

Westchester County Streams, Byram River Basin,
Flood Risk Management Feasibility Study
Fairfield County, Connecticut and Westchester County,
New York

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



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.



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.

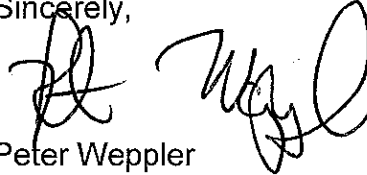
The project involves the removal and replacement of the Route 1 bridge decks within the Byram Circle in the Town of Greenwich and the Village of Port Chester. Approximately 0.13 acres of mature riparian and upland vegetation will be removed as part of construction.

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,

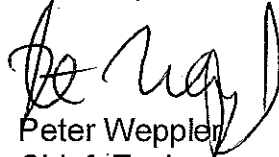
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Peter Weppeler
Chief, Environmental Analysis Branch

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 Weppeler', is written over the printed name.

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). 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 Fisheries¹, 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: https://ecos.fws.gov/ecp/species/9045 | 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 Fisheries¹, 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 | |
|---|--|
| Atlantic Salmon (<i>Salmo salar</i>) (Gulf of Maine DPS) | |
| <p>Year listed: 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>Status: Endangered</p> <p>General distribution: The distribution of endangered Atlantic salmon extends from the Androscoggin River in South Western Maine to the Dennys River in Eastern Maine.</p> <p>Critical habitat in GAR: 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 https://www.greateratlantic.fisheries.noaa.gov/protected/atlsalmon/</p> <p>Additional Information: For additional distribution information, select references, and other relevant information, please visit https://www.greateratlantic.fisheries.noaa.gov/protected/atlsalmon/ and http://www.fisheries.noaa.gov/pr/species/fish/atlantic-salmon.html</p> | |
| Shortnose Sturgeon (<i>Acipenser brevirostrum</i>) | |
| <p>Year listed: 1967</p> <p>Status: Endangered</p> <p>General distribution: 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>Critical habitat in GAR: None</p> <p>Additional Information: For additional distribution information, select references, and other relevant information, please visit https://www.greateratlantic.fisheries.noaa.gov/protected/snsturgeon/index.html and http://www.nmfs.noaa.gov/pr/species/fish/shortnose-sturgeon.html</p> | |
| Atlantic Sturgeon (<i>Acipenser oxyrinchus oxyrinchus</i>) | |
| <p>Year listed: 2012 (Effective April 6, 2012)</p> <p>Status: 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>General distribution: 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>Critical habitat in the GAR: Proposed in select rivers from Maine through Virginia: Please visit: https://www.greateratlantic.fisheries.noaa.gov/protected/atlsturgeon/docs/maps_proposed_ch_for_gom_nyb_cb_dpss.pdf</p> <p>Additional Information: For additional distribution information, select references, and other relevant information, please visit https://www.greateratlantic.fisheries.noaa.gov/protected/atlsturgeon/index.html and http://www.fisheries.noaa.gov/pr/species/fish/atlantic-sturgeon.html</p> | |
| MARINE MAMMALS | |
| Blue Whale (<i>Balaenoptera musculus musculus</i>) | |
| <p>Year listed: 1970</p> <p>Status: Endangered</p> <p>General distribution: 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>Critical habitat in GAR: None</p> <p>Additional Information: For additional distribution information, select references, and other relevant information, please visit http://www.fisheries.noaa.gov/pr/species/mammals/whales/blue-whale.html and http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2010whbl-wn.pdf</p> | |
| Fin Whale (<i>Balaenoptera physalus</i>) | |
| <p>Year listed: 1970</p> <p>Status: Endangered</p> <p>General distribution: 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>Critical habitat in GAR: None</p> <p>Additional Information: For additional distribution information, select references, and other relevant information, please visit http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/finwhale.htm and http://www.nmfs.noaa.gov/pr/sars/pdf/stocks/atlantic/2015/f2015_finwhale.pdf</p> | |
| North Atlantic Right Whale (<i>Eubalaena glacialis</i>) | |
| <p>Year listed: 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>Status: Endangered</p> <p>General distribution: 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>Critical habitat in GAR: Expanded to include the Gulf of Maine and Georges Bank. Please see: http://www.fisheries.noaa.gov/pr/species/critical%20habitat%20files/ne_narw_ch.pdf</p> <p>Additional Information: For additional distribution information, select references, and other relevant information, please visit http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/rightwhale_northatlantic.htm and http://www.nmfs.noaa.gov/pr/sars/pdf/stocks/atlantic/2015/f2015_rightwhale.pdf</p> | |

| Sei Whale (<i>Balaenoptera borealis</i>) |
|--|
| <p>Year listed: 1970</p> <p>Status: Endangered</p> <p>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).</p> <p>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).</p> <p>Critical habitat in GAR: None</p> <p>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</p> |
| Sperm Whale (<i>Physeter macrocephalus</i>) |
| <p>Year listed: 1970</p> <p>Status: Endangered</p> <p>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.</p> <p>Critical habitat in GAR: None</p> <p>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</p> |
| SEA TURTLES |
| <p>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/</p> |
| Green Sea Turtle (<i>Chelonia mydas</i>) |
| <p>Year listed: 1978: Eleven Distinct Population Segments (DPSs) designated in 2016</p> <p>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.</p> <p>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.</p> <p>Critical habitat in GAR: None</p> <p>Additional Information: http://www.nmfs.noaa.gov/pr/species/turtles/green.html</p> |
| Hawksbill Turtle (<i>Eretmochelys imbricata</i>) |
| <p>Year listed: 1970</p> <p>Status: Endangered</p> <p>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.</p> <p>Critical habitat in GAR: None</p> <p>Additional Information: http://www.nmfs.noaa.gov/pr/species/turtles/hawksbill.html</p> |
| Kemp's Ridley Turtle (<i>Lepidochelys kempii</i>) |
| <p>Year listed: 1970</p> <p>Status: Endangered</p> <p>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.</p> <p>Critical habitat in GAR: None</p> <p>Additional Information: http://www.nmfs.noaa.gov/pr/species/turtles/kempsidley.html</p> |
| Leatherback Turtle (<i>Dermochelys coriacea</i>) |
| <p>Year listed: 1970</p> <p>Status: Endangered</p> <p>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.</p> <p>Critical habitat in GAR: None</p> <p>Additional Information: http://www.nmfs.noaa.gov/pr/species/turtles/leatherback.html</p> |
| Loggerhead Turtle (<i>Caretta caretta</i>) |
| <p>Year listed: 1978: Nine Distinct Population Segments (DPSs) designated in 2011</p> <p>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.</p> <p>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.</p> <p>Critical habitat in GAR: <i>Sargassum</i> critical habitat in offshore waters associated with the Gulf Stream current off Maryland and Virginia.</p> <p>Additional Information: http://www.nmfs.noaa.gov/pr/species/turtles/loggerhead.html and http://www.nmfs.noaa.gov/pr/species/turtles/criticalhabitat_loggerhead.htm</p> |

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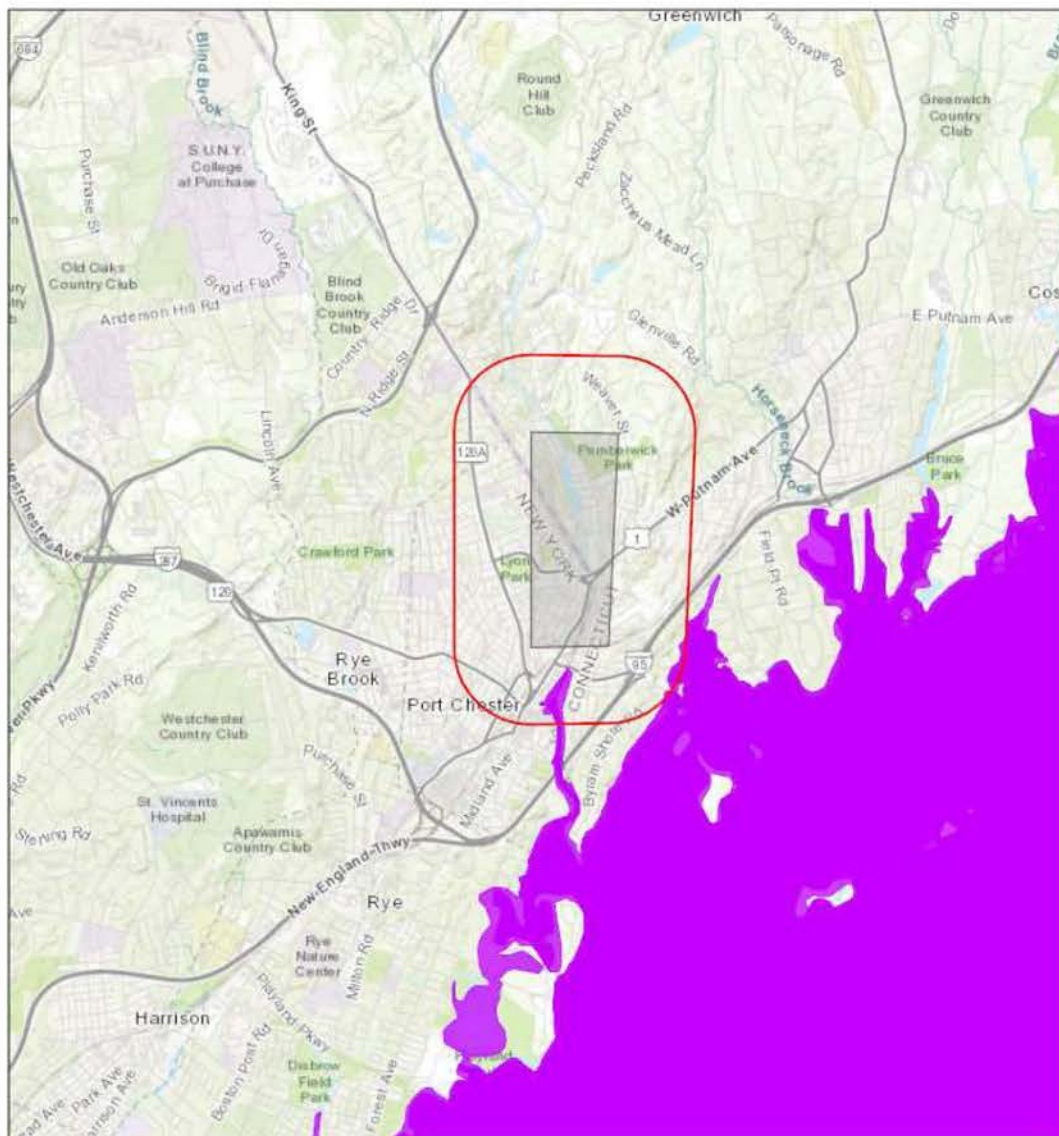


Drawn Action Area & overlapping S7 Consultation Areas

Area of Interest (AOI) Information

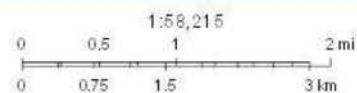
Area : 2,204.04 acres

Apr 20 2018 21:46:37 Eastern Daylight Time



April 21, 2018

- 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

Byram River Flood Risk Management Study. Project involves removal and replacement of the Route 1 bridge decks.

Summary

| Name | Count | Area(acres) | Length(mi) |
|-----------------------------|-------|-------------|------------|
| Atlantic Sturgeon | 4 | 80.74 | N/A |
| Shortnose Sturgeon | 2 | 40.37 | N/A |
| Atlantic Salmon | 0 | 0 | N/A |
| Sea Turtles | 4 | 74.16 | 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 | 20.19 |
| 2 | 01/01 | 12/31 | N/A | N/A | 20.19 |
| 3 | 01/01 | 12/31 | N/A | N/A | 20.19 |
| 4 | 01/01 | 12/31 | N/A | N/A | 20.19 |

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 | 20.19 |
| 2 | 04/01 | 11/30 | N/A | N/A | 20.19 |

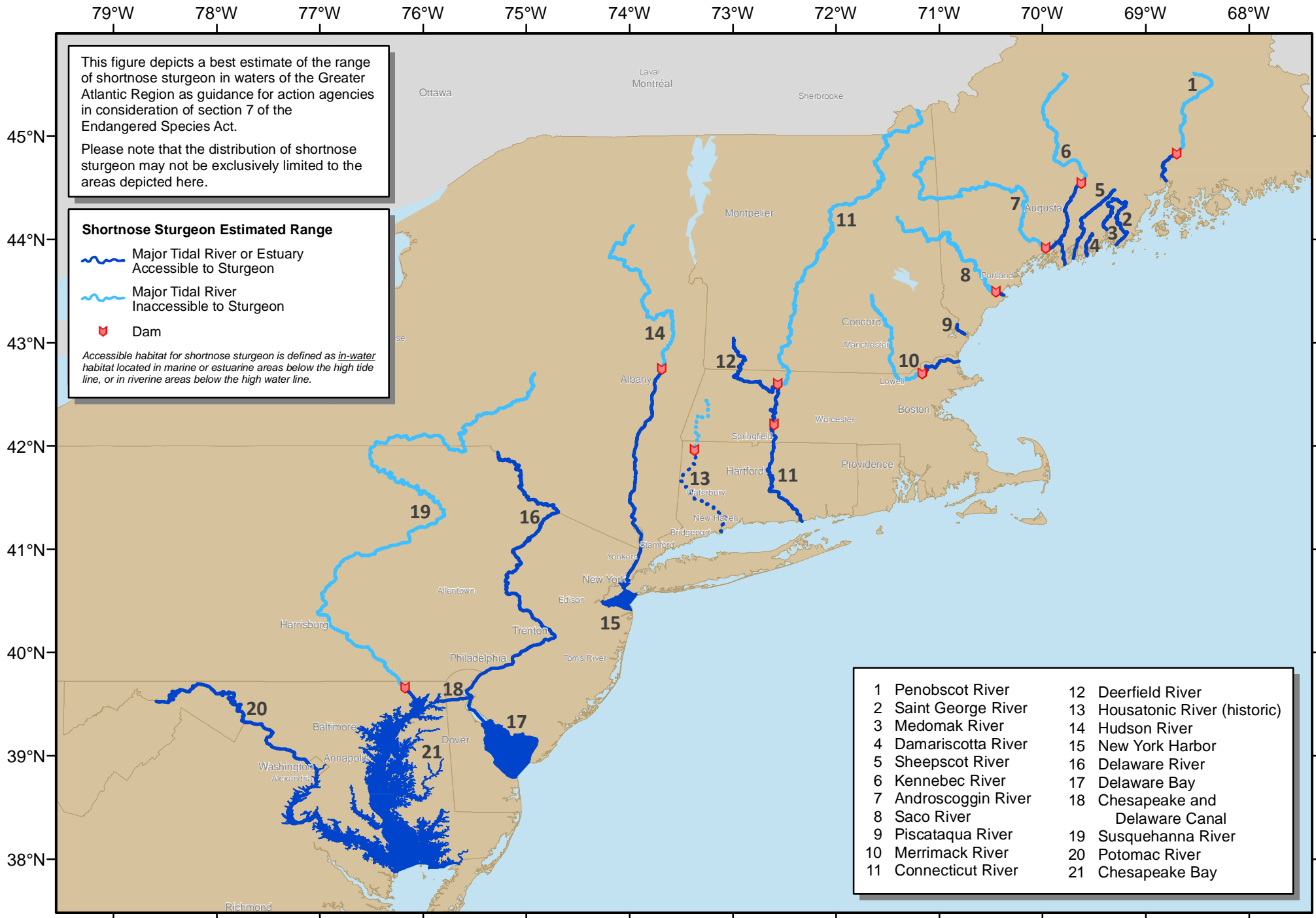
Sea Turtles

| # | 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> | 18.54 |
| 2 | 5/1 | 11/30 | <i>No Data</i> | <i>No Data</i> | 18.54 |
| 3 | 5/1 | 11/30 | <i>No Data</i> | <i>No Data</i> | 18.54 |
| 4 | 5/1 | 11/30 | <i>No Data</i> | <i>No Data</i> | 18.54 |

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.

Estimated Range of Shortnose Sturgeon



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)

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 | Foraging - 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 | Spawning - Not documented to date; suitable spawning habitat is accessible[3] Foraging - 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] Overwintering - 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 | Foraging - 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 | Foraging - 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 | Foraging - 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 |
| Sheepscot River (ME) | Up to Head Tide Dam (RKM 35) | adults | Foraging - Montsweag Bay during the summer [1] Overwintering - Suspected to occur in the estuary[2] | [1] Fried and McCleave 1973; [2] SSSRT 2010 |

| | | | | |
|-------------------------|---|--|--|--|
| 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>Spawning - 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>Rearing - Eggs and larvae occur in freshwater reaches below the spawning sites[8]</p> <p>Foraging - 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>Overwintering - 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>Spawning - Below Brunswick Dam to the Rt. 201 Bridge(RKM 7.7-8.4)[2]</p> <p>Rearing - Eggs and larvae occur in freshwater reaches below the spawning sites[3]</p> <p>Foraging - 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 | Foraging - May be used for foraging[1] | [1] Yoder et al. 2009 |
| Saco River (ME) | Up to Cataract Dam (RKM 10) | adults | Foraging - Used seasonally May-November[1] | [1] Little et al. 2013 |
| Piscataqua River (NH) | Entirety of Piscataqua River including Cocheco River from its confluence with Piscataqua River upstream to Cocheco Falls Dam and waters of Salmon Falls River from its confluence with Piscataqua River upstream to the Route 4 Dam | adults | Foraging - 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 |
| Merrimack River (MA) | Up to Essex Dam (RKM 46) | eggs, larvae, YOY, juveniles, and adults | <p>Spawning - Near Haverhill[2] (RKM 30-32)</p> <p>Rearing - 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>Foraging - Lower river with concentrations near Amesbury and the lower islands[1][3] (RKM 6-24)</p> <p>Overwintering - 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 | Foraging - 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 | Foraging - Assumed to occur where suitable forage is present[1] | [1] The Day June 17, 2016 (http://www.theday.com/article/20160617/NWS01/160619212) |
| Connecticut River (CT/MA) | Up to Turners Falls Dam, MA (RKM 198) | eggs, larvae, YOY, juveniles, and adults | <p>Spawning - 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>Rearing - 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>Foraging - 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>Overwintering - 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> | <p>[1] Buckley and Kynard 1983;</p> <p>[2] Buckley and Kynard 1985;</p> <p>[3] Kynard et al. 2012</p> |
| 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>Rearing - Water flow could potentially draw migrating larvae into unfavorable habitat in the Deerfield River[1]; potential refuge area during high flows[2]</p> <p>Foraging - Spring through fall in lower river[2] (RKM 0-3.5)</p> <p>Overwintering - May be used as an overwintering area potential pre-spawning staging area for adults[1]</p> | <p>[1] Kieffer and Kynard 1992;</p> <p>[2] Kynard et al. 2012</p> |
| Westfield River (MA), tributary of the Connecticut River | Up to DSI Dam (RKM 9.5) | adults | Foraging - 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 | Foraging - Assumed to occur where suitable forage is present[1] | [1] Hartford Courant September 30, 1994 (http://articles.courant.com/1994-09-30/news/9409300111_1_sturgeon-fish-story-giant-fish) |

| | | | | |
|---------------------------|--|---|--|---|
| Housatonic River (CT) | Up to Derby Dam (RKM 23.5) | adults | Spawning - Historical spawning occurred above the Derby Dam, none known to occur currently[1] Foraging - 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 | Foraging - 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 | Foraging - Potentially occurs where suitable forage is present[1] | [1] Savoy 2004 in SSSRT 2010 |
| Hudson River (NY/NJ) | Up to Troy Dam, NY (approximately RKM 246) | eggs, larvae, YOY, juveniles, and adults | Spawning - 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) Rearing - Eggs on the spawning grounds; larvae downstream to at least RKM 104; YOY downstream to at least RKM 64[1] Foraging - Throughout the Hudson River[3] (RKM 38-166) with concentrations in Haverstraw Bay[1] (RKM 56-64) Overwintering - 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) | [1] Dovel et al. 1992; [2] Geoghegan et al. 1992; [3] Bain 1997 |

| | | | | |
|--|---|--|--|--|
| Delaware River and Bay (NJ/DE/PA) | Up to Lambertville, PA (RKM 240) | eggs, larvae, YOY, juveniles, and adults | <p>Spawning - Documented from late March through late May; water temperatures 6-18°C; between Trenton and Lambertville[6] (RKM 214-238)</p> <p>Rearing - 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>Foraging - Throughout the river, between the vicinity of Trenton south to Artificial Island[7] (RKM 79)</p> <p>Overwintering - 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 | Foraging - Potentially occurs where suitable forage is present[1] | [1] Philadelphia Water Department November 7, 2014 (http://www.phillywatersheds.org/endangered-shortnose-sturgeon-returns-schuylkill) |
| C&D Canal (DE/MD) | Used at least occasionally to move from Chesapeake Bay to the Delaware River | adults | Foraging - Assumed to occur in areas with suitable forage[1] | [1] Welsh et al. 2002 |
| Chesapeake Bay (MD/VA) | Maryland waters of mainstem bay and tidal tributaries listed below; documented modern use of Virginia waters limited to one individual captured in 2016 | adults documented; other life stages assumed but unknown | Foraging, Resting, and Overwintering - Assumed to occur in areas with suitable forage [1] | [1] SSSRT 2010 |
| Susquehanna River (MD) | Up to Conowingo Dam (RKM 16) | adults documented; other life stages assumed but unknown | <p>Spawning - Historically occurred; currently unknown as suitability of habitat is likely impacted by dam operations[1]</p> <p>Foraging - Assumed to occur in areas with suitable forage[2]</p> <p>Overwintering - 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 |

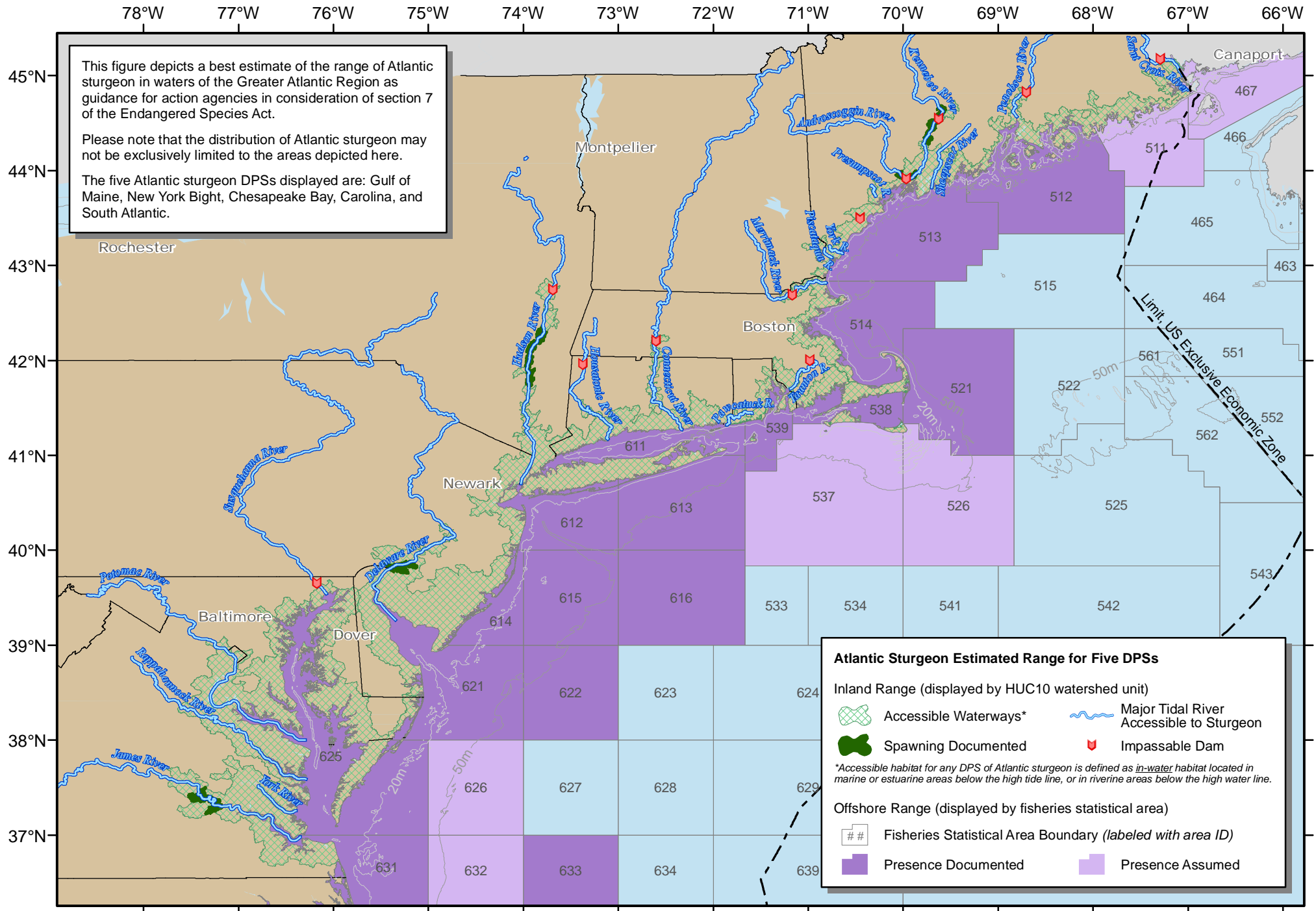
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|-------------------------|---|--|--|--|
| Potomac River (MD/VA) | Up to Little Falls Dam (RKM 189) | adults documented; other life stages assumed but unknown | <p>Spawning - Historically occurred; current spawning not documented but assumed based on presence of pre-spawning females and suitable habitat at RKM 185-187[1]</p> <p>Rearing - Eggs expected at RKM 185-187, larvae would be present downstream in freshwater[1]</p> <p>Foraging - Mainly in the deepwater channel from RKM 63-141[1][2]</p> <p>Overwintering - 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 | Foraging - Potentially occurs where suitable forage is present; one was captured in May 1998[1] | [1] Spells 1998 |
| James River (VA) | Range not confirmed, but likely up to Boshers Dam (RKM 182.3) | adults | Foraging - Potentially occurs where suitable forage is present; a sturgeon, possibly from the Potomac or Delaware River, was captured on March 13, 2016, in the freshwater portion at RKM 48[1] | [1] Balazik 2017 |

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

Descriptions of shortnose sturgeon life history stages

| Stage | Size (mm) | Duration | Behaviors/Habitat Used |
|----------------------|--|-------------------------------------|---|
| 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)

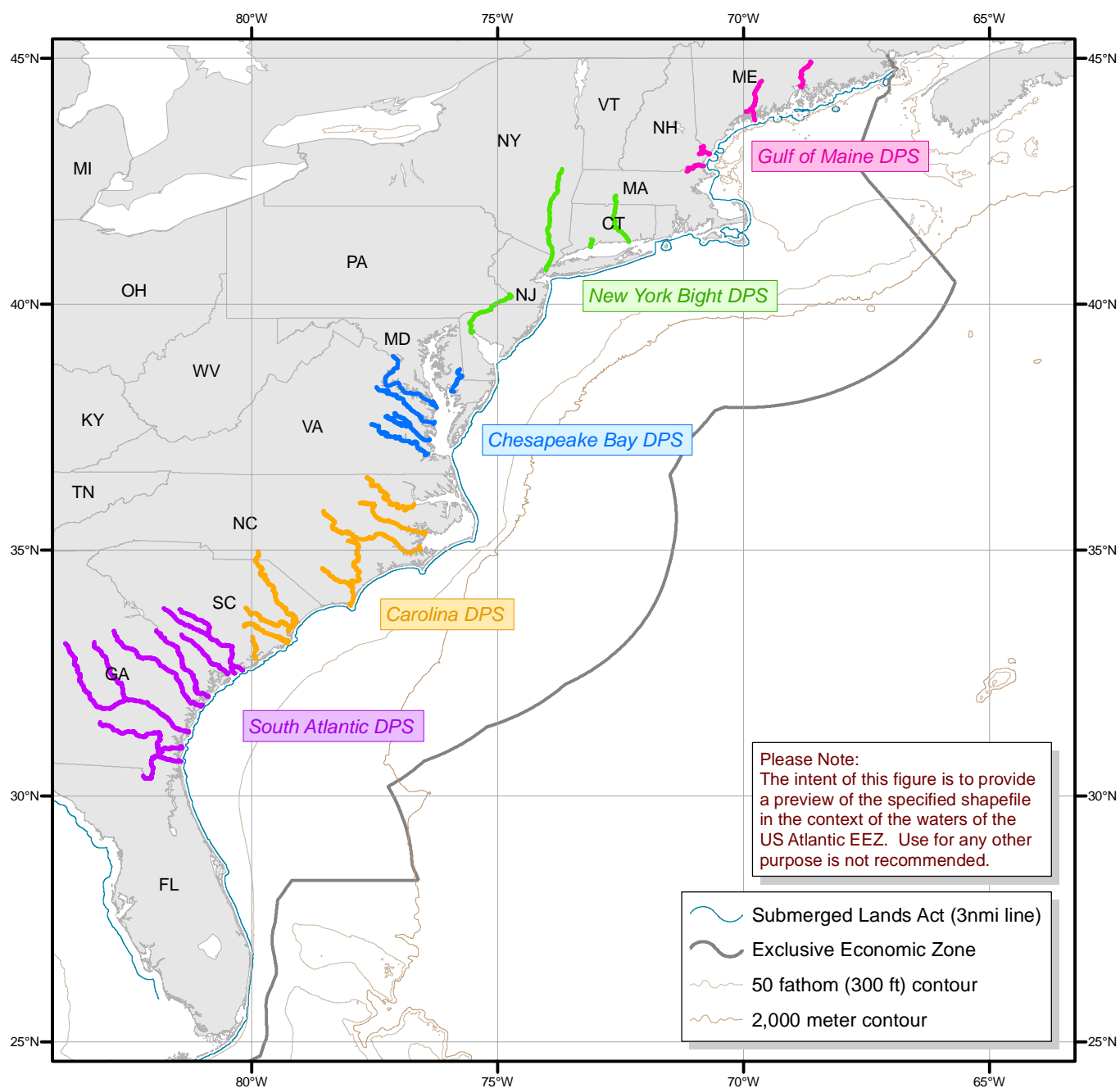


Shapefile: Atlantic_Sturgeon_Critical_Habitat_River_Lengths.shp

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/.

- 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 life stages 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 | Foraging - 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) | Spawning - undocumented, but 12 km of suitable spawning habitat is accessible[2] Foraging - wherever suitable forage is present, documented in the lower river (RKM 21-24.5)[1] | [1] Fernandes et al. 2010; [2] Wippelhauser et al. 2017 |
| Damariscotta River (ME) | Up to Damariscotta Lake Dam (RKM 30.3) | subadults and adults | Foraging - 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 | Foraging - 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 | Spawning - 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] Rearing - ELS have been documented near the spawning grounds[4]; juveniles have also been documented in the river[3] Foraging - 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] Wippelhauser 2011; [2] Wippelhauser 2012; [3] Wippelhauser and Squiers 2015; [4] Wippelhauser et al. 2017 |

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| Androscoggin River (ME) | Up to the Brunswick Dam (RKM 8.4) | eggs, larvae, YOY, juveniles, subadults, and adults | Spawning - 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 Foraging - 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 | Foraging - 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 | Foraging - 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 | Foraging - 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) | Spawning - 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] Foraging - 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) | Spawning - potentially occurs due to the presence of features necessary to support reproduction and recruitment[4] Rearing - data suggests it is used as a nursery area[3] Foraging - 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 | Foraging - assumed to occur wherever suitable forage is present[1] | [1] Boston.com February 20, 2012 (http://archive.boston.com/news/science/articles/2012/02/20/from_depths_of_the_charles_an_ancient_species/) |
| North River (MA) | Up to Dam #1 on the Indian Head Reservoir at Luddam's Ford (RKM 21) | subadults and adults | Foraging - 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 (http://www.patriotledger.com/article/20120601/NEWS/306019786) |
| Taunton River (MA) | Up to the convergence of the Town River and Matfield River | subadults and adults | Foraging - 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 | Foraging - assumed to occur wherever suitable forage is present[1] | [1] ASSRT 2007 |

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| 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 | Foraging - assumed to occur wherever suitable forage is present[1][2][3] | [1] Whitworth 1996; [2] ASSRT 2007; [3] The Day June 17, 2016 (http://www.theday.com/article/20160617/NWS01/160619212) |
| 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 | Spawning - captures of pre-migratory juvenile sturgeon in the river strongly suggests that spawning is occurring in this river[3] Foraging - 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 | Foraging - assumed to occur wherever suitable forage is present[1] | [1] Hartford Courant September 30, 1994 (http://articles.courant.com/1994-09-30/news/9409300111_1_sturgeon-on-fish-story-giant-fish) |
| Housatonic River (CT) | Up to the Derby Dam (RKM 23.5) | subadults and adults (potentially eggs, larvae, YOY, and juveniles) | Spawning - not documented; potentially occurs due to the presence of features necessary to support reproduction and recruitment[3] Foraging - 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 | Foraging - 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 | Migration - subadults and adults have been documented using this waterbody to move between the Hudson River and western Long Island Sound[1][2] Foraging - assumed to occur wherever suitable forage is present, but forage is limited[1][2] | [1] Savoy and Pacileo 2003; [2] Tomich et al. 2014 |

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| Hudson River (NY/NJ) | up to the Troy Dam (approximately RKM 246) | eggs, larvae, YOY, juveniles, subadults, and adults | <p>Spawning - 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]</p> <p>Rearing - 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]</p> <p>Foraging - assumed to occur wherever suitable forage is present</p> <p>Overwintering - juveniles - RKM 19-74 from fall through winter[1]; some juveniles were recorded in Esopus Meadows (RKM 134)[3]</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 |
| Delaware River (NJ/DE/PA) | Up to the fall line near Trenton, NJ (RKM 211) | eggs, larvae, YOY, juveniles, subadults, and adults | <p>Spawning - 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]</p> <p>Rearing - YOY/juveniles - Deepwater to Roebing, NJ (RKM 105-199)[4] with most of the detections in the Marcus Hook Area (RKM 127-129)[7]</p> <p>Foraging - where suitable forage and appropriate habitat conditions are present</p> <p>Overwintering - juveniles - move between lower (RKM 100-150) and upper (RKM 185-199) tidal areas[6]; may overwinter in tidal fresh water[1]</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 |
| C&D Canal (DE/MD) | Used at least occasionally to move from Chesapeake Bay to the Delaware River | juveniles, subadults, and adults | Foraging - Assumed to occur in areas with suitable forage [1][2] | [1] Simpson 2008; [2] Brundage and O'Herron 2009 |
| Chesapeake Bay (MD/VA) | Throughout the bay typically in spring through fall | juveniles, subadults, and adults | <p>Migration - April-November for adults[5] and subadults[1]; year round for juveniles[2] [3]; these lifestages wander among coastal and estuarine habitats[5]</p> <p>Foraging - 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> | [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 |
| Susquehanna River (MD) | Up to the Conowingo Dam (RKM 16) | subadults and adults (potentially eggs, larvae, YOY, and juveniles) | Foraging - where suitable forage and appropriate habitat conditions are present [1] | [1] ASSRT 2007 |

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| Choptank River (MD) | Range not confirmed, but they have been documented in this river (likely up to the dam at RKM 102) | subadults and adults (potentially eggs, larvae, YOY, and juveniles) | Foraging - where suitable forage and appropriate habitat conditions are present [2] Spawning - not documented, but a gravid female was caught at the mouth of the river near Tilghman Island[1] | [1] The Baltimore Sun June 13, 2007 (http://articles.baltimoresun.com/2007-06-13/news/0706130110_1_sturgeon-chesapeake-bay-university-of-maryland); [2] ASSRT 2007 |
| Nanticoke River, including Marshyhope Creek and Broad Creek tributaries (MD) | 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] | subadults and adults (potentially eggs, larvae, YOY, and juveniles) | Spawning - 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] Rearing - may be used as a nursery[1] Foraging - assumed to occur wherever suitable forage is present[1] | [1] ASSRT 2007; [2] Horne and Stence 2016 |
| Pocomoke River (MD) | To the limit of tidal influence where Whiton Crossing Road crosses the river | subadults and adults | Foraging - assumed to occur wherever suitable forage is present[1] | [1] Horne and Stence 2016 |
| Potomac River (MD/VA) | Up to Little Falls Dam (RKM 189) | juveniles, subadults, and adults (potentially eggs, larvae, and YOY) | Spawning - 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] Rearing - three juveniles have been captured[3] Foraging - where suitable forage and appropriate habitat conditions are present [2] | [1] Niklitschek and Secor 2005; [2] ASSRT 2007; [3] Kynard et al. 2007 |
| Rappahannock River (VA) | Range not confirmed, but they have been documented in this river (likely throughout the entire river) | subadults and adults (potentially eggs, larvae, YOY, and juveniles) | Spawning - 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] Rearing - may be used as a nursery[2] Foraging - where suitable forage and appropriate habitat conditions are present [2] | [1] Bushnoe et al. 2005; [2] ASSRT 2007; [3] NMFS 2016 |

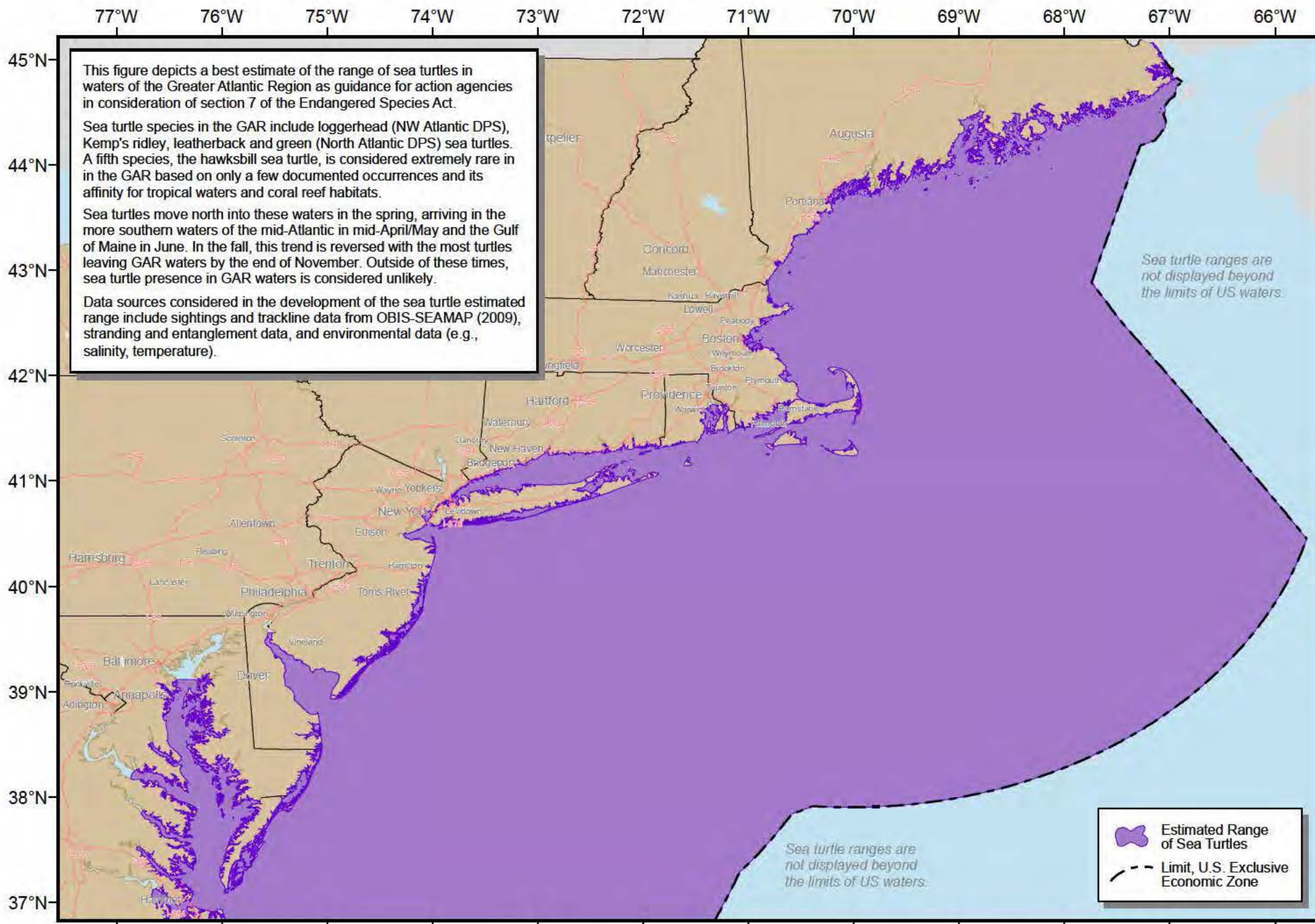
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| York River, including Mattaponi and Pamunkey River tributaries (VA) | York River - up to confluence with the Mattaponi and Pamunkey Rivers (RKM 55); Pamunkey River - up to RKM 150; Mattaponi River - up to RKM 120 | eggs, larvae, YOY, juveniles, subadults, and adults | <p>Spawning - 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]</p> <p>Rearing - in freshwater reaches downstream of spawning sites; four age-0 Atlantic sturgeon were captured in the York River[2]</p> <p>Foraging - where suitable forage and appropriate habitat conditions are present [1]</p> | [1] Bushnoe et al. 2005; [2] Balaz k et al. 2012; [3] Hager et al. 2014; [4] Kahn et al. 2014 |
| James River (VA) | Up to Boshers Dam (RKM 182.3) | eggs, larvae, YOY, juveniles, subadults, and adults | <p>Staging - likely done by fall spawners, during summer and fall in brackish water before and after the fall spawn (RKM 22-107)[4]</p> <p>Spawning - 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]</p> <p>Rearing - freshwater reaches downstream of spawning locations[1][2]</p> <p>Foraging - where suitable forage and appropriate habitat conditions are present [2]</p> | [1] Florida Museum of Natural History 2004; [2] ASSRT 2007; [3] Balazik et al. 2012; [4] Balaz k and Musick 2015 |
| Appomattox River (VA), tributary of the James River | Range not confirmed, but they have been documented in this river (likely up to Battersea Dam, RKM 21) | subadults and adults | <p>Foraging - where suitable forage and appropriate habitat conditions are present [1]</p> | [1] The Hopewell News 2013 |

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

Descriptions of Atlantic sturgeon life history stages

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

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 Weppler, Chief, Environmental Analysis Branch
