

# **Critical Habitat for Atlantic Sturgeon**

Presentation to Federal Agency Partners

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Julie Crocker

NMFS GAR Protected Resources

# **This Presentation will provide an overview of:**

- ✓ What is Critical Habitat
- ✓ Why Does NMFS designate Critical Habitat
- ✓ Getting from the Proposed Rule to Final Rule
- ✓ What is in the Final Rule
- ✓ What does it mean for you

# Why do we designate Critical Habitat?

Section 4 of the ESA:

The Secretary, by regulation promulgated in accordance with subsection (b) and to the maximum extent prudent and determinable— (i) shall, concurrently with making a determination under paragraph (1) that a species is an endangered species or a threatened species, designate any habitat of such species which is then considered to be critical habitat;

# What is Critical Habitat?

...the habitat essential for the species recovery...

Critical habitat is: (1) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the ESA, on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protections; and (2) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.

## What is Critical Habitat Not?

- Does not create preserves or refuges
- Does not come with blanket prohibitions on in-water activities
- Does not apply to citizens for actions that do not involve a Federal agency

# How Did NMFS determine what was critical habitat for Atlantic sturgeon?

*We used a stepwise approach, based on the statutory and regulatory requirements.* These steps included identifying the following:

- 1) the geographical area occupied by each DPS at the time of listing;
- 2) the physical or biological features (PBFs) essential to the conservation of the DPSs;
- 3) whether those PBFs may require special management considerations or protection;
- 4) the specific areas of the occupied geographical area where these PBFs occur; and,
- 5) whether any unoccupied areas are essential to the conservation of any DPS.

For the DPSs we:	Response:
<p>Step 1. Identified the geographical area occupied by the DPS at the time of listing (See page 35707 of the proposed rule, also pages 15-16 of the Supp. Document)</p>	<p>The entirety of each DPSs range with the exception of areas that are inaccessible to Atlantic sturgeon because of a dam, other manmade structure or natural feature (e.g., falls) that is impassable by Atlantic sturgeon</p>
<p>Step 2. Identified the physical or biological features essential to the conservation of the DPS (See pages 35707-35709 of the proposed rule, also pages 16-19 of the Supp. Document)</p>	<p>Increasing survival of subadults and adults such that subadults survive to mature and reproduce, and adults survive to spawn more than once, is essential to the conservation of each DPS. We were not able to identify the physical or biological features. Considered available information on prey type, abundance, substrate, etc.</p>
<p>Step 2. (continued)</p>	<p>Increasing successful reproduction and recruitment to the marine environment is essential to the conservation of each DPS. Each DPS has no more than two known spawning rivers. The physical features identified are a group of features, focused on water and substrate.</p>

For the DPSs we:	Response:
<p>Step 3. Determined whether these features may require special management considerations or protection (Pages 35707-35709 of the proposed rule and pages 19-20 of the Supp. Document)</p>	<p>Yes. Activities such as in-water construction, dredging, sand and gravel mining, water withdrawals, etc.</p>
<p>Step 4. Identified specific areas that contain these features and delineated the area(s) (Page 35710 of the proposed rule and pages 20-22 of the Supp. Document)</p>	<p>All areas are the named main stem river, only (no tributaries unless also named), full bank width of the river segment from the upriver boundary (at a dam, major fall, or readily identifiable structure nearest to where the fall line crosses the river) to the river mouth.</p>
<p>Step 5. Considered whether any unoccupied habitat is essential to the conservation of the DPS (Pages 35709-35710 of the proposed rule and page 22 of the Supp. Document)</p>	<p>No. Historical habitat is, generally, accessible to the Gulf of Maine, New York Bight, and Chesapeake Bay DPSs.</p>

<b>For the DPSs we:</b>	<b>Response:</b>
<p>Step 6. Considered the economic, national security, or any other impacts of designating, and whether to exclude any specific areas but not if this would result in extinction of the DPS (Pages 35711-35713 of the proposed rule and pages 23-34 of the Supp. Document)</p>	<p>No exclusions. There are beneficial impacts for designating. Any economic and national security impacts are expected to be co-extensive with listing of the species.</p>
<p>Step 7. Determined whether there were any lands or geographic areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an Integrated Natural Resource Management Plan (INRMP), and whether such plan provides a conservation benefit to the species and its habitat (See pages 35710-35711 of the proposed rule and pages 26-32 of the Supp. Document).</p> <p>We requested information from the Department of Defense for facilities that might occur within proposed critical habitat and whether there was an INRMP for the facility</p>	<p>U.S. Military Academy- West Point, NY; Joint Base Langley - Eustis, VA; Marine Corps Base Quantico, VA; Naval Weapons Station Yorktown, VA; and, Naval Support Facility Dahlgren, VA.</p> <p>The specific areas are not part of the proposed critical habitat</p>

# Proposed Rule – June 2016

- We published two proposed rules on June 3, 2016 (81 FR 35701 and 81 FR 36078)
- Accompanied by a supplementary document that provides the biological information, our consideration of impacts, and the economic analysis of the designations
- The biological information was reviewed by four members of the ASMFC Sturgeon Technical Committee. The economic analysis was peer reviewed by three economists with knowledge of the Endangered Species Act.
- The peer review plan, the peer review comments, and our response to the comments are available at [http://www.cio.noaa.gov/services\\_programs/prplans/ID294.html](http://www.cio.noaa.gov/services_programs/prplans/ID294.html)

# Getting the Word Out

- 90 day public comment period that was extended by 15 days for a total of 105 days
- Public information sessions in Portland, Maine, Gloucester, MA and Annapolis, MD
- Public hearings where public comment was accepted in person and over the phone
- Letters to all states and counties where Atlantic sturgeon occur
- Notification to all state fisheries bureaus, ASMFC and regional fisheries councils
- Notification through our webpage, constituent emails, notices to other Federal agencies, and in regional newspapers

# What's in the Final Rule?

- Identification of the Conservation Objective
- Four Physical and Biological Features
- 31 total Critical Habitat Units for all five DPSs
- No “unoccupied” critical habitat
- No critical habitat in marine waters

# Conservation Objective

- increase the abundance of each DPS by facilitating increased survival of all life stages and facilitating adult reproduction and juvenile and subadult recruitment into the adult population

## The physical features for reproduction and recruitment requiring special management considerations or protection are:

- Hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0–0.5 ppt range) for settlement of fertilized eggs, refuge, growth, and development of early life stages;
- Aquatic habitat with a gradual downstream salinity gradient of 0.5 up to as high as 30 ppt and soft substrate (e.g., sand, mud) between the river mouth and spawning sites for juvenile foraging and physiological development;
- Water of appropriate depth and absent physical barriers to passage (e.g., locks, dams, thermal plumes, turbidity, sound, reservoirs, gear, etc.) between the river mouth and spawning sites necessary to support: Unimpeded movements of adults to and from spawning sites; seasonal and physiologically dependent movement of juvenile Atlantic sturgeon to appropriate salinity zones within the river estuary, and; staging, resting, or holding of subadults or spawning condition adults. Water depths in main river channels must also be deep enough (e.g., at least 1.2 m) to ensure continuous flow in the main channel at all times when any sturgeon life stage would be in the river, and
- Water, between the river mouth and spawning sites, especially in the bottom meter of the water column, with the temperature, salinity, and oxygen values that, combined, support: Spawning; annual and interannual adult, subadult, larval, and juvenile survival; and larval, juvenile, and subadult growth, development, and recruitment (e.g., 13 °C to 26 °C for spawning habitat and no more than 30 °C for juvenile rearing habitat, and 6 mg/L or greater DO for juvenile rearing habitat).

# What Changed Between the Proposed and Final Rule?

## Changes in the Areas Designated...

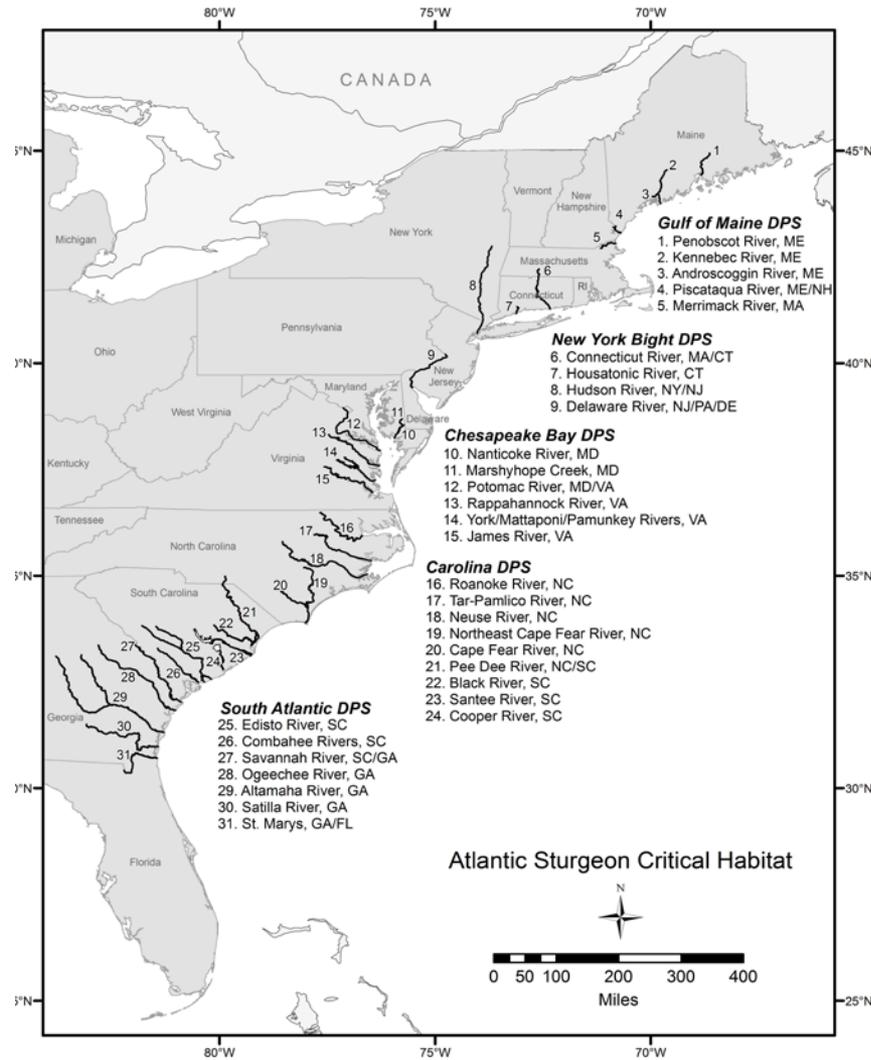
- The boundary for the upstream extent of the Pamunkey River, has been moved upstream by 14 rkm.
- The 16 rkm of the proposed Susquehanna River Critical Habitat Unit are not designated as critical habitat.
- The 60 rkm of the Nanticoke River from the Maryland State Route 313 Bridge crossing near Sharptown, MD, to where the main stem discharges at its mouth into the Chesapeake Bay as well as Marshyhope Creek from its confluence with the Nanticoke River and upriver to the Maryland State Route 318 Bridge crossing near Federalsburg, MD, are designated as critical habitat for the Chesapeake Bay DPS, and it will be called the Nanticoke River critical habitat unit.
- We corrected the map for the James River critical habitat unit. The map used in the proposed rule incorrectly placed the downriver boundary of critical habitat in the area of Hampton Roads. The textual description of the James River critical habitat in the proposed rule was correct.
- The table describing the states and counties in which critical habitat is being designated has been updated. It now includes Dorchester and Wicomico Counties on the Nanticoke River.

# What Changed Between the Proposed and Final Rule?

## Changes in the PBF Language...

- The description of PBF number 2 includes two changes. The phrase “between the river mouths and spawning sites” replaces “downstream of spawning sites.” Additionally, the words “up to as high as ” were added after 0.5 and before 30 to clarify acceptable salinity ranges.
- In PBF number 3, the examples of what may constitute barriers were expanded, and the phrase “at least 1.2 m” replaces “ $\geq 1.2$  m” for clarity.
- The phrase “between the river mouths and spawning sites” was inserted in the language of PBF number 4. Additionally, for clarity of the example, the phrase “6 mg/L DO or greater” replaces “6 mg/L dissolved oxygen.”
- We have included and clarified in regulatory provisions for all five DPSs that manmade structures that do not provide the essential PBFs are not included in critical habitat.

# 31 Units of Critical Habitat for 5 DPSs



## **Why did you designate the entire accessible reach of these rivers?**

To achieve the conservation objective, we must not only protect upriver spawning sites, but also the in-river habitats that allow adult Atlantic sturgeon to move safely and efficiently to and from those spawning habitats. Additionally, for larval and juvenile Atlantic sturgeon to survive to adulthood and become spawners themselves, habitats downstream from the spawning areas require protection so those life stages can successfully develop.

# Why didn't you designate critical habitat in marine waters?

- At this time, we cannot identify the physical or biological features within these areas that are essential for the conservation of any DPS and that may require special management considerations or protections.
- The available information represents correlations between sturgeon presence and very general environmental attributes, such as soft substrate. Similarly, available information on the forage species upon which sturgeon rely indicates they are opportunistic benthic cruisers which feed on a variety of benthic invertebrates.
- “Soft substrate” and “benthic invertebrates” are too ubiquitous in marine and estuarine habitats, and we cannot conclude they are essential to Atlantic sturgeon conservation everywhere they occur.
- Finally, while the available information indicates that sturgeon aggregations exist, it does not provide us the purposes of the aggregations, and thus we are unable to identify what the essential features in those habitats are that facilitate those purposes.

# Gulf of Maine DPS

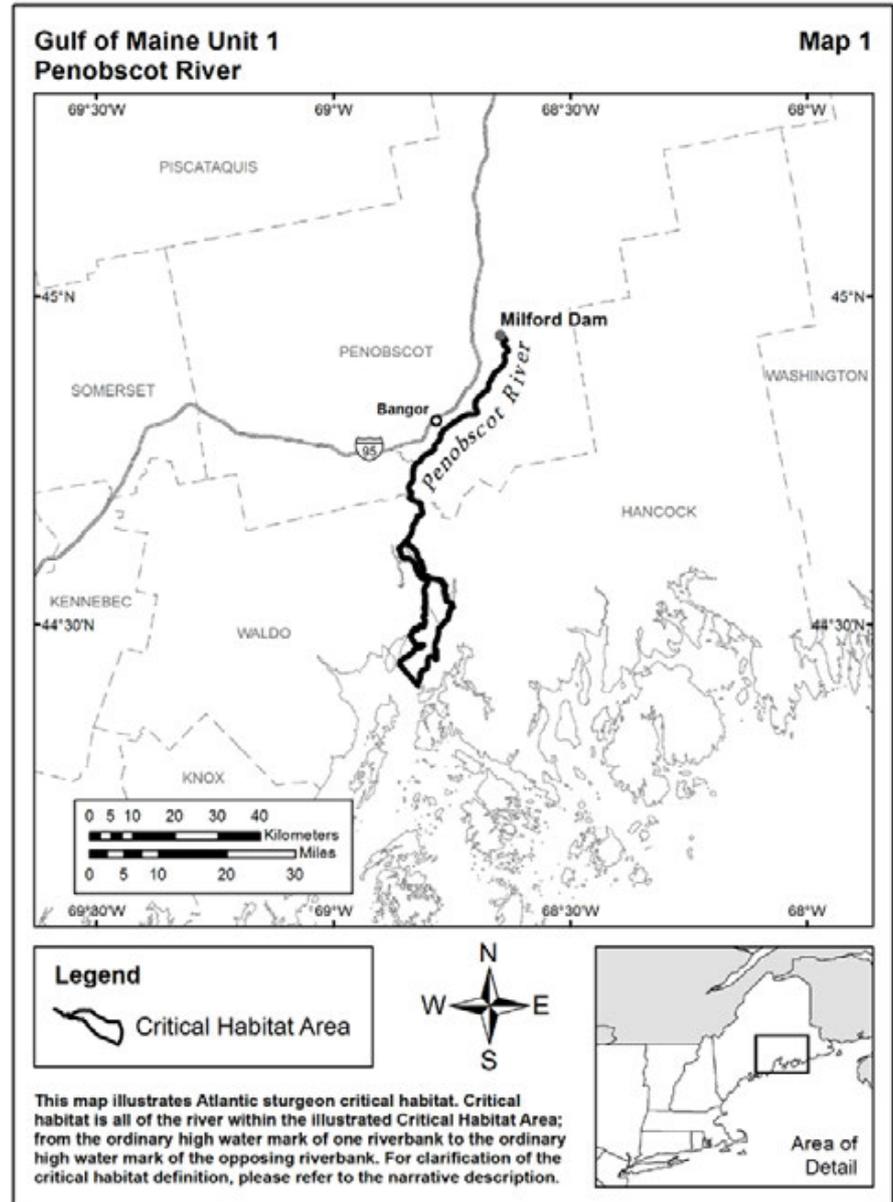
## Five Critical Habitat Units:

- Penobscot River
- Kennebec River
- Androscoggin River
- Piscataqua River – includes some waters of the Cocheco and Salmon Falls rivers
- Merrimack River

All proposed critical habitat areas are the full bank width of the named main stem river within the upriver and downriver boundaries.

# Penobscot River

Main stem from the Milford Dam to where the main stem river drainage discharges at its mouth into Penobscot Bay

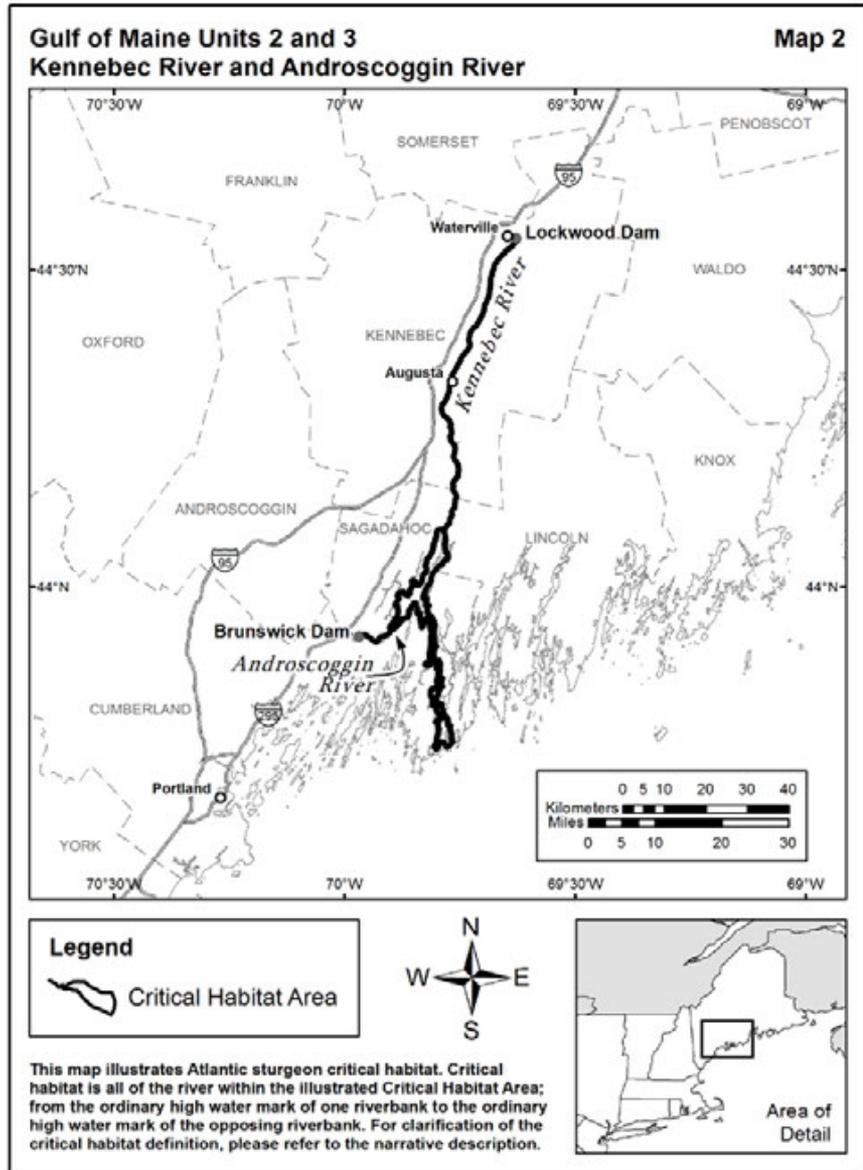


# Kennebec River

Main stem from the Ticonic Falls/Lockwood Dam to where the main stem river discharges at its mouth into the Atlantic Ocean

# Androscoggin River

Main stem from the Brunswick Dam to where the main stem river drainage discharges into Merrymeeting Bay

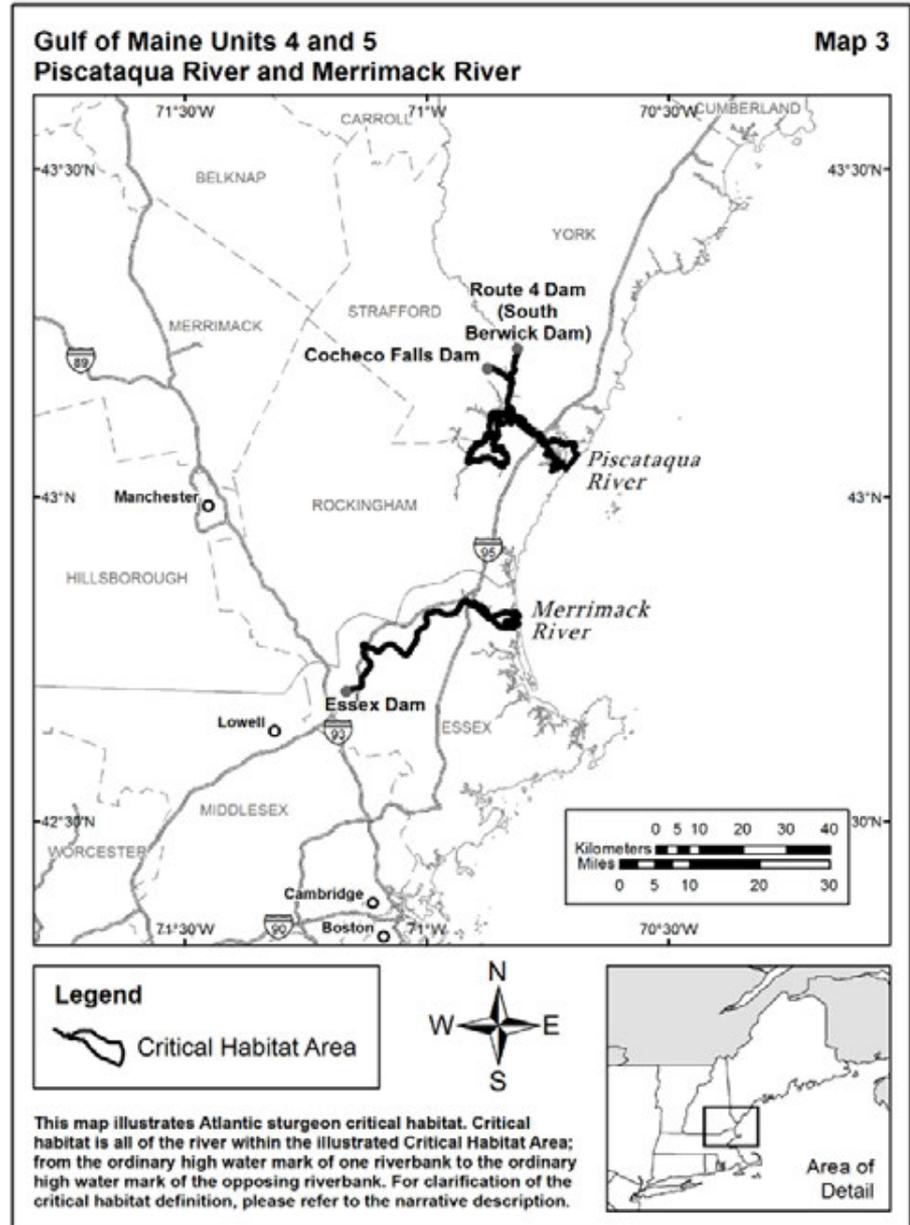


# Piscataqua River

The entirety of the Piscataqua River as well as the Salmon Falls and Cocheco rivers from their confluence with the Piscataqua and upstream to the Route 4 Dam, and Cocheco Falls Dam, respectively

# Merrimack River

Main stem from the Essex Dam (also known as the Lawrence Dam) to where the main stem river discharges at its mouth into the Atlantic Ocean



# New York Bight DPS

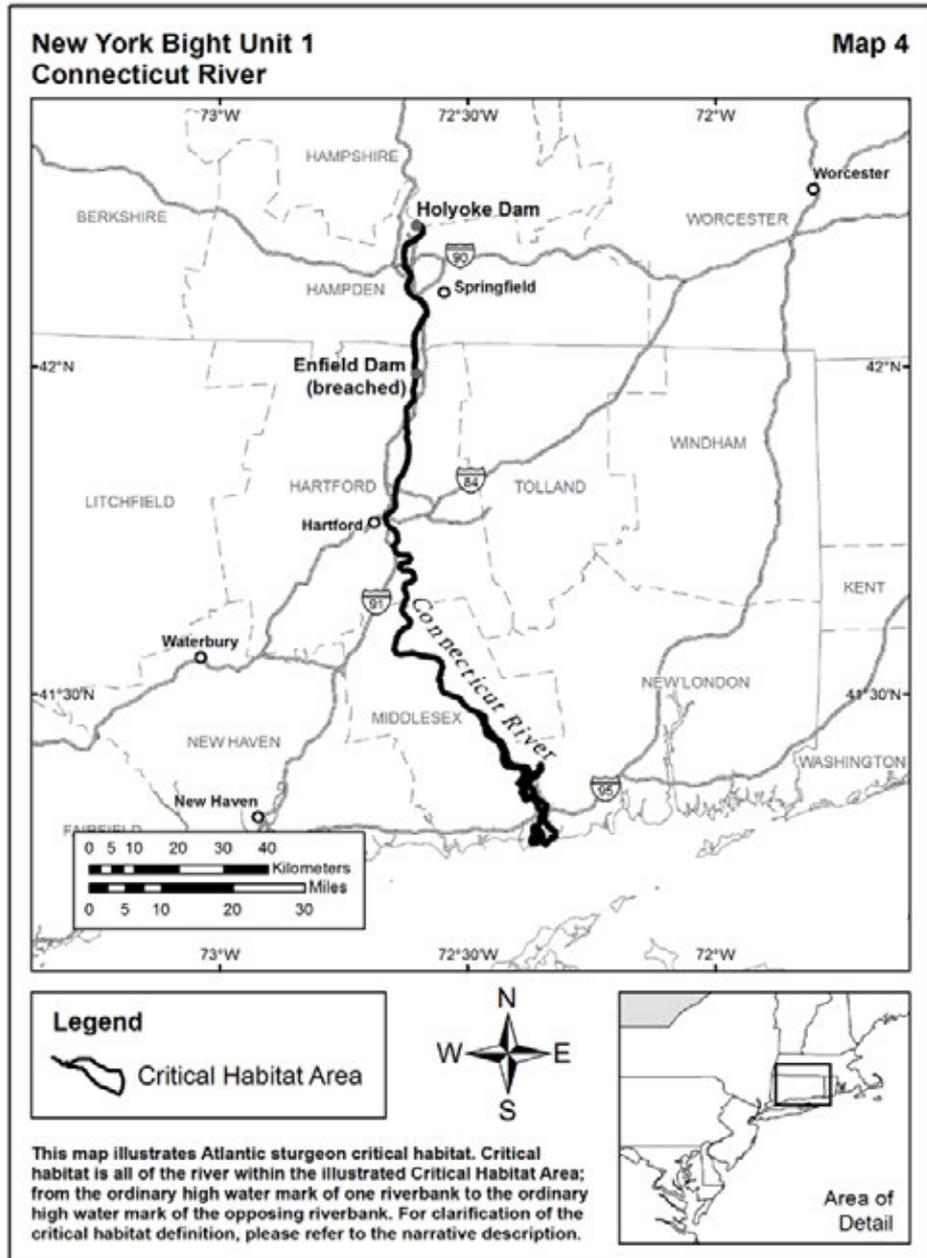
Four critical habitat units:

- Connecticut River
- Housatonic River
- Hudson River
- Delaware River

All are the full bank width of the named main stem river within the upriver and downriver boundaries.

# Connecticut River

Main stem from the Holyoke Dam downstream to where the main stem river discharges at its mouth into Long Island Sound

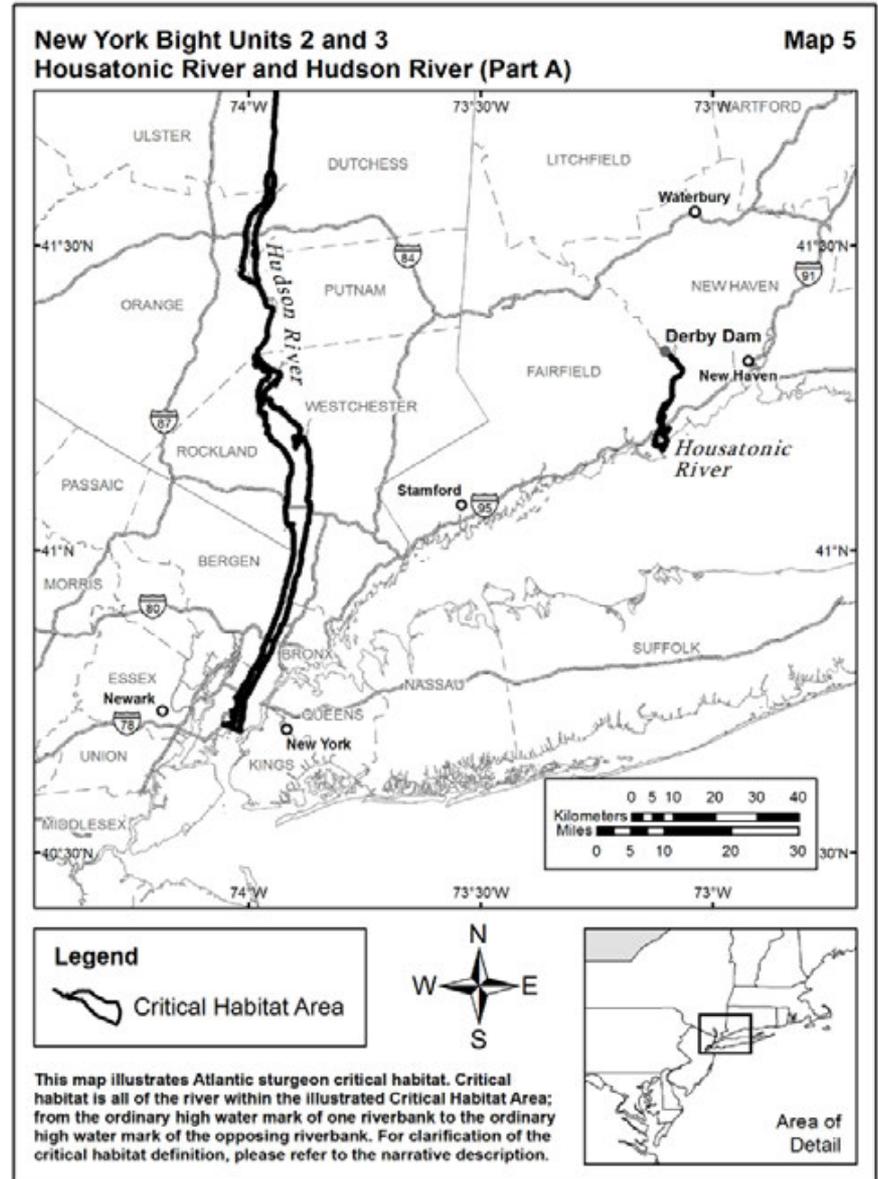


# Housatonic River

Main stem from the Derby Dam downstream to where the main stem discharges at its mouth into Long Island Sound

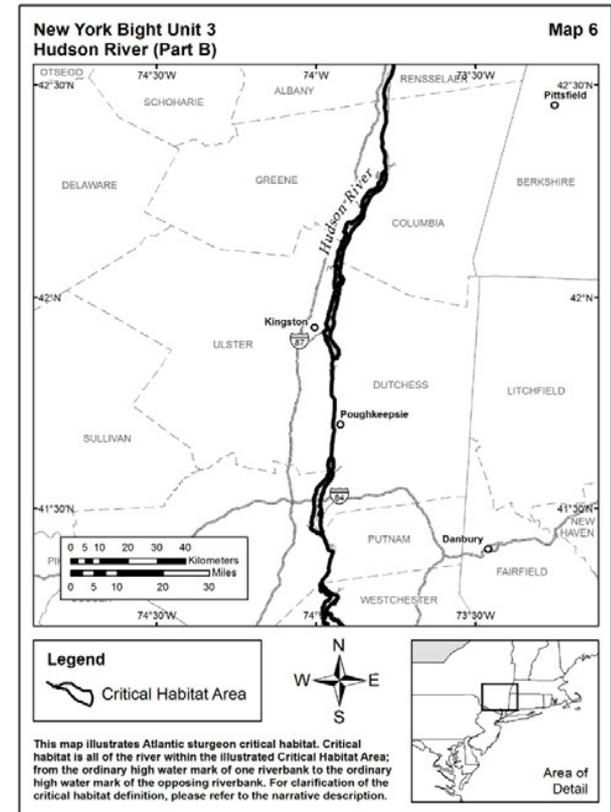
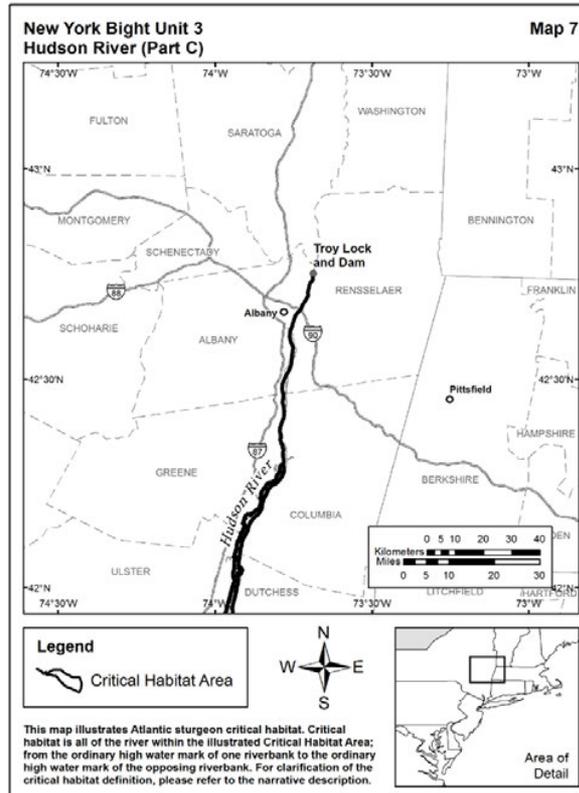
# Hudson River

Main stem from the Troy Lock and Dam (also known as the Federal Dam) to where the main stem river discharges at its mouth into New York City Harbor



# Hudson River

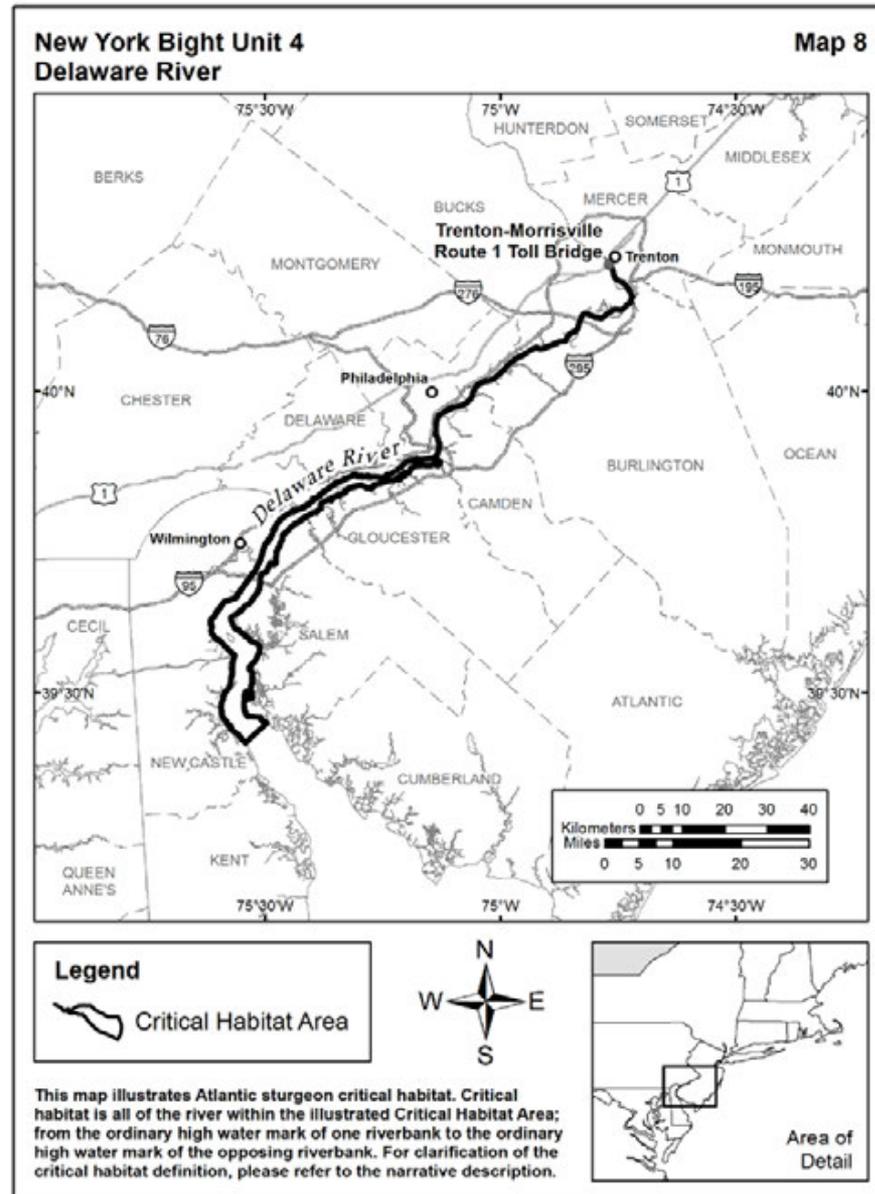
Main stem from the Troy Lock and Dam (also known as the Federal Dam) to where the main stem river discharges at its mouth into New York City Harbor



# Delaware River

Main stem from the crossing of the Trenton-Morrisville Route 1 Toll Bridge, to where the main stem river discharges at its mouth into Delaware Bay

Mouth of the Delaware River:  
In 1905, the legislatures of New Jersey and Delaware defined the line of demarcation between the Delaware River and Delaware Bay as an imaginary line from Liston Point, DE to Hope Creek, NJ.



# Chesapeake Bay DPS

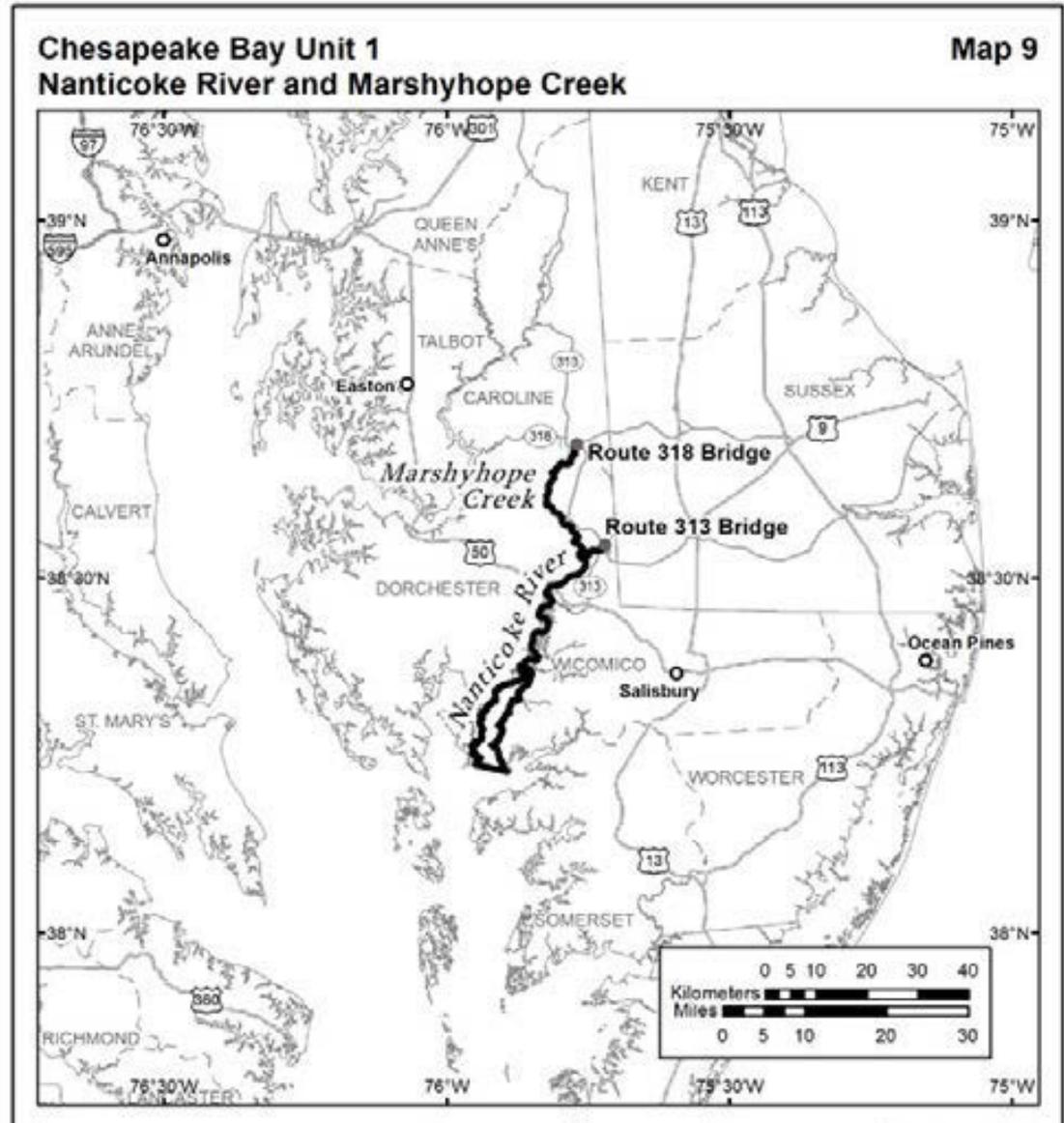
Five critical habitat units:

- Potomac River
- Rappahannock River
- York River System – includes Pamunkey and Mattaponi rivers
- James River
- Nanticoke River/Marshyhope Creek

All are the full bank width of the named mainstem river within the upriver and downriver boundaries – does not include tributaries off of the mainstem river and does not include any portion of the mainstem Chesapeake Bay

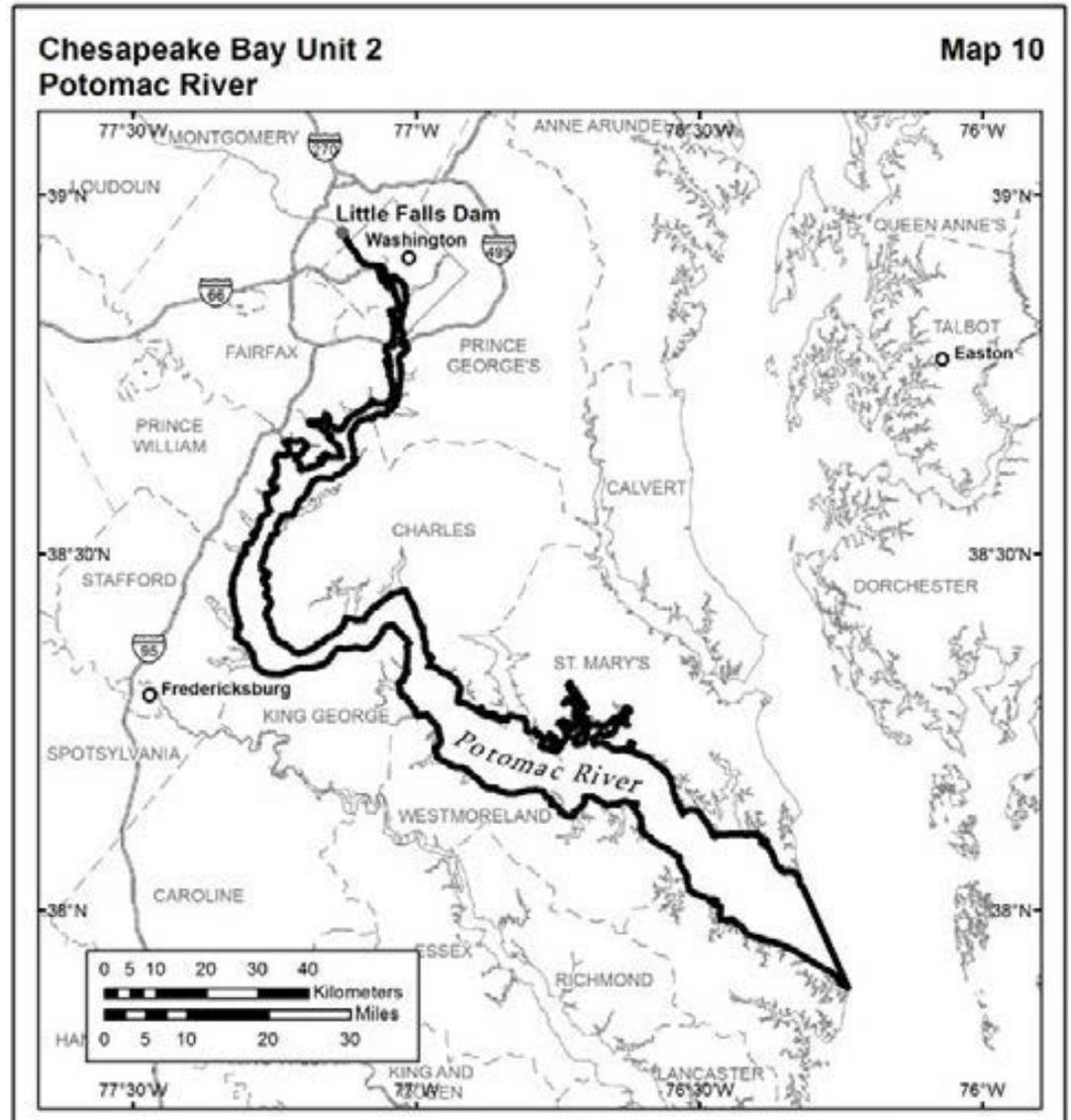
# Nanticoke River and Marshyhope Creek

The 60 rkm of the Nanticoke River from the Maryland State Route 313 Bridge crossing near Sharptown, MD, to where the main stem discharges at its mouth into the Chesapeake Bay as well as Marshyhope Creek from its confluence with the Nanticoke River and upriver to the Maryland State Route 318 Bridge crossing near Federalsburg, MD.



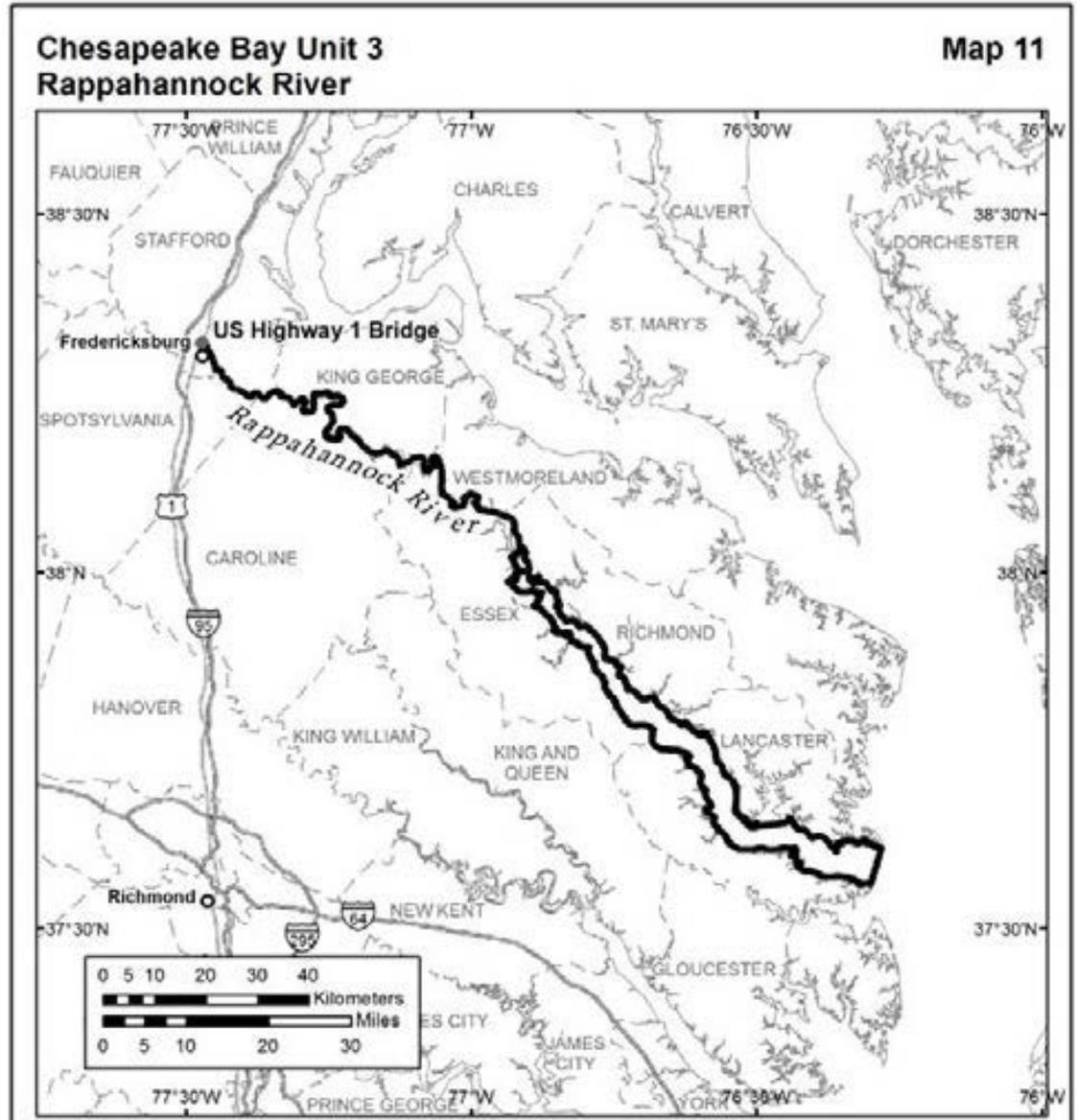
# Potomac River

Main stem from the Little Falls Dam downstream to where the main stem river discharges at its mouth into the Chesapeake Bay



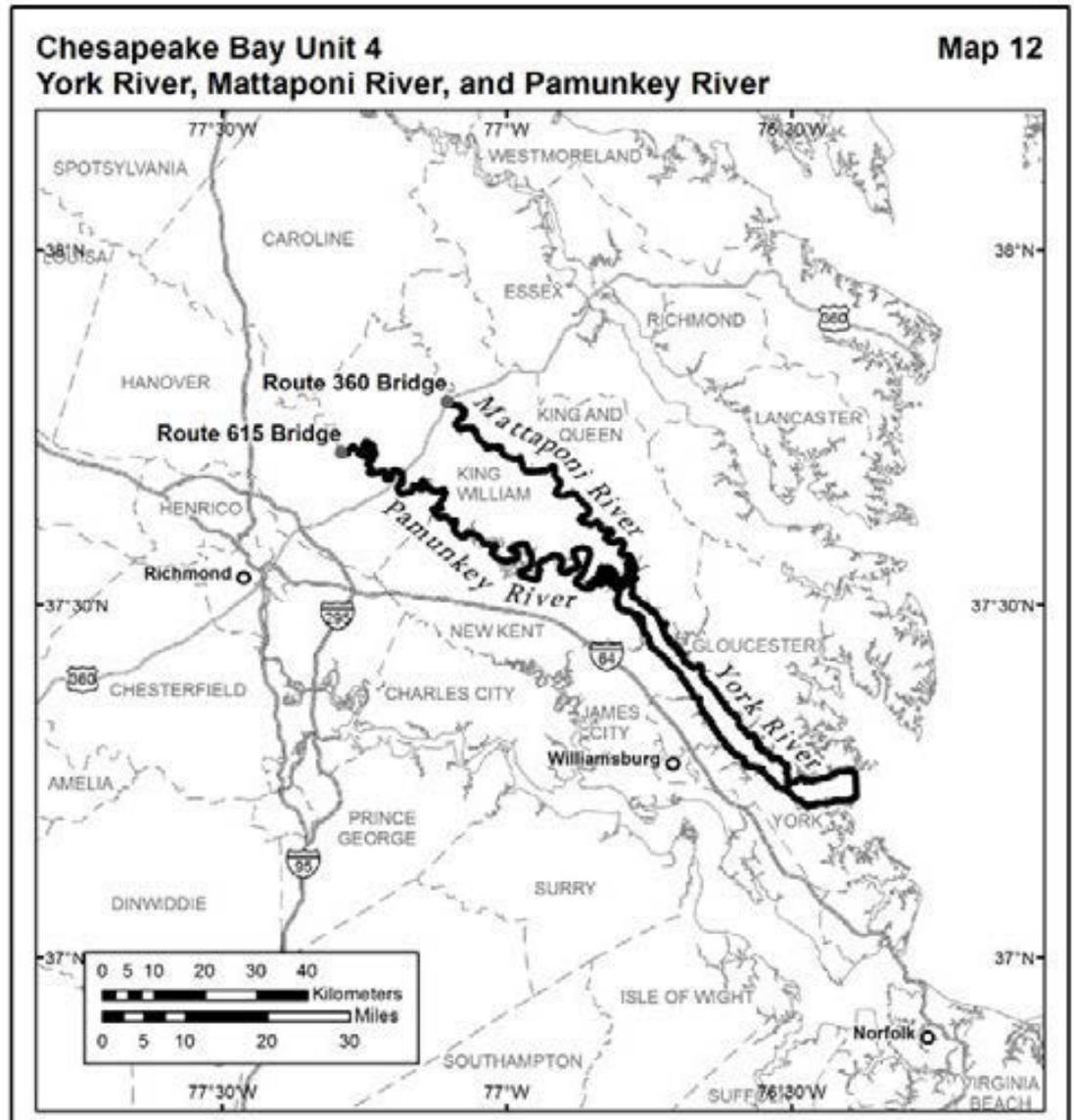
# Rappahannock River

Main stem from the U.S. Highway 1 Bridge, to where the river discharges at its mouth into the Chesapeake Bay



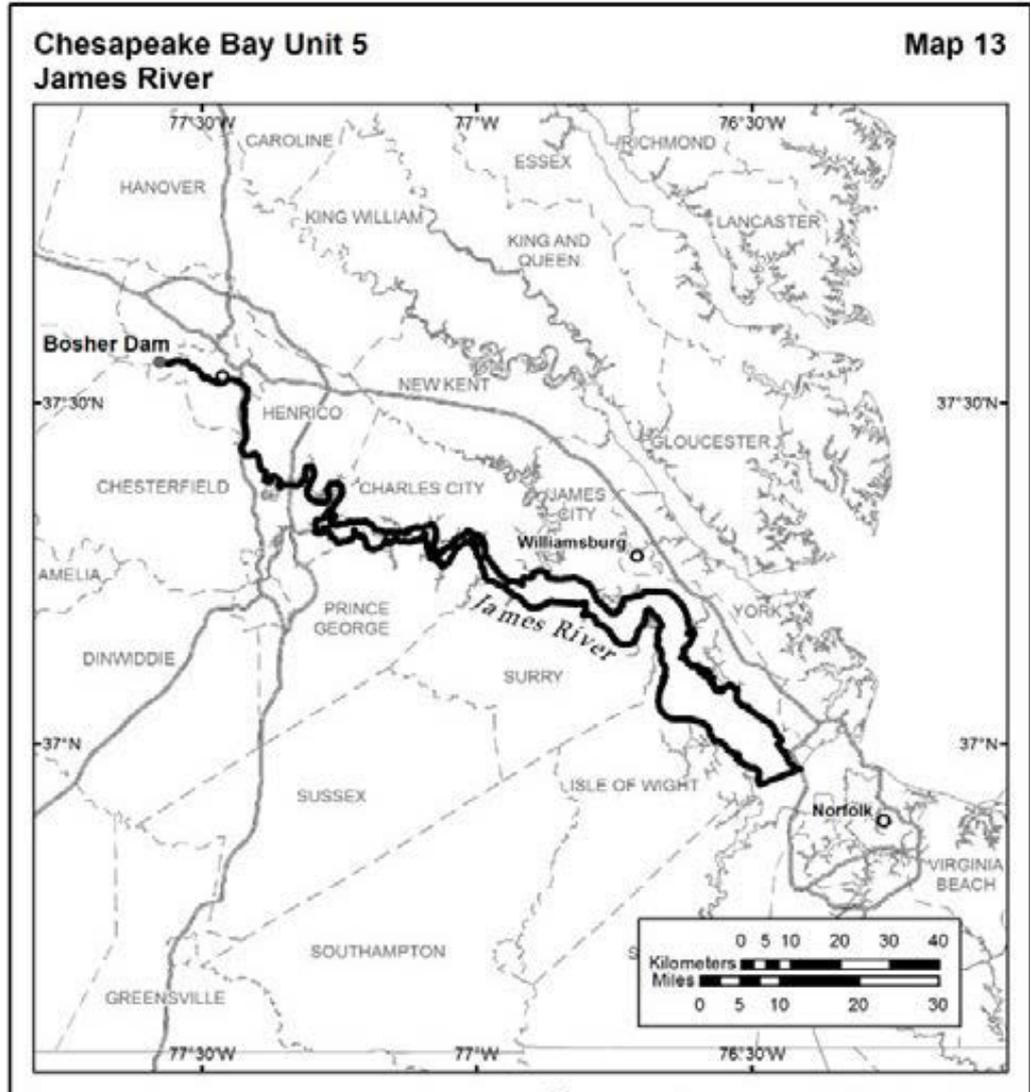
# York River System

The York River as well as the Mattaponi and Pamunkey rivers from the confluence of each with the York river and as far upstream as the Virginia State Route 360 Bridge crossing of the Mattaponi River, and Nelson's Bridge Road Route 615 crossing of the Pamunkey River



# James River

James River from  
Boshers Dam  
downstream to where  
the main stem river  
discharges at its mouth  
into the Chesapeake  
Bay at Hampton Roads



# Summary

All of the critical habitat areas for the Atlantic sturgeon DPSs occur in tidally-affected riverine waters of a coastal estuary within the geographic area occupied by each DPS

Critical Habitat is designated based on the physical or biological features requiring special management considerations or protections

Critical Habitat is based on the best available information – additional critical habitat may be proposed in the future as new information becomes available. Any changes to a critical habitat designation must go through formal rule making.

Critical Habitat is not a refuge or preserve

- Activities are not prohibited within critical habitat

- Federal agency actions (including activities by non-federal entities that require a federal agency action) may need to be modified if the action would destroy or adversely modify the critical habitat

# What are the consequences of the critical habitat designation?

- Critical Habitat is not a refuge or preserve
- Activities are not prohibited within critical habitat
- Federal agency actions (including activities by non-federal entities that require a permit or authorization from a federal agency) that may affect critical habitat require ESA section 7 consultation
- Federal action's can not result in the “destruction or adverse modification” of critical habitat. Any such action would need to be modified so that it does not destroy or adversely modify critical habitat

A link to the 2016 revised definition of destruction or adverse modification of critical habitat as well as links to ESA section 7 regulations, policy, and guidance are available at <http://www.nmfs.noaa.gov/pr/laws/esa/policies.htm>

## **Section 7 of the ESA - consultation**

Once critical habitat is designated, section 7(a)(2) of the ESA requires Federal agencies to ensure that any action they fund, authorize or carry out is not likely to destroy or adversely modify that habitat. This requirement is in addition to the section 7(a)(2) requirement that Federal agencies ensure that their actions are not likely to jeopardize the continued existence of ESA-listed species. The activity of the federal agency may need to be modified to avoid destroying or adversely modifying the critical habitat.

More information on section 7 consultation is available on the GARFO webpage:  
<https://www.greateratlantic.fisheries.noaa.gov/protected/section7/index.html>

# Destroy/Adversely Modify Standard

- Notice published in FR on Feb. 11, 2016 (81 FR 7214 – 7226) by FWS and NMFS
- Replaces the previous definition that is discussed in the Section 7 consultation handbook!

**Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features.**

More information on the new definition:

[https://www.fws.gov/endangered/improving\\_ESA/AM.html](https://www.fws.gov/endangered/improving_ESA/AM.html)

# What does a critical habitat consultation look like?

- Follows the same structure, format and steps as a consultation on a listed species but instead of considering effects to individuals you consider effects to the physical and biological features in the action area
- “Feature(s)” means the physical or biological feature(s) essential to the conservation of the species, including its conservation function, as described in the final rule for the critical habitat designation.

	<p style="text-align: center;"><b>SPECIES</b></p> <p style="text-align: center;">(Effects to individuals in the action area, populations, species as a whole)</p>	<p style="text-align: center;"><b>CRITICAL HABITAT</b></p> <p style="text-align: center;">(Effects to features in action area, critical habitat unit, critical habitat as a whole)</p>
<p><b>No Effect</b></p>	<p>No direct or indirect effects of the action to individuals in the action area, ever.</p> <p>NO CONSULTATION</p>	<p>No direct or indirect effects of the action to the feature(s) in the action area, ever.</p> <p>NO CONSULTATION</p>
<p><b>May affect, Not Likely to Adversely Affect</b></p>	<p>All negative effects to individuals in the action area are insignificant or discountable, even over time, or all effects to individuals in the action area are entirely beneficial, even over time.</p> <p>LETTER OF CONCURRENCE</p>	<p>All negative effects to the feature(s) in the action area are insignificant or discountable, even over time, or all effects to the feature(s) in the action area are entirely beneficial, even over time.</p> <p>LETTER OF CONCURRENCE</p>

# SPECIES

(Effects to individuals in the action area, populations, species as a whole)

# CRITICAL HABITAT

(Effects to features in action area, critical habitat unit, critical habitat as a whole)

Likely to Adversely Affect, but No Jeopardy or Destruction/Adverse Modification of Critical Habitat

Likely to adversely affect individuals in the action area (take), BUT those effects are not reasonably expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.

Likely to adversely affect the feature(s) in the action area, BUT those effects are not likely to be a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of the species.

Final Consultation Document:

BiOp w/ITS, RPMs & T/Cs for "take"

BiOp, but no ITS, RPMs or T/Cs for adverse effects to critical habitat

	<h1 style="text-align: center;">SPECIES</h1> <p style="text-align: center;">(Effects to individuals in the action area, populations, species as a whole)</p>	<h1 style="text-align: center;">CRITICAL HABITAT</h1> <p style="text-align: center;">(Effects to features in action area, critical habitat unit, critical habitat as a whole)</p>
<p>Likely to Adversely Affect, <u>and</u> Jeopardy and Destruction/Adverse Modification of Critical Habitat</p>	<p>Likely to adversely affect individuals in the action area (take), AND those effects <u>are</u> reasonably expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.</p>	<p>Likely to adversely affect the feature(s) in the action area, AND those effects <u>are</u> likely to be a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of the species.</p>
<p>Final Consultation Document:</p>	<p>BIOLOGICAL OPINION WITH RPAs that would avoid jeopardizing listed species.</p>	<p>BIOLOGICAL OPINION WITH RPAs that would avoid Destruction/Adverse Modification of critical habitat.</p>

# What about Oyster Restoration or Other Habitat Restoration Projects?

- If there is a federal hook, ESA section 7 consultation would be required to consider effects to listed species and critical habitat. This does not mean that the project can not happen or that a project will always need to be changed. We do not anticipate new restrictions on fishing activity including the harvest of wild oysters or ongoing oyster restoration activities.

# What about Fishing and Boating?

- We do not anticipate that fishing and boating would affect any of the PBFs in any of the critical habitat units

# What about Aquaculture?

- Nearly all aquaculture activities are already subject to section 7 consultation
- We will be working with USACE to incorporate consideration of critical habitat into any programmatic consultations or agreements
- There is no “ban” on aquaculture in critical habitat
- For a project to require modification, it would have to be likely to destroy or adversely modify critical habitat designated for the Chesapeake Bay DPS, which means the impacts would have to be so severe that they would appreciably diminish the value of critical habitat for the conservation of Atlantic sturgeon

# What about dredging?

- Dredging results in at least temporary disruptions to habitat and is identified as one of the activities that may affect the PBFs
- Consultation is likely to be required to consider effects of dredging
- There is no “ban” on dredging in critical habitat
- Navigational safety and waterborne commerce are very important
- Even before critical habitat was proposed, we carefully considered the effects of construction projects on Atlantic sturgeon and their habitat, so many of the effects have already been recognized and avoided or minimized.

# What about ongoing projects?

- Ongoing activities do not need to stop.
- If there is an ongoing federal hook and the activity may affect critical habitat, consultation would be required.
- If there is already a consultation, it may need to be reinitiated. Work does not normally stop during a reinitiation.

## Reinitiation is Required When...

- The action is not yet complete, *and*
- The action agency retains discretion or control over the action, *and*
- The action area overlaps with a portion of one or more critical habitat units, *and*
- The action may affect one or more of the physical or biological features.

# What can be done to avoid or minimize delays?

- NMFS has implemented a number of measures in the last year to improve the consultation process and increase efficiency. Consultations take less time than they used to!
- We are working with the Federal agencies to be sure they are up to speed on the new rule and so they have the information they need to work with applicants.
- Programmatic consultations afford a lot of opportunities for streamlining.
- Talk to us early and often! We are here to answer questions and help.

# What's Next for Sturgeon?

- ASMFC Stock Assessment rolling out soon
- Development of a Recovery Plan
- Continued coordination with action agencies to understand impacts and find efficient, streamlined ways to carry out consultations and address impacts
- Our goal is to rebuild these populations and manage threats so that all five DPSs can be delisted!

<http://www.greateratlantic.fisheries.noaa.gov/protected/atlsturgeon/index.html>

## Contacts:

Lynn Lankshear, Atlantic Sturgeon Coordinator, NMFS, GARFO  
978-282-8473; [lynn.lankshear@noaa.gov](mailto:lynn.lankshear@noaa.gov)

Julie Crocker, ESA Fish Recovery Coordinator, NMFS, GARFO  
978-282-8480; [julie.crocker@noaa.gov](mailto:julie.crocker@noaa.gov)