http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/finwhale.htm">http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/finwhale.htm</a> and <a href="http://www.nmfs.noaa.gov/pr/sars/pdf/stocks/atlantic/2015/f2015_finwhale.pdf">http://www.nmfs.noaa.gov/pr/sars/pdf/stocks/atlantic/2015/f2015_finwhale.pdf</a></p>
<b>North Atlantic Right Whale (<i>Eubalaena glacialis</i>)</b>
<p><b>Year listed:</b> 1970; Listed as two separate, endangered species in 2008 - the North Pacific right whale (<i>Eubalaena japonica</i>) and North Atlantic right whale (<i>Eubalaena glacialis</i>)</p> <p><b>Status:</b> Endangered</p> <p><b>General distribution:</b> Population ranges primarily from calving grounds in coastal waters of the southeastern United States to feeding grounds in New England waters and the Canadian Bay of Fundy, Scotian Shelf, and Gulf of St. Lawrence.</p> <p><b>Critical habitat in GAR:</b> Expanded to include the Gulf of Maine and Georges Bank. Please see: <a href="http://www.fisheries.noaa.gov/pr/species/critical%20habitat%20files/ne_narw_ch.pdf">http://www.fisheries.noaa.gov/pr/species/critical%20habitat%20files/ne_narw_ch.pdf</a></p> <p><b>Additional Information:</b> For additional distribution information, select references, and other relevant information, please visit <a href="http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/rightwhale_norhtatlantic.htm">http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/rightwhale_norhtatlantic.htm</a> and <a href="http://www.nmfs.noaa.gov/pr/sars/pdf/stocks/atlantic/2015/f2015_rightwhale.pdf">http://www.nmfs.noaa.gov/pr/sars/pdf/stocks/atlantic/2015/f2015_rightwhale.pdf</a></p>

### Sei Whale (*Balaenoptera borealis*)

**Year listed:** 1970

**Status:** Endangered

**General distribution:** The range of the Nova Scotia stock includes the continental shelf waters of the northeastern U.S., and extends northeastward to south of Newfoundland. Indications are that, at least during the feeding season, a major portion of the Nova Scotia sei whale stock is centered in northerly waters, perhaps on the Scotian Shelf (Mitchell and Chapman 1977).

**The southern portion of the species' range during spring and summer includes the northern portions of the U.S. Atlantic Exclusive Economic Zone (EEZ) — the Gulf of Maine and Georges Bank.** Spring is the period of greatest abundance in U.S. waters, with sightings concentrated along the eastern margin of Georges Bank and into the Northeast Channel area, and along the southwestern edge of Georges Bank in the area of Hydrographer Canyon (CETAP 1982).

**Critical habitat in GAR:** None

**Additional Information:** For additional distribution information, select references, and other relevant information, please visit

<http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/seiwhale.htm> and [http://www.nmfs.noaa.gov/pr/sars/pdf/stocks/atlantic/2015/f2015\\_seiwhale.pdf](http://www.nmfs.noaa.gov/pr/sars/pdf/stocks/atlantic/2015/f2015_seiwhale.pdf)

### Sperm Whale (*Physeter macrocephalus*)

**Year listed:** 1970

**Status:** Endangered

**General distribution:** Sperm whales feed on larger organisms that inhabit the deeper ocean regions (Whitehead 2002). Calving for the species occurs in low latitude waters. The distribution of the sperm whale in the U.S. Exclusive Economic Zone (EEZ) occurs primarily on the continental shelf edge, over the continental slope, and into mid-ocean regions.

**Critical habitat in GAR:** None

**Additional Information:** For additional distribution information, select references, and other relevant information, please visit

<http://www.fisheries.noaa.gov/pr/species/mammals/whales/sperm-whale.html> and [http://nefsc.noaa.gov/publications/tm/tm231/63\\_spermwhale\\_F2014July.pdf](http://nefsc.noaa.gov/publications/tm/tm231/63_spermwhale_F2014July.pdf)

### SEA TURTLES

While sea turtles occur year-round off the southeastern United States, they are generally present in marine and estuarine waters of the GAR from April through November. As water temperatures warm in the spring, sea turtles begin to migrate to nearshore waters and up the U.S. Atlantic coast, occurring in Virginia as early as April/May and in the Gulf of Maine in June. The trend is reversed in the fall with some animals remaining in the GAR until late fall. Outside of these times, sea turtle presence in GAR waters is considered unlikely, although juvenile sea turtles routinely strand on GAR beaches during colder months (i.e., from October to January) as a result of cold-stunning. Nesting is extremely limited in the GAR. Typically, juveniles and, to a lesser extent, adults are present in the GAR. Sea turtles are listed jointly with U.S. Fish and Wildlife Service. For additional distribution information, select references, and other relevant information, please visit <https://www.greateratlantic.fisheries.noaa.gov/protected/seaturtles/index.html> and <http://www.nmfs.noaa.gov/pr/species/turtles/>

### Green Sea Turtle (*Chelonia mydas*)

**Year listed:** 1978: Eleven Distinct Population Segments (DPSs) designated in 2016

**Status:** The Central North Pacific, East Indian-West Pacific, East Pacific, North Atlantic, North Indian, South Atlantic, Southwest Indian, and Southwest Pacific DPSs are listed as threatened. The Central South Pacific, Central West Pacific, and Mediterranean DPSs are listed as endangered. Only the North Atlantic DPS is present in the GAR.

**General Distribution:** In the U.S. Atlantic, green turtles are occasionally found as far north as New England, but are more commonly seen from New York south. They occur seasonally in GAR waters, including but not limited to the Chesapeake Bay and Long Island Sound, which serve as foraging and developmental habitats.

**Critical habitat in GAR:** None

**Additional Information:** <http://www.nmfs.noaa.gov/pr/species/turtles/green.html>

### Hawksbill Turtle (*Eretmochelys imbricata*)

**Year listed:** 1970

**Status:** Endangered

**General Distribution:** Hawksbill turtles are circumtropical. In the U.S. Atlantic, they are found primarily in Florida and Texas, though they have been recorded along the east coast as far north as Massachusetts. Hawksbills are rare visitors to the waters of the GAR.

**Critical habitat in GAR:** None

**Additional Information:** <http://www.nmfs.noaa.gov/pr/species/turtles/hawksbill.html>

### Kemp's Ridley Turtle (*Lepidochelys kempii*)

**Year listed:** 1970

**Status:** Endangered

**General Distribution:** Kemp's ridleys typically occur only in the Gulf of Mexico and the northwestern Atlantic. In the U.S. Atlantic, they are found as far north as New England seasonally. Foraging areas in the GAR include, but are not limited to, Chesapeake Bay, Delaware Bay, Cape Cod Bay, and Long Island Sound.

**Critical habitat in GAR:** None

**Additional Information:** <http://www.nmfs.noaa.gov/pr/species/turtles/kempssidley.html>

### Leatherback Turtle (*Dermochelys coriacea*)

**Year listed:** 1970

**Status:** Endangered

**General Distribution:** Leatherback sea turtles are globally distributed. They range farther than any other sea turtle species. Although frequently thought of as an oceanic species, they are also known to use coastal waters of the U.S. continental shelf. Juveniles and adults are present in the GAR seasonally and are distributed as far north as Canada.

**Critical habitat in GAR:** None

**Additional Information:** <http://www.nmfs.noaa.gov/pr/species/turtles/leatherback.html>

### Loggerhead Turtle (*Caretta caretta*)

**Year listed:** 1978: Nine Distinct Population Segments (DPSs) designated in 2011

**Status:** The Northwest Atlantic, South Atlantic, Southeast Indo-Pacific, and Southwest Indian Ocean DPSs are listed as threatened. The Northeast Atlantic, Mediterranean, North Indian, North Pacific, and South Pacific Ocean DPSs are listed as endangered. Only the Northwest Atlantic DPS is present in the GAR.

**General Distribution:** Loggerheads, the most abundant species of sea turtle in U.S. waters, have a temperate and subtropical distribution, including offshore waters, continental shelves, bays, estuaries, and lagoons. In the U.S. Atlantic, their range extends north to southern Canada. They most commonly occur throughout the inner continental shelf from Florida to Massachusetts. As with other sea turtle species, their presence in the GAR varies seasonally.

**Critical habitat in GAR:** *Sargassum* critical habitat in offshore waters associated with the Gulf Stream current off Maryland and Virginia.

**Additional Information:** <http://www.nmfs.noaa.gov/pr/species/turtles/loggerhead.html> and [http://www.nmfs.noaa.gov/pr/species/turtles/criticalhabitat\\_loggerhead.htm](http://www.nmfs.noaa.gov/pr/species/turtles/criticalhabitat_loggerhead.htm)

## REFERENCES CITED

- CETAP 1982. A characterization of marine mammals and turtles in the mid- and North Atlantic areas of the U.S. outer continental shelf, final report, Cetacean and Turtle Assessment Program, University of Rhode Island. Bureau of Land Management, Washington, DC. #AA551-CT8-48 576 pp.
- Clark, C.W. 1995. Application of U.S. Navy underwater hydrophone arrays for scientific research on whales. Rep. Int. Whal. Comm. 45: 210-212.
- Mitchell, E. and D.G. Chapman 1977. Preliminary assessment of stocks of northwest Atlantic sei whales (*Balaenoptera borealis*). Rep. Int. Whal. Comm. (Special Issue) 1: 117-120.
- Wenzel, F., D. K. Mattila and P. J. Clapham 1988. *Balaenoptera musculus* in the Gulf of Maine. Mar. Mamm. Sci. 4(2): 172-175.
- Whitehead, H. 2002. Estimates of the current global population size and historical trajectory for sperm whales. Mar. Ecol. Prog. Ser. 242: 295-304.

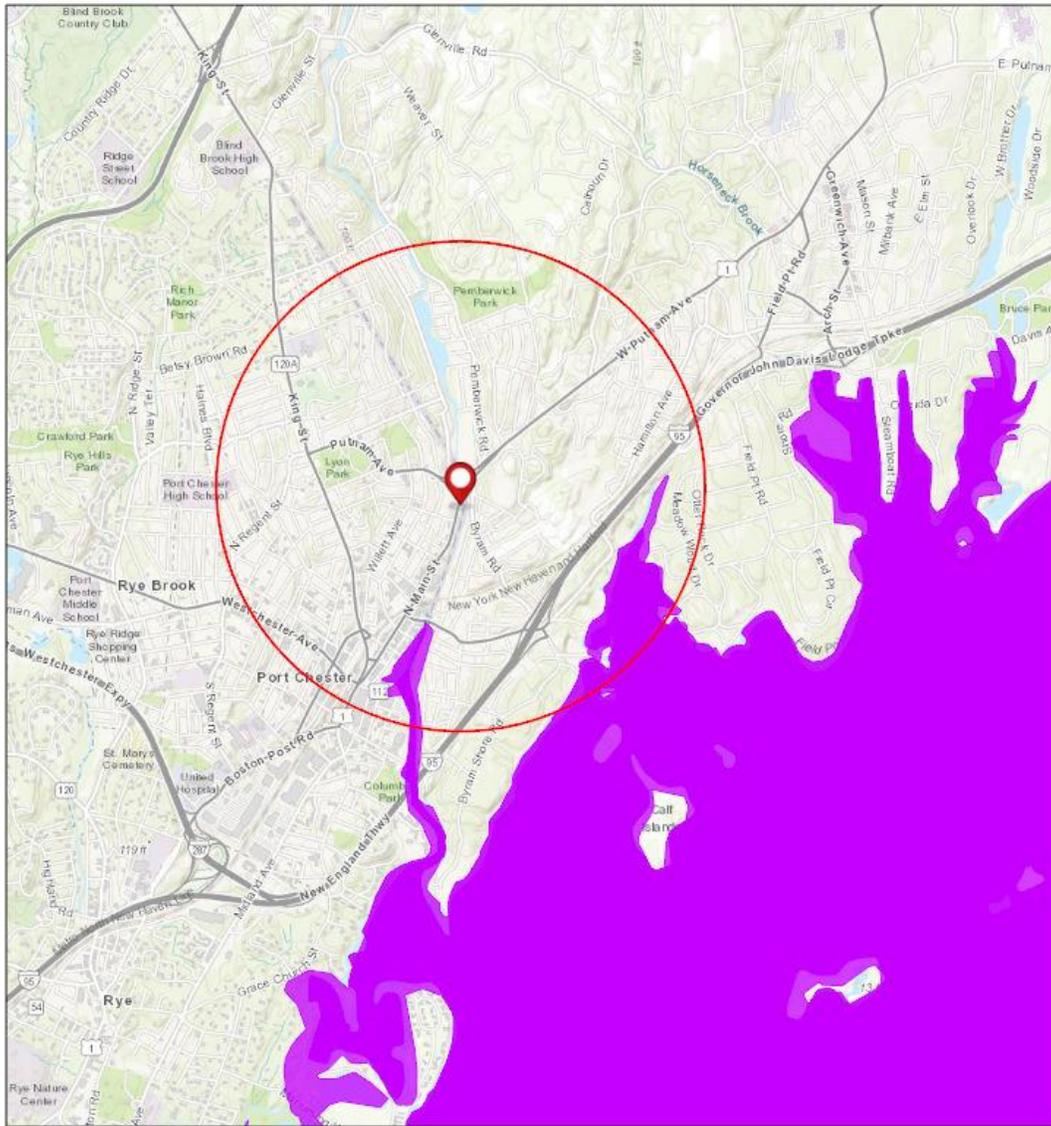


# Drawn Action Area & overlapping S7 Consultation Areas

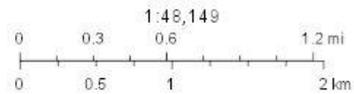
## Area of Interest (AOI) Information

Area : 2,009.02 acres

Apr 21 2019 15:46:33 Eastern Daylight Time



-  Atlantic Sturgeon
-  Shortnose Sturgeon
-  Sea Turtles



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

## Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	4	354.72	N/A
Shortnose Sturgeon	2	177.36	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	4	357.35	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	0	0	N/A

## Atlantic Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone
1	ANS_LIS_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	Long Island Sound
2	ANS_LIS_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	Long Island Sound
3	ANS_C50_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	N/A
4	ANS_C50_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	N/A

#	From	Until	From (2)	Until (2)	Area(acres)
1	01/01	12/31	N/A	N/A	88.68
2	01/01	12/31	N/A	N/A	88.68
3	01/01	12/31	N/A	N/A	88.68
4	01/01	12/31	N/A	N/A	88.68

## Shortnose Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone
1	SNS_LIS_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	Long Island Sound
2	SNS_C50_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	N/A

#	From	Until	From (2)	Until (2)	Area(acres)
1	04/01	11/30	N/A	N/A	88.68
2	04/01	11/30	N/A	N/A	88.68

## Sea Turtles

#	Feature ID	Species	Life Stage	Behavior	Zone
1	LTR_STS_AJV_MAF	Leatherback sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
2	LOG_STS_AJV_MAF	Loggerhead sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
3	KMP_STS_AJV_MAF	Kemp's ridley sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
4	GRN_STS_AJV_MAF	Green sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia

#	From	Until	From (2)	Until (2)	Area(acres)
1	5/1	11/30	<i>No Data</i>	<i>No Data</i>	89.34
2	5/1	11/30	<i>No Data</i>	<i>No Data</i>	89.34
3	5/1	11/30	<i>No Data</i>	<i>No Data</i>	89.34
4	5/1	11/30	<i>No Data</i>	<i>No Data</i>	89.34

DISCLAIMER: Use of this App does NOT replace the Endangered Species Act (ESA) Section 7 consultation process; it is a first step in determining if a proposed Federal action overlaps with listed species or critical habitat presence. Because the data provided through this App are updated regularly, reporting results must include the date they were generated. The report outputs (map/tables) depend on the options picked by the user, including the shape and size of the action area drawn, the layers marked as visible or selectable, and the buffer distance specified when using the "Draw your Action Area" function. Area calculations represent the size of overlap between the user-drawn Area of Interest (with buffer) and the specified S7 Consultation Area. Summary table areas represent the sum of these overlapping areas for each species group.



**General distribution:** Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Assessment (SSSRT 2010; available at: [http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon\\_biological\\_assessment2010.pdf](http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf))

**Disclaimer:** the best available information on shortnose sturgeon presence within the Greater Atlantic Region is presented below; waterbodies included are ones where we have information specific to shortnose sturgeon use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on shortnose sturgeon; for waterbodies not listed below, we have no data on usage by shortnose sturgeon; however, we expect the species may be present in other coastal waters in the Gulf of Maine and along the U.S. Atlantic coast between the Merrimack and Hudson Rivers; bracketed footnotes are provided in the table to match up "Use of the Watershed" information to the specific reference(s) from which it came; a description of shortnose sturgeon life history stages are included at the end of the table below

Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Narraguagus River (ME)	Up to Cherryfield Dam (RKM 10.6)	adults	<b>Foraging</b> - May be used for foraging; tag detections indicate that usage of the river is for short periods during coastal migrations[1]	[1] Dionne et al. 2013
Penobscot River (ME)	Up to Milford Dam (RKM 62)	adults documented; other life stages assumed but unknown	<b>Spawning</b> - Not documented to date; suitable spawning habitat is accessible[3] <b>Foraging</b> - Foraging concentrations from RKM 10-24.5 during the summer months as well as throughout the lower and middle estuary; RKM 21-45 by mid-July and August[1] <b>Overwintering</b> - Aggregations located from RKM 36.5-42 from mid-August to mid-April[2]	[1] Fernandes et al. 2010; [2] Lachapelle 2013; [3] Johnston 2016
St. George River (ME)	Up to RKM 39 in lower estuary	adults	<b>Foraging</b> - May be used for foraging; tag detections indicate that usage of the river is for short periods during coastal migrations[1][2]	[1] Zydlewski et al. 2011; [2] Dionne et al. 2013
Medomak River (ME)	Up to RKM 17.5	adults	<b>Foraging</b> - May be used for foraging; tag detections indicate that usage of the river is for short periods during coastal migrations[1][2][3]	[1] Zydlewski et al. 2011; [2] Dionne et al. 2013; [3] Johnston 2016
Damariscotta River (ME)	Up to Damariscotta Lake Dam (RKM 30.3)	adults	<b>Foraging</b> - May be used for foraging; tag detections indicate that usage of the river is for short periods during coastal migrations[1][2]	[1] Zydlewski et al. 2011; [2] Dionne et al. 2013
Sheepscoot River (ME)	Up to Head Tide Dam (RKM 35)	adults	<b>Foraging</b> - Montsweag Bay during the summer [1] <b>Overwintering</b> - Suspected to occur in the estuary[2]	[1] Fried and McCleave 1973; [2] SSSRT 2010

**General distribution:** Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Assessment (SSSRT 2010; available at: [http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon\\_biological\\_assessment2010.pdf](http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf))

**Disclaimer:** the best available information on shortnose sturgeon presence within the Greater Atlantic Region is presented below; waterbodies included are ones where we have information specific to shortnose sturgeon use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on shortnose sturgeon; for waterbodies not listed below, we have no data on usage by shortnose sturgeon; however, we expect the species may be present in other coastal waters in the Gulf of Maine and along the U.S. Atlantic coast between the Merrimack and Hudson Rivers; bracketed footnotes are provided in the table to match up "Use of the Watershed" information to the specific reference(s) from which it came; a description of shortnose sturgeon life history stages are included at the end of the table below

Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Kennebec River (ME)	Up to Lockwood Dam (RKM 103), also includes Merrymeeting Bay, Sagadahoc Bay, and the entirety of the Back, Sasanoa, Eastern, and Cathance Rivers	eggs, larvae, YOY, juveniles, and adults	<p><b>Spawning</b> - Occurs at two sites: below the former Edwards Dam[7] (RKM 58-74) and downstream of the Lockwood Dam[8] (RKM 87-103)</p> <p><b>Rearing</b> - Eggs and larvae occur in freshwater reaches below the spawning sites[8]</p> <p><b>Foraging</b> - Throughout the lower estuary to the mouth of the river[4][5][8] (below RKM 70) with concentration areas near Bath[3][5][8] (RKM 16-29) including Sagadahoc Bay[6] and the Back and Sasanoa Rivers[1][5][8]</p> <p><b>Overwintering</b> - Majority in Merrymeeting Bay [5][7] (RKM 37-40 and 40-42), also Bluff Head [2][5] (RKM 15), and in the lower portions of the Eastern and Cathance Rivers (tributaries to Merrymeeting Bay)[2]</p>	[1] McCleave et al. 1977; [2] Squiers and Robillard 1997; [3] Squiers 2003; [4] Fernandes et al. 2010; [5] SSSRT 2010; [6] Fire et al. 2012; [7] Wippelhauser and Squiers 2015; [8] Wippelhauser et al. 2015
Androscoggin River (ME)	Up to Brunswick Dam (RKM 8.4)	eggs, larvae, YOY, juveniles, and adults	<p><b>Spawning</b> - Below Brunswick Dam to the Rt. 201 Bridge(RKM 7.7-8.4)[2]</p> <p><b>Rearing</b> - Eggs and larvae occur in freshwater reaches below the spawning sites[3]</p> <p><b>Foraging</b> - Montsweag Bay during the summer [1]</p>	[1] McCleave et al. 1977; [2] Wippelhauser and Squiers 2015; [3] Wippelhauser et al. 2015
Presumpscot River (ME)	Up to Presumpscot Falls (RKM 4)	adults	<b>Foraging</b> - May be used for foraging[1]	[1] Yoder et al. 2009
Saco River (ME)	Up to Cataract Dam (RKM 10)	adults	<b>Foraging</b> - Used seasonally May-November[1]	[1] Little et al. 2013; [2] Hodgdon et al. 2018
Piscataqua River (NH)	Entirety of Piscataqua River including Cochecho River from its confluence with Piscataqua River upstream to Cochecho Falls Dam and waters of Salmon Falls River from its confluence with Piscataqua River upstream to the Route 4 Dam	adults	<b>Foraging</b> - Used seasonally for foraging and resting during spring and fall migrations; tracking data indicates that use by individual sturgeon is limited to days or weeks[1]	[1] Kieffer and Trefry, pers. comm., April 18, 2017

**General distribution:** Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Assessment (SSSRT 2010; available at: [http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon\\_biological\\_assessment2010.pdf](http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf))

**Disclaimer:** the best available information on shortnose sturgeon presence within the Greater Atlantic Region is presented below; waterbodies included are ones where we have information specific to shortnose sturgeon use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on shortnose sturgeon; for waterbodies not listed below, we have no data on usage by shortnose sturgeon; however, we expect the species may be present in other coastal waters in the Gulf of Maine and along the U.S. Atlantic coast between the Merrimack and Hudson Rivers; bracketed footnotes are provided in the table to match up "Use of the Watershed" information to the specific reference(s) from which it came; a description of shortnose sturgeon life history stages are included at the end of the table below

Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Merrimack River (MA)	Up to Essex Dam (RKM 46)	eggs, larvae, YOY, juveniles, and adults	<p><b>Spawning</b> - Near Haverhill[2] (RKM 30-32)</p> <p><b>Rearing</b> - Eggs and larvae present in spawning grounds four weeks after spawning occurs, following which they would begin to move downstream continuing their development in the freshwater reach of the river[1] (RKM 16-32)</p> <p><b>Foraging</b> - Lower river with concentrations near Amesbury and the lower islands[1][3] (RKM 6-24)</p> <p><b>Overwintering</b> - Late fall to early spring[1]; multiple overwintering sites from RKM 15-29 in freshwater reaches beyond the maximum salt penetration[4]</p>	[1] Kieffer and Kynard 1993; [2] Kieffer and Kynard 1996; [3] Kynard et al. 2000; [4] Wippelhauser et al. 2015
Narragansett Bay (RI)	Throughout the bay	adults	<b>Foraging</b> - Potentially occurs where suitable forage is present[1]	[1] NMFS 1998
Thames River (CT)	Up to the Greenville Dam (RKM 28)	adults undocumented, but assumed based on documented occurrences of Atlantic sturgeon in the river	<b>Foraging</b> - Assumed to occur where suitable forage is present[1]	[1] The Day June 17, 2016 ( <a href="http://www.theday.com/article/20160617/NWS01/160619212">http://www.theday.com/article/20160617/NWS01/160619212</a> )

**General distribution:** Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Assessment (SSSRT 2010; available at: [http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon\\_biological\\_assessment2010.pdf](http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf))

**Disclaimer:** the best available information on shortnose sturgeon presence within the Greater Atlantic Region is presented below; waterbodies included are ones where we have information specific to shortnose sturgeon use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on shortnose sturgeon; for waterbodies not listed below, we have no data on usage by shortnose sturgeon; however, we expect the species may be present in other coastal waters in the Gulf of Maine and along the U.S. Atlantic coast between the Merrimack and Hudson Rivers; bracketed footnotes are provided in the table to match up "Use of the Watershed" information to the specific reference(s) from which it came; a description of shortnose sturgeon life history stages are included at the end of the table below

Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Connecticut River (CT/MA)	Up to Turners Falls Dam, MA (RKM 198)	eggs, larvae, YOY, juveniles, and adults	<p><b>Spawning</b> - Below Turners Falls Dam/Cabot Station at two locations depending on river conditions[3] (RKM 193-194); limited spawning may occasionally occur below Holyoke Dam[3] (RKM 139-140)</p> <p><b>Rearing</b> - Eggs and larvae spawned upstream documented up to 20 km downstream of the spawning site[3]; if spawning is successful downstream of Holyoke, early life stages would be present in downstream freshwater reaches [1][3] (RKM 13-194)</p> <p><b>Foraging</b> - Concentrations above the Holyoke Dam in the Deerfield Concentration Area[3] (RKM 144-192), Agawam Concentration Area [1] (RKM 114-119), and the lower Connecticut Concentration Area[3] (RKM 0-110)</p> <p><b>Overwintering</b> - Concentrations above the Holyoke Dam in the Deerfield Concentration Area[3] (RKM 144-192); below the Holyoke Dam concentrations near Holyoke[2] (RKM 137-140), Agawam[3] (RKM 114-119), Hartford [2] (RKM 82-86), Portland, CT[3] (RKM 46), and the lower river[2] (RKM 0-25)</p>	[1] Buckley and Kynard 1983; [2] Buckley and Kynard 1985; [3] Kynard et al. 2012
Deerfield River (MA), tributary of the Connecticut River	Up to Deerfield No. 2 at Shelburne Falls (RKM 22.5)	adults documented in lower 3 km; larvae spawned in Connecticut River may be present during certain flow conditions	<p><b>Rearing</b> - Water flow could potentially draw migrating larvae into unfavorable habitat in the Deerfield River[1]; potential refuge area during high flows[2]</p> <p><b>Foraging</b> - Spring through fall in lower river[2] (RKM 0-3.5)</p> <p><b>Overwintering</b> - May be used as an overwintering area potential pre-spawning staging area for adults[1]</p>	[1] Kieffer and Kynard 1992; [2] Kynard et al. 2012

**General distribution:** Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Assessment (SSSRT 2010; available at: [http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon\\_biological\\_assessment2010.pdf](http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf))

**Disclaimer:** the best available information on shortnose sturgeon presence within the Greater Atlantic Region is presented below; waterbodies included are ones where we have information specific to shortnose sturgeon use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on shortnose sturgeon; for waterbodies not listed below, we have no data on usage by shortnose sturgeon; however, we expect the species may be present in other coastal waters in the Gulf of Maine and along the U.S. Atlantic coast between the Merrimack and Hudson Rivers; bracketed footnotes are provided in the table to match up "Use of the Watershed" information to the specific reference(s) from which it came; a description of shortnose sturgeon life history stages are included at the end of the table below

Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Westfield River (MA), tributary of the Connecticut River	Up to DSI Dam (RKM 9.5)	adults	<b>Foraging</b> - Assumed to occur where suitable forage is present[1]	[1] USFWS 2007 in SSSRT 2010
Quinnipiac River (CT)	Up to Wallace Dam (RKM 27)	adults undocumented, but assumed based on documented occurrences of Atlantic sturgeon in the river	<b>Foraging</b> - Assumed to occur where suitable forage is present[1]	[1] Hartford Courant September 30, 1994 ( <a href="http://articles.courant.com/1994-09-30/news/9409300111_1_sturgeon-fish-story-giant-fish">http://articles.courant.com/1994-09-30/news/9409300111_1_sturgeon-fish-story-giant-fish</a> )
Housatonic River (CT)	Up to Derby Dam (RKM 23.5)	adults	<b>Spawning</b> - Historical spawning occurred above the Derby Dam, none known to occur currently[1] <b>Foraging</b> - Potentially occurs where suitable forage is present[1]	[1] Savoy and Benway 2006 in SSSRT 2010
Long Island Sound (CT/NY)	Full length of Long Island Sound in nearshore coastal waters	adults	<b>Foraging</b> - Potentially occurs where suitable forage is present[1]	[1] Savoy 2004 in SSSRT 2010
East River (NY)	Full length of the East River	transient adults undocumented, but assumed based on detections of Atlantic sturgeon and occasional movements of shortnose sturgeon from Hudson River to Connecticut River	<b>Foraging</b> - Potentially occurs where suitable forage is present[1]	[1] Savoy 2004 in SSSRT 2010

**General distribution:** Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Assessment (SSSRT 2010; available at: [http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon\\_biological\\_assessment2010.pdf](http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf))

**Disclaimer:** the best available information on shortnose sturgeon presence within the Greater Atlantic Region is presented below; waterbodies included are ones where we have information specific to shortnose sturgeon use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on shortnose sturgeon; for waterbodies not listed below, we have no data on usage by shortnose sturgeon; however, we expect the species may be present in other coastal waters in the Gulf of Maine and along the U.S. Atlantic coast between the Merrimack and Hudson Rivers; bracketed footnotes are provided in the table to match up "Use of the Watershed" information to the specific reference(s) from which it came; a description of shortnose sturgeon life history stages are included at the end of the table below

Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Hudson River (NY/NJ)	Up to Troy Dam, NY (approximately RKM 246)	eggs, larvae, YOY, juveniles, and adults	<p><b>Spawning</b> - Documented from late March to early May when water temperatures reach 10° -18°C[1] from Coxsackie to below the Federal Dam at Troy[1][3] (RKM 190-246)</p> <p><b>Rearing</b> - Eggs on the spawning grounds; larvae downstream to at least RKM 104; YOY downstream to at least RKM 64[1]</p> <p><b>Foraging</b> - Throughout the Hudson River (RKM 38-175) [3][4] with concentrations in Haverstraw Bay[1] (RKM 56-64)</p> <p><b>Overwintering</b> - Late fall to early spring[3]; largest area (mainly spawning adults) near Kingston[2] (RKM 137-149); smaller overwintering areas are located from Saugerties to Hyde Park[2] (RKM 123-170) and in the Croton-Haverstraw Bay area[2] (RKM 54-61); many juveniles overwinter in the lower river[1] (RKM 0-64)</p>	[1] Dovel et al. 1992; [2] Geoghegan et al. 1992; [3] Bain 1997; [4] Pendleton et al. 2018

**General distribution:** Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Assessment (SSSRT 2010; available at: [http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon\\_biological\\_assessment2010.pdf](http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf))

**Disclaimer:** the best available information on shortnose sturgeon presence within the Greater Atlantic Region is presented below; waterbodies included are ones where we have information specific to shortnose sturgeon use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on shortnose sturgeon; for waterbodies not listed below, we have no data on usage by shortnose sturgeon; however, we expect the species may be present in other coastal waters in the Gulf of Maine and along the U.S. Atlantic coast between the Merrimack and Hudson Rivers; bracketed footnotes are provided in the table to match up "Use of the Watershed" information to the specific reference(s) from which it came; a description of shortnose sturgeon life history stages are included at the end of the table below

Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Delaware River and Bay (NJ/DE/PA)	Up to Lambertville, PA (RKM 240)	eggs, larvae, YOY, juveniles, and adults	<p><b>Spawning</b> - Documented from late March through late May; water temperatures 6-18°C; between Trenton and Lambertville[6] (RKM 214-238)</p> <p><b>Rearing</b> - Eggs and larvae between Trenton and Lambertville[6] (RKM 214-238); juveniles located upstream of the salt wedge from Wilmington to Philadelphia[3] (RKM 114-148)</p> <p><b>Foraging</b> - Throughout the river, between the vicinity of Trenton south to Artificial Island[7] (RKM 79)</p> <p><b>Overwintering</b> - November to March[1]; overwinter when waters reach 10°C (typically mid-November)[2]; many adults concentrate from RKM 190-212[1][4], but occur downstream below Wilmington[4] (RKM 116); juveniles overwinter from Philadelphia to below Artificial Island[5] (RKM 70-154); variety of behaviors from sedentary to active[6]</p>	[1] O'Herron et al. 1993; [2] USGS gauge at Philadelphia (01467200) during the 2003-2008 time period; [3] Burton et al. 2005; [4] ERC 2006; [5] Brundage and O'Herron 2009; [6] ERC 2009; [7] SSSRT 2010
Schuylkill River (PA), tributary of the Delaware River	Up to Fairmount Dam (RKM 13.6)	juveniles and adults	<p><b>Foraging</b> - Potentially occurs where suitable forage is present[1]</p>	[1] Philadelphia Water Department November 7, 2014 ( <a href="http://www.phillywatersheds.org/endangered-shortnose-sturgeon-returns-schuylkill">http://www.phillywatersheds.org/endangered-shortnose-sturgeon-returns-schuylkill</a> )
C&D Canal (DE/MD)	Used at least occasionally to move from Chesapeake Bay to the Delaware River	adults	<p><b>Foraging</b> - Assumed to occur in areas with suitable forage[1]</p>	[1] Welsh et al. 2002
Chesapeake Bay (MD/VA)	Maryland and Virginia waters of mainstem bay and tidal tributaries including those specifically listed below.	adults documented; other life stage presence unknown	<p><b>Foraging, Resting, and Overwintering</b> - Assumed to occur in areas with suitable forage [1][2]</p>	[1] SSSRT 2010; [2] Balazik 2017

**General distribution:** Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Assessment (SSSRT 2010; available at: [http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon\\_biological\\_assessment2010.pdf](http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf))

**Disclaimer:** the best available information on shortnose sturgeon presence within the Greater Atlantic Region is presented below; waterbodies included are ones where we have information specific to shortnose sturgeon use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on shortnose sturgeon; for waterbodies not listed below, we have no data on usage by shortnose sturgeon; however, we expect the species may be present in other coastal waters in the Gulf of Maine and along the U.S. Atlantic coast between the Merrimack and Hudson Rivers; bracketed footnotes are provided in the table to match up "Use of the Watershed" information to the specific reference(s) from which it came; a description of shortnose sturgeon life history stages are included at the end of the table below

Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Susquehanna River (MD)	Up to Conowingo Dam (RKM 16)	adults documented; other life stages assumed but unknown	<p><b>Spawning</b> - Historically occurred; currently unknown as suitability of habitat is likely impacted by dam operations[1]</p> <p><b>Foraging</b> - Assumed to occur in areas with suitable forage[2]</p> <p><b>Overwintering</b> - Not documented but assumed based on anecdotal reports of aggregations of sturgeon in deep holes near Lapidum and Perrysville[2]</p>	[1] Litwiler 2001; [2] SSSRT 2010
Potomac River (MD/VA)	Up to Little Falls Dam (RKM 189)	adults documented; other life stages assumed but unknown	<p><b>Spawning</b> - Historically occurred; current spawning not documented but assumed based on presence of pre-spawning females and suitable habitat at RKM 185-187[1]</p> <p><b>Rearing</b> - Eggs expected at RKM 185-187, larvae would be present downstream in freshwater[1]</p> <p><b>Foraging</b> - Mainly in the deepwater channel from RKM 63-141[1][2]</p> <p><b>Overwintering</b> - Near Mattawoman Creek; saltwater/freshwater reach near Craney Island [1][2] (RKM 63-141)</p>	[1] Kynard et al. 2007; [2] Kynard et al. 2009
Rappahannock River (VA)	Range not confirmed, but they have been documented in this river (likely throughout the entire river)	adults	<b>Foraging</b> - Potentially occurs where suitable forage is present; one was captured in May 1998[1]	[1] Spells 1998
York River (VA)	Range unknown (potentially throughout the river and tributaries)	adults	<b>Foraging</b> - Potentially occurs where suitable forage is present [1]	[1] Balazik, pers. comm., June 7, 2018

**General distribution:** Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Assessment (SSSRT 2010; available at: [http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon\\_biological\\_assessment2010.pdf](http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf))

**Disclaimer:** the best available information on shortnose sturgeon presence within the Greater Atlantic Region is presented below; waterbodies included are ones where we have information specific to shortnose sturgeon use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on shortnose sturgeon; for waterbodies not listed below, we have no data on usage by shortnose sturgeon; however, we expect the species may be present in other coastal waters in the Gulf of Maine and along the U.S. Atlantic coast between the Merrimack and Hudson Rivers; bracketed footnotes are provided in the table to match up "Use of the Watershed" information to the specific reference(s) from which it came; a description of shortnose sturgeon life history stages are included at the end of the table below

Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
James River (VA)	Range not confirmed, but likely up to Boshers Dam (RKM 182.3)	adults	<b>Foraging/Spawning</b> - Foraging potentially occurs where suitable forage is present; a sturgeon, possibly from the Potomac or Delaware River, was captured on March 13, 2016, at RKM 48[1]; on February 2018, a second sturgeon (a confirmed gravid female) was captured near RKM 48[2] (genetics results not yet available); spawning area unknown; the salinity at RKM 48 is usually low (brackish).	[1] Balazik 2017; [2] Balazik, pers. comm., February 10, 2018

**Listing rule:** 32 FR 4001, March 11, 1967; **Recovery plan:** NMFS 1998. Available online: [http://www.nmfs.noaa.gov/pr/pdfs/recovery/sturgeon\\_shortnose.pdf](http://www.nmfs.noaa.gov/pr/pdfs/recovery/sturgeon_shortnose.pdf)

## Descriptions of shortnose sturgeon life history stages

<b>Stage</b>	<b>Size (mm)</b>	<b>Duration</b>	<b>Behaviors/Habitat Used</b>
Eggs	3-4	13 days post spawn	Stationary on bottom; cobble and rock, fast flowing freshwater
Yolk Sac Larvae	7-15	8-12 days post hatch	Photonegative; swim up and drift behavior; form aggregations with other yolk sac larvae; cobble and rock, stay at bottom near spawning site
Post Yolk Sac Larvae	15-57	12-40 days post hatch	Free swimming; feeding; silt bottom, deep channel; freshwater
Young of Year (YOY)	57-140 (north); 57-300 (south)	From 40 days post-hatch to one year	Deep, muddy areas upstream of the salt wedge
Juveniles	140 to 450-550 (north); 300 to 450-550 (south)	One year to maturation	Increasing salinity tolerance with age; same habitat patterns as adults
Adults	450-1,100 average; (max recorded 1,400)	Post-maturation	Freshwater to estuary with some individuals making nearshore coastal migrations

# Estimated Range of Atlantic Sturgeon Distinct Population Segments (DPSs)

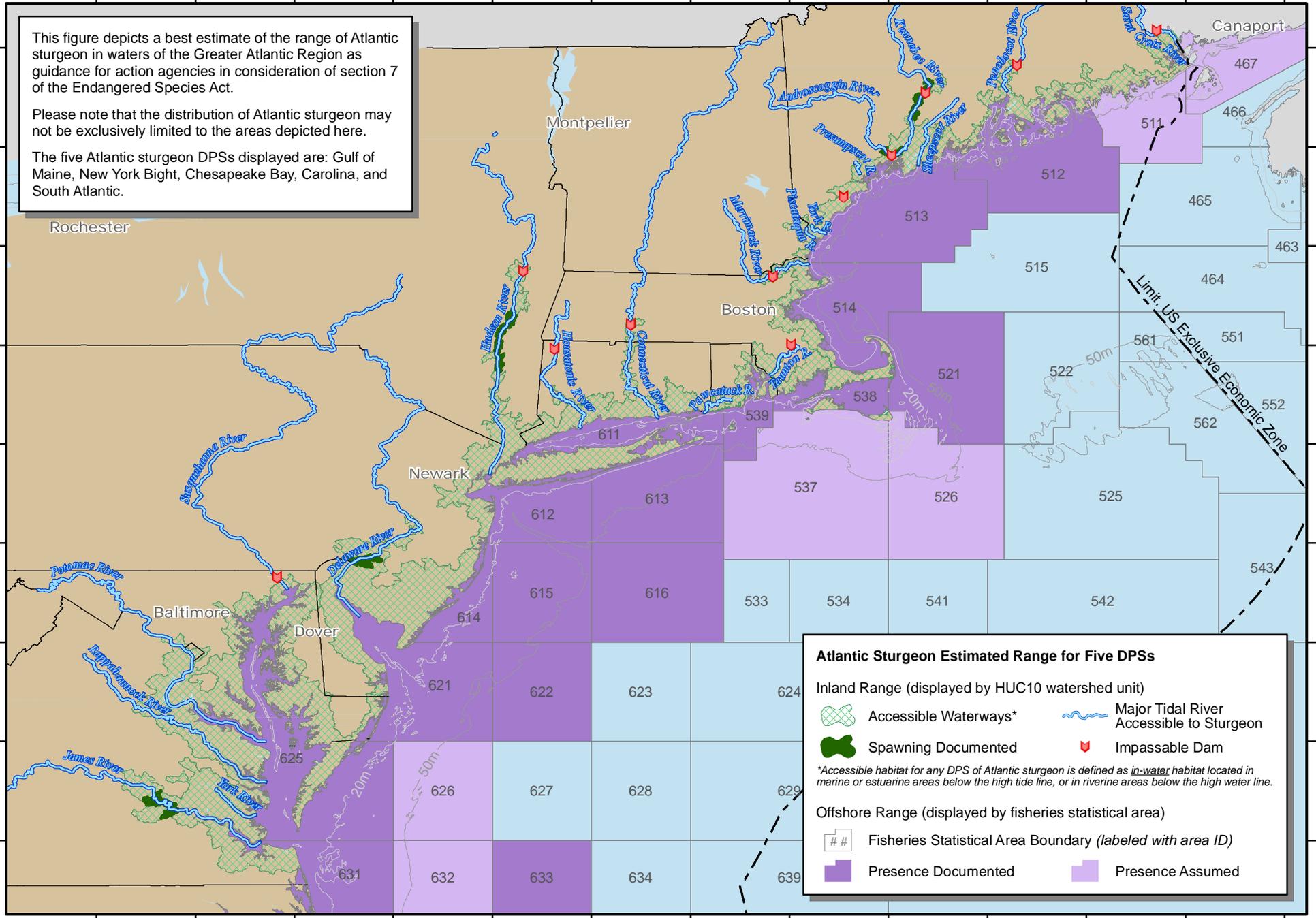
78°W 77°W 76°W 75°W 74°W 73°W 72°W 71°W 70°W 69°W 68°W 67°W 66°W

45°N  
44°N  
43°N  
42°N  
41°N  
40°N  
39°N  
38°N  
37°N

This figure depicts a best estimate of the range of Atlantic sturgeon in waters of the Greater Atlantic Region as guidance for action agencies in consideration of section 7 of the Endangered Species Act.

Please note that the distribution of Atlantic sturgeon may not be exclusively limited to the areas depicted here.

The five Atlantic sturgeon DPSs displayed are: Gulf of Maine, New York Bight, Chesapeake Bay, Carolina, and South Atlantic.



**Atlantic Sturgeon Estimated Range for Five DPSs**

Inland Range (displayed by HUC10 watershed unit)

- Accessible Waterways\*
- Spawning Documented

Offshore Range (displayed by fisheries statistical area)

- Fisheries Statistical Area Boundary (labeled with area ID)
- Presence Documented
- Presence Assumed

Major Tidal River Accessible to Sturgeon

Impassable Dam

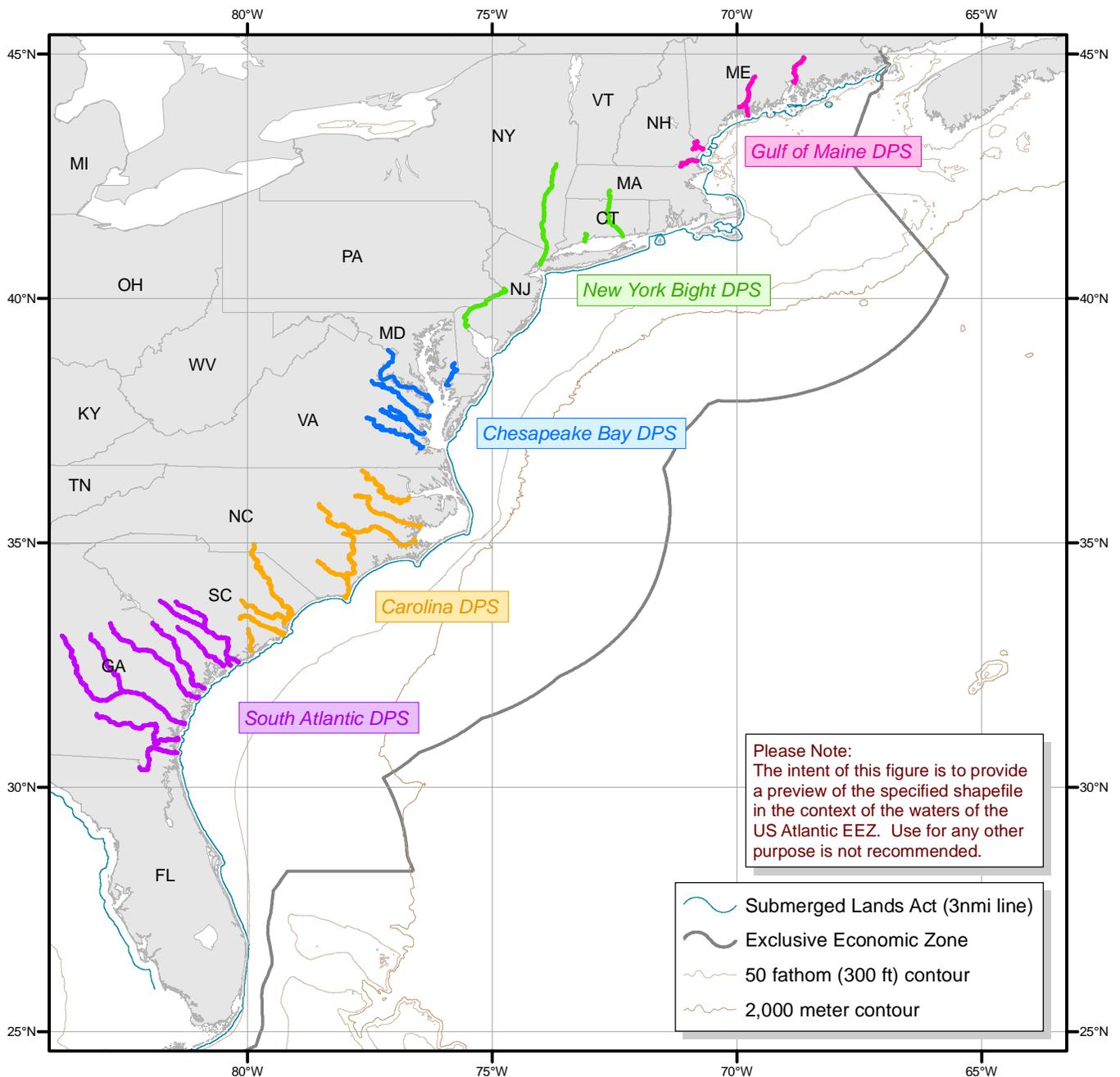
\*Accessible habitat for any DPS of Atlantic sturgeon is defined as in-water habitat located in marine or estuarine areas below the high tide line, or in riverine areas below the high water line.

# Shapefile: Atlantic\_Sturgeon\_Critical\_Habitat\_River\_Lengths.shp

Posted to Website: 11/15/2017

This shapefile includes the NMFS Regulated Areas depicted below. The dataset can be downloaded from the GARFO GIS website at <http://www.greateratlantic.fisheries.noaa.gov/gis> or the SERO GIS website at [http://sero.nmfs.noaa.gov/maps\\_gis\\_data/](http://sero.nmfs.noaa.gov/maps_gis_data/).

- Gulf of Maine DPS Units
- Carolina DPS Units
- New York Bight DPS Units
- South Atlantic DPS Units
- Chesapeake Bay DPS Units



**General distribution:** Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Hamilton Inlet, Labrador, Canada, to Cape Canaveral, Florida; only subadult and adult lifestages occur in marine waters, where they are typically found in waters 5-50 meters in depth (Stein et al. 2004; ASMFC TC 2007); subadults and adults may travel long distances in marine waters, aggregate in both ocean and estuarine areas at certain times of the year, and exhibit seasonal coastal movements in the spring and fall; distribution in rivers and inshore bays typically occurs from the estuary or river mouth generally up to the first impassible barrier (e.g., a dam or falls); Atlantic sturgeon generally use the deepest habitats available to them in rivers, but they have also been collected over shallow (2.5 meters), tidally influenced flats and substrates ranging from mud to sand and mixed rubble and cobble (Savoy and Pacileo 2003)

**Disclaimer:** the best available information on Atlantic sturgeon presence within coastal rivers, estuaries, and bays of the Greater Atlantic Region is presented below; waterbodies highlighted below are ones where we have information specific to Atlantic sturgeon use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on Atlantic sturgeon; however, they may occur in other watersheds within this range for which we do not currently have specific information; note: individuals from any of the five listed DPSs (Gulf of Maine, New York Bight, Chesapeake Bay, Carolina, and South Atlantic) may occur in any of the areas identified throughout the species' range; a description of Atlantic sturgeon life history stages are included at the end of the table below

Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Cobscook Bay/St. Croix River (ME)	Up to the Milltown Dam at Calais, ME (RKM 16)	subadults and adults	<b>Foraging</b> - assumed to occur wherever suitable forage is present[1]	[1] Zydlewski (UMaine) pers. comm., September 21, 2015
Penobscot River (ME)	Up to the Milford Dam (RKM 62)	subadults and adults (potentially eggs, larvae, YOY, and juveniles)	<b>Spawning</b> - undocumented, but 12 km of suitable spawning habitat is accessible[2] <b>Foraging</b> - wherever suitable forage is present, documented in the lower river (RKM 21-24.5)[1]	[1] Fernandes et al. 2010; [2] Wipfelhauser et al. 2017
Damariscotta River (ME)	Up to Damariscotta Lake Dam (RKM 30.3)	subadults and adults	<b>Foraging</b> - assumed to occur wherever suitable forage is present; tag detections indicate that usage of the river is for short periods during coastal migrations[1]	[1] Picard and Zydlewski 2014
Sheepscot River (ME)	Up to the head-of-tide dam (RKM 35)	subadults and adults	<b>Foraging</b> - assumed to occur wherever suitable forage is present; may occur in Montsweag Bay as shortnose sturgeon foraging has been documented there[1]; subadults have been captured in the river[2]	[1] Fried and McCleave 1973; [2] ASSRT 2007
Kennebec River (ME)	Up to the Lockwood Dam (RKM 102), also includes the entirety of the Back and Sasanoa Rivers	eggs, larvae, YOY, juveniles, subadults, and adults	<b>Spawning</b> - May-August[4]; documented via captures of spawning condition adults and larvae (RKM 52.8-76)[1][4]; potentially occurs as far upstream as the Lockwood Dam in the restored spawning habitat (RKM 87-102)[4] <b>Rearing</b> - ELS have been documented near the spawning grounds[4]; juveniles have also been documented in the river[3] <b>Foraging</b> - assumed to occur wherever suitable forage is present (documented from RKM 0-42)[4]; also documented in the Sasanoa and Back Rivers[2][3]	[1] Wipfelhauser 2011; [2] Wipfelhauser 2012; [3] Wipfelhauser and Squiers 2015; [4] Wipfelhauser et al. 2017

Androscoggin River (ME)	Up to the Brunswick Dam (RKM 8.4)	eggs, larvae, YOY, juveniles, subadults, and adults	<b>Spawning</b> - May-August[2]; capture of a ripe male[2] in the summer below the Brunswick Dam (RKM 7.7-8.4)[1] indicates that spawning is likely occurring <b>Rearing</b> - Juveniles likely present throughout the river year-round <b>Foraging</b> - assumed to occur wherever suitable forage is present	[1] Wippelhauser and Squiers 2015; [2] Wippelhauser et al. 2017
Presumpscot River (ME)	Up to Presumpscot Falls (RKM 3)	subadults and adults	<b>Foraging</b> - assumed to occur wherever suitable forage is present; an Atlantic sturgeon was caught below Presumpscot Falls[1]	[1] Yoder et al. 2009
Scarborough River (ME)	Throughout the entire river	subadults and adults	<b>Foraging</b> - assumed to occur wherever suitable forage is present[1]	[1] Wippelhauser et al. 2017
Saco River (ME)	Up to Cataract Dam (RKM 10)	juveniles, subadults, and adults	<b>Foraging</b> - assumed to occur wherever suitable forage is present[1]	[1] Novak et al. 2017
Piscataqua River Watershed including Salmon Falls and Cocheco tributaries (NH)	Up to the confluence with the Salmon Falls and Cocheco Rivers (RKM 15) and including Great Bay; Salmon Falls River – up to the Route 4/South Berswick Dam (RKM 7); Cocheco River – up to the Cocheco Falls Dam (RKM 6)	subadults and adults (eggs, larvae, YOY, and juveniles possible)	<b>Spawning</b> - potentially occurs in the Salmon Falls and Cocheco rivers based on the presence of features necessary to support reproduction and recruitment as well as the capture of an adult female Atlantic sturgeon in spawning condition in 1990[1][3] <b>Rearing</b> - Juveniles potentially present throughout the river year-round <b>Foraging</b> - used seasonally for foraging and resting during spring and fall migrations; tagging data indicates that use by individual sturgeon is limited to days or weeks[2]	[1] ASSRT 2007; [2] Kieffer and Trefry 2017 pers. comm.; [3] NMFS 2017
Merrimack River (MA)	Up to the Essex Dam (RKM 46); often found around the lower islands reach (RKM 3-12) and the mouth of the river	subadults and adults (potentially eggs, larvae, YOY, and juveniles)	<b>Spawning</b> - potentially occurs due to the presence of features necessary to support reproduction and recruitment[4] <b>Rearing</b> - data suggests it is used as a nursery area for juveniles[3] <b>Foraging</b> - mouth of the river and the lower islands area (RKM 0-12); subadults use RKM 7-12[1][2]	[1] Kieffer and Kynard 1993; [2] Kynard et al. 2000; [3] ASSRT 2007; [4] NMFS 2017
Charles River (MA)	Up to Charles River Locks (RKM 5.5)	subadults and adults	<b>Foraging</b> - assumed to occur wherever suitable forage is present[1]	[1] Boston.com February 20, 2012 ( <a href="http://archive.boston.com/news/science/articles/2012/02/20/from_depths_of_the_charles_an_ancient_species/">http://archive.boston.com/news/science/articles/2012/02/20/from_depths_of_the_charles_an_ancient_species/</a> )
North River (MA)	Up to Dam #1 on the Indian Head Reservoir at Luddam's Ford (RKM 21)	subadults and adults	<b>Foraging</b> - assumed to occur wherever suitable forage is present; an adult was found in the North River, 4 miles from the mouth in 2012[1]	[1] The Patriot Ledger June 1, 2012 ( <a href="http://www.patriotledger.com/article/20120601/NEWS/306019786">http://www.patriotledger.com/article/20120601/NEWS/306019786</a> )
Taunton River (MA)	Up to the convergence of the Town River and Matfield River	subadults and adults	<b>Foraging</b> - assumed to occur wherever suitable forage is present[1][2]	[1] Buerkett and Kynard 1993; [2] ASSRT 2007

Narragansett Bay (RI)	Throughout the bay	subadults and adults	<b>Foraging</b> - assumed to occur wherever suitable forage is present[1]	[1] ASSRT 2007
Thames River (CT)	Up to the Yantic Dam in the Yantic River and up to the Greenville Dam in the Shetucket River	subadults and adults	<b>Foraging</b> - assumed to occur wherever suitable forage is present[1][2][3]	[1] Whitworth 1996; [2] ASSRT 2007; [3] The Day June 17, 2016 ( <a href="http://www.theday.com/article/20160617/NWS01/160619212">http://www.theday.com/article/20160617/NWS01/160619212</a> )
Connecticut River (CT/MA)	Up to the Holyoke Dam (RKM 140); mainly stay in the summer range of the salt wedge (RKM 0-26)	eggs, larvae, YOY, juveniles, subadults, and adults	<b>Spawning/Rearing</b> - captures of pre-migratory juvenile sturgeon in the river strongly suggests that spawning is occurring in this river[3] <b>Foraging</b> - assumed to occur wherever suitable forage is present[1][2]	[1] Savoy and Shake 1993; [2] Savoy and Pacileo 2003; [3] Savoy et al. 2017
Quinnipiac River (CT)	Up to bridge at Quinnipiac Street and River Road in Wallingford (RKM 27)	subadults and adults	<b>Foraging</b> - assumed to occur wherever suitable forage is present[1]	[1] Hartford Courant September 30, 1994 ( <a href="http://articles.courant.com/1994-09-30/news/9409300111_1_sturgeon-on-fish-story-giant-fish">http://articles.courant.com/1994-09-30/news/9409300111_1_sturgeon-on-fish-story-giant-fish</a> )
Housatonic River (CT)	Up to the Derby Dam (RKM 23.5)	subadults and adults (potentially eggs, larvae, YOY, and juveniles)	<b>Spawning</b> - not documented; potentially occurs due to the presence of features necessary to support reproduction and recruitment[3] <b>Foraging</b> - assumed to occur wherever suitable forage is present[1][2]	[1] Whitworth 1996; [2] ASSRT 2007; [3] NMFS 2017
Long Island Sound (NY/CT)	All of Long Island Sound	subadults and adults	<b>Foraging</b> - where suitable forage is present; 85% of Atlantic sturgeon caught in Long Island Sound are over mud/transitional bottoms of 27-37 meters deep in the central basin[1]	[1] Savoy and Pacileo 2003
East River (NY)	full length of the East River	subadults and adults	<b>Migration</b> - subadults and adults have been documented using this waterbody to move between the Hudson River and western Long Island Sound[1][2] <b>Foraging</b> - assumed to occur wherever suitable forage is present, but forage is limited[1][2]	[1] Savoy and Pacileo 2003; [2] Tomicsek et al. 2014

<p>Hudson River (NY/NJ)</p>	<p>up to the Troy Dam (approximately RKM 246)</p>	<p>eggs, larvae, YOY, juveniles, subadults, and adults</p>	<p><b>Spawning</b> - late April through August[1][6], notably around Hyde Park (RKM 129-135) [4] and Catskill (RKM 182)[2], as well as throughout RKM 113-184[4]; evidence strongly suggests that there is also spawning further upstream of RKM 193[6]  <b>Rearing</b> - larvae and YOY - RKM 60-148[1][3]; remain upstream of the salt wedge[2]; juveniles - RKM 63-140[1][3]; utilize the estuary up through Kingston (RKM 148)[1]; Newburgh and Haverstraw Bays (RKM 55-61) are areas of known juvenile concentrations[5]  <b>Foraging</b> - assumed to occur wherever suitable forage is present  <b>Overwintering</b> - juveniles - RKM 19-74 from fall through winter[1]; some juveniles were recorded in Esopus Meadows (RKM 134)[3]</p>	<p>[1] Dovel and Berggren 1983; [2] Van Eenennaam et al. 1996; [3] Bain 1997; [4] Bain et al. 1998; [5] Sweka et al. 2006; [6] Dewayne Fox, DSU, and Kathy Hattala, NYDEC, personal communication April 2014</p>
<p>Delaware River (NJ/DE/PA)</p>	<p>Up to the fall line near Trenton, NJ (RKM 211)</p>	<p>eggs, larvae, YOY, juveniles, subadults, and adults</p>	<p><b>Spawning</b> - documented and/or potential spawning habitat in April through July from the Marcus Hook Bar to the fall line at Trenton, NJ (RKM 125-211)[2][3][5]  <b>Rearing</b> - YOY/juveniles - Deepwater to Roebing, NJ (RKM 105-199)[4] with most of the detections in the Marcus Hook Area (RKM 127-129)[7]  <b>Foraging</b> - where suitable forage and appropriate habitat conditions are present  <b>Overwintering</b> - juveniles - move between lower (RKM 100-150) and upper (RKM 185-199) tidal areas[6]; may overwinter in tidal fresh water[1]</p>	<p>[1] Lazzari et al. 1986; [2] Simpson and Fox 2006; [3] Simpson 2008; [4] Calvo et al. 2010; [5] Breece et al. 2013; [6] Stetzar et al. 2015; [7] Hale et al. 2016</p>
<p>C&amp;D Canal (DE/MD)</p>	<p>Used at least occasionally to move from Chesapeake Bay to the Delaware River</p>	<p>juveniles, subadults, and adults</p>	<p><b>Foraging</b> - Assumed to occur in areas with suitable forage [1][2]</p>	<p>[1] Simpson 2008; [2] Brundage and O'Herron 2009</p>
<p>Chesapeake Bay (MD/VA)</p>	<p>Throughout the bay typically in spring through fall</p>	<p>juveniles, subadults, and adults</p>	<p><b>Migration</b> - April-November for adults[5] and subadults[1]; year round for juveniles[2][3]; these lifestages wander among coastal and estuarine habitats[5]  <b>Foraging</b> - typically in areas where suitable forage and appropriate habitat conditions are present; typically tidally influenced flats and mud, sand and mixed cobble substrates[4]</p>	<p>[1] Dovel and Berggren 1983; [2] Secor et al. 2000; [3] Welsh et al. 2002; [4] Stein et al. 2004; [5] Horne and Stence 2016</p>
<p>Susquehanna River (MD)</p>	<p>Up to the Conowingo Dam (RKM 16)</p>	<p>subadults and adults (potentially eggs, larvae, YOY, and juveniles)</p>	<p><b>Foraging</b> - where suitable forage and appropriate habitat conditions are present [1]</p>	<p>[1] ASSRT 2007</p>

<p>Choptank River (MD)</p>	<p>Range not confirmed, but they have been documented in this river (likely up to the dam at RKM 102)</p>	<p>subadults and adults (potentially eggs, larvae, YOY, and juveniles)</p>	<p><b>Foraging</b> - where suitable forage and appropriate habitat conditions are present [2]  <b>Spawning</b> - not documented, but a gravid female was caught at the mouth of the river near Tilghman Island[1]</p>	<p>[1] The Baltimore Sun June 13, 2007 (<a href="http://articles.baltimoresun.com/2007-06-13/news/0706130110_1_sturgeon-chesapeake-bay-university-of-maryland">http://articles.baltimoresun.com/2007-06-13/news/0706130110_1_sturgeon-chesapeake-bay-university-of-maryland</a>); [2] ASSRT 2007</p>
<p>Nanticoke River, including Marshyhope Creek and Broad Creek tributaries (MD)</p>	<p>Range not confirmed, but they have been documented in the Nanticoke River up to the mouth of Broad Creek; they have also been found up to Federalsburg, MD in Marshyhope Creek and up to Laurel, DE in Broad Creek[2]</p>	<p>subadults and adults (potentially eggs, larvae, YOY, and juveniles)</p>	<p><b>Spawning</b> - potential for spawning due to the presence of features necessary to support reproduction and recruitment in one of its tributaries (in Marshyhope Creek, spawn ready adults have been captured)[2]  <b>Rearing</b> - may be used as a nursery for juveniles[1]  <b>Foraging</b> - assumed to occur wherever suitable forage is present[1]</p>	<p>[1] ASSRT 2007; [2] Horne and Stence 2016</p>
<p>Pocomoke River (MD)</p>	<p>To the limit of tidal influence where Whiton Crossing Road crosses the river</p>	<p>subadults and adults</p>	<p><b>Foraging</b> - assumed to occur wherever suitable forage is present[1]</p>	<p>[1] Horne and Stence 2016</p>
<p>Potomac River (MD/VA)</p>	<p>Up to Little Falls Dam (RKM 189)</p>	<p>juveniles, subadults, and adults (potentially eggs, larvae, and YOY)</p>	<p><b>Spawning</b> - potentially occurs as three small juveniles[3] and a large mature female[2] have been captured and due to the presence of features necessary to support reproduction and recruitment[1][2]  <b>Rearing</b> - three juveniles have been captured[3]  <b>Foraging</b> - where suitable forage and appropriate habitat conditions are present [2]</p>	<p>[1] Niklitschek and Secor 2005; [2] ASSRT 2007; [3] Kynard et al. 2007</p>
<p>Rappahannock River (VA)</p>	<p>Range not confirmed, but they have been documented in this river (likely throughout the entire river)</p>	<p>subadults and adults (potentially eggs, larvae, YOY, and juveniles)</p>	<p><b>Spawning</b> - potentially occurs due to the capture of a male sturgeon in spawning condition in September 2015 and the presence of features necessary to support reproduction and recruitment[1][3]  <b>Rearing</b> - may be used as a nursery for juveniles[2]  <b>Foraging</b> - where suitable forage and appropriate habitat conditions are present [2]</p>	<p>[1] Bushnoe et al. 2005; [2] ASSRT 2007; [3] NMFS 2016</p>

<p>York River, including Mattaponi and Pamunkey River tributaries (VA)</p>	<p>York River - up to confluence with the Mattaponi and Pamunkey Rivers (RKM 55); Pamunkey River - up to RKM 150; Mattaponi River - up to RKM 120</p>	<p>eggs, larvae, YOY, juveniles, subadults, and adults</p>	<p><b>Spawning</b> - potential for fall spawning due to the presence of features necessary to support reproduction in its tributaries (Mattaponi and Pamunkey Rivers) and recruitment in both the York River and its tributaries[1]; documented in the Pamunkey River through the capture of an adult female sturgeon in post-spawning condition in the fall and the presence of features necessary to support reproduction and recruitment[3]; may occur in the Pamunkey River as far upstream as RKM 150[4]  <b>Rearing</b> - in freshwater reaches downstream of spawning sites; four age-0 Atlantic sturgeon were captured in the York River[2]; Juveniles likely present throughout the river year-round  <b>Foraging</b> - where suitable forage and appropriate habitat conditions are present [1]</p>	<p>[1] Bushnoe et al. 2005; [2] Balazik et al. 2012; [3] Hager et al. 2014; [4] Kahn et al. 2014</p>
<p>James River (VA)</p>	<p>Up to Boshers Dam (RKM 182.3)</p>	<p>eggs, larvae, YOY, juveniles, subadults, and adults</p>	<p><b>Staging</b> - likely done by fall spawners, during summer and fall in brackish water before and after the fall spawn (RKM 22-107)[4]  <b>Spawning</b> - both a spring (likely at RKM 90-95)[4] and fall spawning event (likely between RKM 105 and the fall line near Richmond, VA at RKM 155)[3]  <b>Rearing</b> - freshwater reaches downstream of spawning locations[1][2]; Juveniles likely present throughout the river year-round  <b>Foraging</b> - where suitable forage and appropriate habitat conditions are present [2]</p>	<p>[1] Florida Museum of Natural History 2004; [2] ASSRT 2007; [3] Balazik et al. 2012; [4] Balazik and Musick 2015</p>
<p>Appomattox River (VA), tributary of the James River</p>	<p>Range not confirmed, but they have been documented in this river (likely up to Battersea Dam, RKM 21)</p>	<p>subadults and adults</p>	<p><b>Foraging</b> - where suitable forage and appropriate habitat conditions are present [1]</p>	<p>[1] The Hopewell News 2013</p>

**Listing rules:** 77 FR 5880 and 77 FR 5914, February 6, 2012; **Recovery plan:** none published

## Descriptions of Atlantic sturgeon life history stages

<b>Age Class</b>	<b>Size</b>	<b>Description</b>
<b>Eggs</b>		Fertilized or unfertilized
<b>Larvae</b>		Negative photo-taxis, nourished by yolk sac
<b>Young of Year (YOY)</b>	<b>0.3 grams &lt;41 cm total length</b>	Fish that are >3 months and <1 year old; capable of capturing and consuming live food
<b>Juveniles</b>	<b>&gt;41 cm and &lt;76 cm total length</b>	Fish that are at least 1 year old and are not sexually mature and do not make coastal migrations
<b>Subadults</b>	<b>&gt;76cm and &lt;150cm total length</b>	Fish that are not sexually mature, but make coastal migrations
<b>Adults</b>	<b>&gt;150 cm total length</b>	Fish that are sexually mature

## Westchester County Stream, Byram River Basin Flood Risk Management Study

### Endangered Species Act

### No Effect Determination

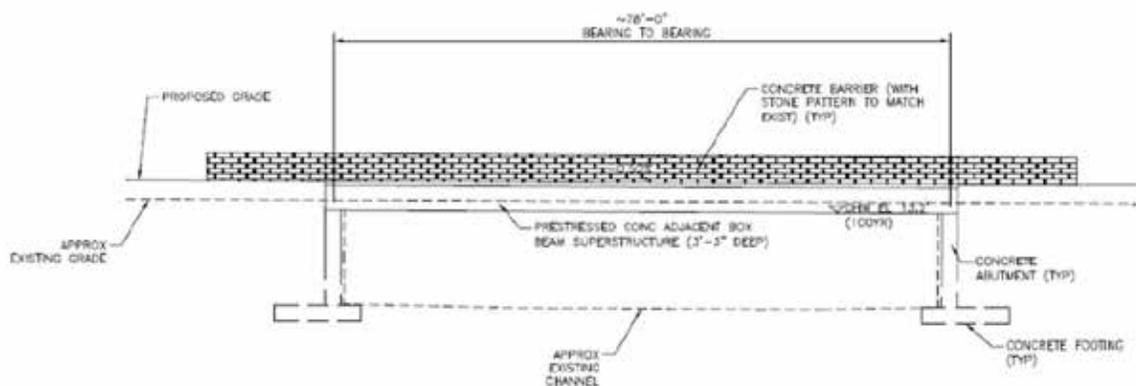
### Atlantic Sturgeon and Shortnose Sturgeon

Project Area. There are two bridges that carry Route 1 over the Byram River (the Route 1 bridges) that constrict water flow and induce flooding upstream. Storm events deposit large amounts of precipitation in the Byram River Basin, all of which must pass beneath the Route 1 bridges. These bridges were built in the 19<sup>th</sup> and early 20<sup>th</sup> centuries and are currently owned and operated by the New York State Department of Transportation. The Route 1 bridges have a low profile and a central pier that constrict water flow beneath them. The bridges serve as a bottleneck in the river, causing the water surface elevation to increase upstream of the bridges (Figure 2).

Proposed Federal Action. The Tentatively Selected Plan (TSP) for the Byram River project is comprised of the following (Figure 1):

- Removing the Route 1 bridges that straddle the Byram River in Port Chester, NY and replacing them at a higher elevation (above MHW) to allow more water to pass underneath.
- The bridges would be replaced with two bridges in the same location that have roadway profiles about three feet higher than the existing profile and do not have center piers.
- Minor channel improvements to remove accumulated sediment. The average depth in the project area is 1'6".

Figure 1. TSP Replacement Bridge Design.



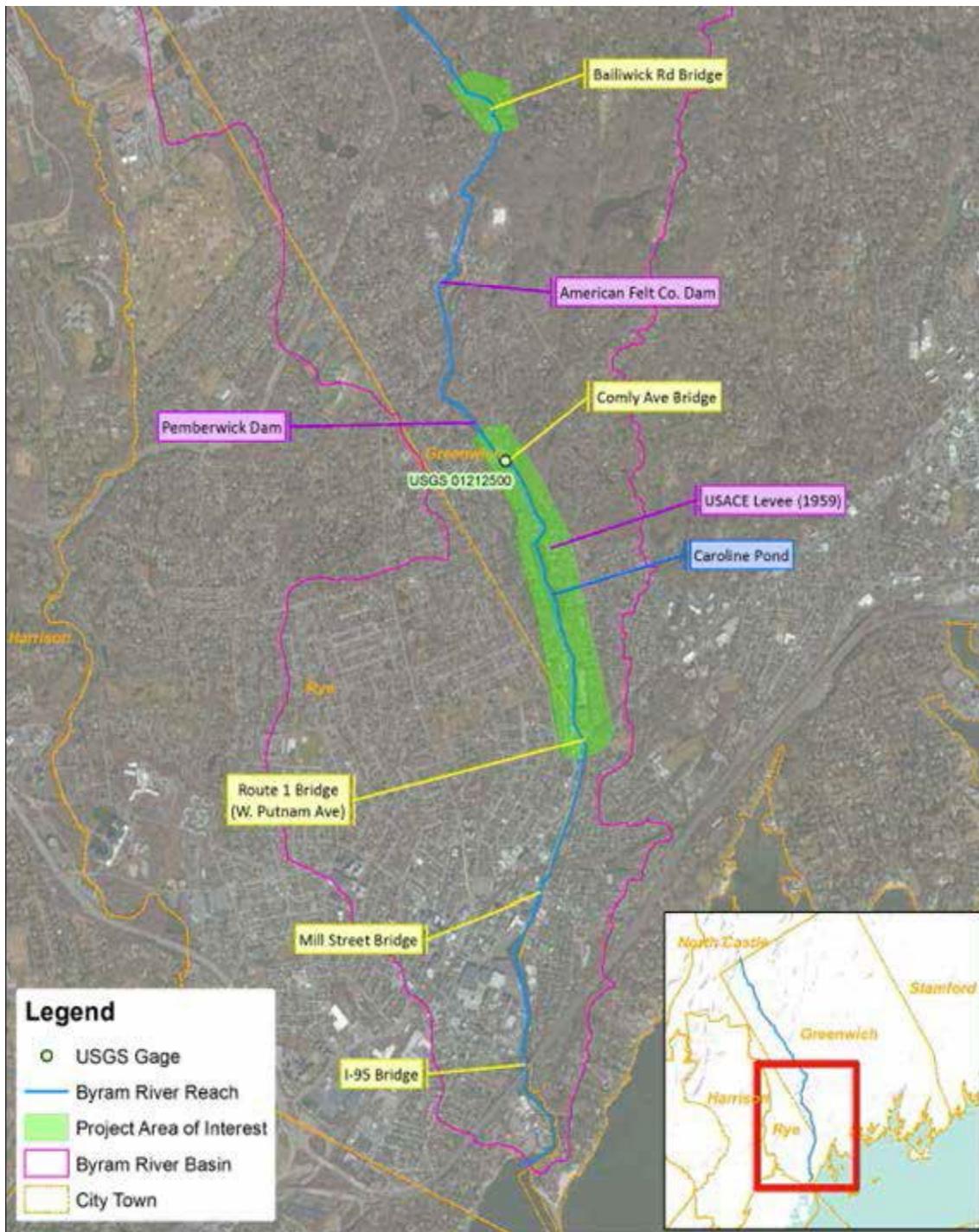


Figure 2. Project Area.

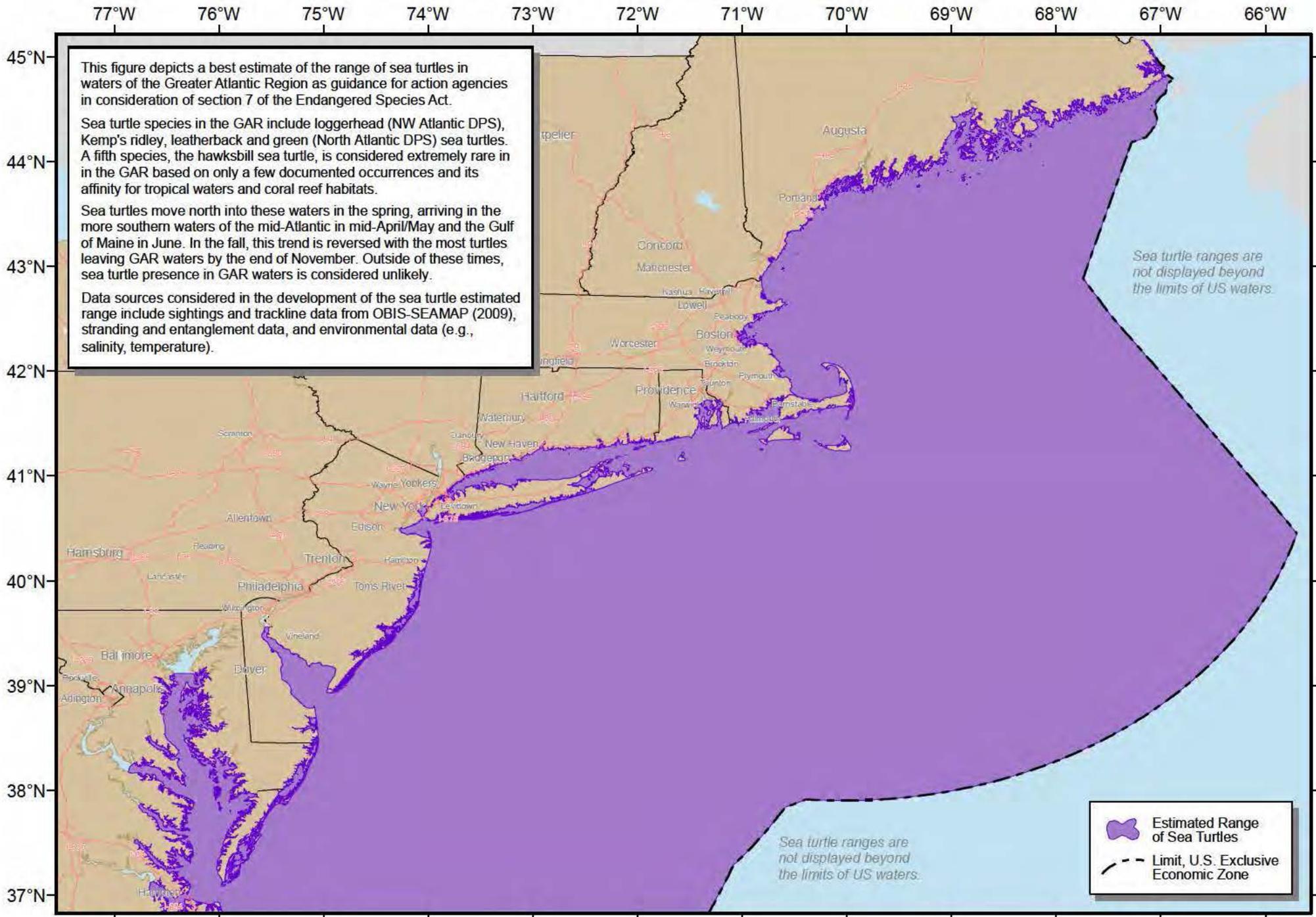
Effects Determination.

Stressor	Impact
Sound	NA due to use/deployment of inflatable coffer dam (no impacts to/within water column)
Habitat Structure and Disturbance	No Effect
Dredging	NA
Water Quality	No impact due to coffer dam utilization, and other BMPs to reduce turbidity
Prey Quantity/Quality	No Effect
Vessels	NA
In Water Structures	NA, removal of existing in-water structures as related to existing bridge abutments being removed from water column.

Discussion. The project area water depth is generally shallow at approximately 1'.6", and is not within a water body that has been identified as being utilized by sturgeon. The proposed Federal Action is to restore natural flow to the Byram River, so as to reduce flooding, by removing the existing two bridge abutments which are currently placed within the river banks and below MHW (i.e. footings) and elevating them approximately three (3) feet above the elevation of the current abutments, and removing the middle of the stream bridge abutment, entirely. Only land-based equipment will be used in an area that is entirely is confined within an inflatable coffer dam for a total construction duration of 30 days. Time of year restrictions (no work) from 1 January-30 June to protect anadromous fish will be implemented, and other best management practices (eg. silt/turbidity curtains) will also be deployed to reduce possible downstream effects.

Conclusion. USACE has determined that there will be No Effect to Atlantic or Shortnose Sturgeon as a result of implementing the Westchester County Stream, Byram River Flood Risk Management project, as currently proposed. If there are any changes to the project or within the action area that might result in adverse effects to protected species, USACE will undertake consultation with National Marine Fisheries Service (NMFS) as required By Section 7 of the Endangered Species Act.

# Estimated Range of Sea Turtles



### Action Agency NO EFFECT Determination

In order for an Action Agency to determine if any activities will have “no effect” on listed species and critical habitat in the action area, you must be able to make the determination for ALL species and critical habitat in the action area. If you determine that the action has no effect, there is no further Section 7 consultation with NMFS. You should document the “no effect” determination for your files in order to explain why you are not consulting with NMFS under ESA Section 7. Be sure to indicate which STRESSORS are relevant to the action under consideration. It is not necessary to notify NMFS or seek our concurrence with your no effect determination as we are not obligated to review it, concur with it, or otherwise provide comments on it.

**Project Name: Byram River Basin Flood Risk Management Feasibility Study**

#### PART ONE: STRESSORS ON LISTED SPECIES

Yes                      No

Sound: Appropriate determination if any of the following apply:

X

- **Species Not Present where effects are likely to occur**
- Sound intensity (dB) is < ambient noise
- Frequency (hertz[Hz]) outside hearing range of all listed species in action area

Habitat Structure & Disturbance: Appropriate determination if either of the following apply:

X

- **Species Not Present where effects are likely to occur**
- No change in water depth AND No change in substrate characteristics

Dredging: Appropriate determination if species are not present where effects are likely to occur

X

Water Quality: Appropriate determination if any of the following apply:

- **Species NOT Present where effects are likely to occur**
- No exposure to pollutants
- No change in water quality (temporary or permanent) including water current (speed/direction) and temperature

YES

NO

X

Prey Quantity / Quality: Appropriate determination if any of the following apply:

•**Species do not occur in area where prey is likely to be affected**

- Not an area used for foraging
- No change in the abundance, availability, accessibility or quality of prey and no loss of SAV or shellfish beds

Vessels: Appropriate determination if either of the following apply:

X

•**Species NOT present in area where vessels are transiting**

- No change in vessel traffic (volume, speed, travel route, etc.)

In-water structures including: Appropriate determination if listed species are NOT present in area affected by the gear aquaculture

## PART TWO: CRITICAL HABITAT

### ATLANTIC SALMON

If action area is within Atlantic salmon CH (see 50 CFR Sec. 226.217), review Atlantic salmon CH matrix to determine which essential features are present in the action area. Then, determine if any of the activities will have “no effect” on CH.

**NOT APPLICABLE**

Indicate which STRESSORS are relevant to the action under consideration.

Sound: Appropriate determination if either of the following apply:

- No Essential Features Present in area affected by sound
- Sound generated by activity has no effect on fish passage because either the sound intensity (dB) is < ambient noise or frequency (hertz[Hz]) outside hearing range (source is > 1000 Hz)

Habitat Structure & Disturbance: Appropriate determination if either of the following apply:

- No Essential Features Present in action area
- Activity results in no change in substrate characteristics, depth, velocity and no change in the availability of cover or ability of a fish to pass through the action area

Dredging: Appropriate only if no Essential Features Present in action area

Water Quality: Appropriate determination if any of the following apply:

- No Essential Features Present in area where water quality will be affected
- No change in temperature, DO or pH

In-Water Structures: Appropriate only if no Essential Features Present in action area (Including aquaculture)

Prey Quantity / Quality: Appropriate if any of the following apply:

- No Essential Features Present
- Not an area used for foraging
- No change in the abundance, availability, accessibility or quality of prey

Native Fish Composition: Appropriate determination if the following applies:

- No change in native fish community (i.e., no change in the abundance of native fish community, the accessibility of the habitat in the action area to them, or the ability of that habitat to support them)

NORTH ATLANTIC RIGHT WHALES

**NOT APPLICABLE**

If action area is within North Atlantic Right Whale Critical Habitat (CH) (see 81 FR 4838, January 27, 2016) determine if any aspects of the action have “no effect” on the physical or biological features of CH.

The activity is only eligible for the expedited LOC program if the action area does not overlap at all with right whale CH or, if there is overlap, you have not identified any routes of effects/stressors that may affect the physical or biological features of RW CH (i.e., you can make a “no effect” determination for RW CH).

Size and Density of adult copepod patches: Appropriate determination if all of the following apply:

- No direct or indirect removal of copepods
- No increase in temperature in action area above 21°C
- Proposed activity has no direct or indirect effect on the abundance, distribution, quality and availability of copepod patches

Physical and Oceanographic Features that aggregate copepods

- Appropriate determination if the activity under consideration will have no effect on:
  - currents and circulation patterns
  - bathymetric features (basins, banks, and channels), oceanic fronts
  - density gradients
  - temperature regimes in any part of the designation within the Gulf of Maine

**Based upon USACE, New York District, Planning Division review of protected species that may utilize the affected area and analyses of the stressors that could adversely affect those species, it is the Action Agency’s Determination that the proposed Federal Action will result in NO EFFECT.**

**Peter Wepler, Chief, Environmental Analysis Branch**

---