

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

Appendix A.5
Essential Fish Habitat Assessment

Appendix A5

Essential Fish Habitat Assessment

1.1 Introduction

In compliance with Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (1996 amendments), the New York District – U.S. Army Corps of Engineers (District) in partnership with the Town of Greenwich, CT, is providing this assessment of the potential effects on Essential Fish Habitat (EFH) from the proposed Alternative 5: Route 1 Bridge Removal and Replacements of the Byram River Basin Flood Risk Management Feasibility Study. This alternative includes temporary disturbance of riverbed and bank sediments due to the removal of the existing bridge abutments and minor channel improvements/bank stabilization within an estuarine-tidal reach of the Byram River. The National Oceanic and Atmospheric Administration (NOAA) grids and EFH mapping system are not detailed enough to show EFH designations within the affected reach of the Byram River. However, since the tidal range of the Byram River extends past the existing Route 1 bridges (i.e. project area) and the Long Island Sound is designated as EFH habitat, an EFH assessment was completed to demonstrate compliance with EFH requirements.

The following assessment addresses the potential adverse effects of discharging dredged material and placing fill materials as part of the bridge replacements within a tidal reach of the Byram River. The following best management practices (BMPs), at a minimum would be implemented:

- § Operating in compliance with seasonal restriction recommendations to ensure the protection of natural resources;
- § Utilizing previously disturbed areas such as existing bridge abutments to the maximum extent practicable;
- § Disposing off-site of any contaminated dredged material; and
- § Ensuring all fill materials are clean.

Furthermore, compliance with any additional Special Conditions mandated under the State of Connecticut and New York Clean Water Act (CWA) and Coastal Zone Management Act (CZMA) jurisdictions as implemented under their Federal Consistency determinations, would be used to avoid and minimize potential adverse effects to protected and/or managed species and their habitat, thereby precluding the need for any other mitigation.

2.0 Project Authorization, Description, and Proposed Action

2.1 Federal Project Authorization

Byram River Flood Risk Management Feasibility Study, Greenwich, Connecticut and Village of Port Chester, New York was authorized by resolution of the Committee on Transportation and Infrastructure, Docket 2779, dated May 2, 2007.

2.2 Federal Project Description

The proposed project provides flood risk management to residential homes and commercial properties from overtopping of the Byram River in the Village of Port Chester, NY and the Town of Greenwich, CT. Please refer to **Figure 1** for project location.

2.3 Description of Planned Action

The District, in partnership with the Town of Greenwich, CT, proposes to remove the existing northbound and southbound Route 1 bridges over the Byram River and replace them with similar bridges at an elevation approximately three feet higher than the current elevation. The bridge replacement would consist of a 90-ft single span with the new bridge abutments installed outside of the river channel. The existing bridge decks currently cause flow from the Byram River to back up and exacerbate flooding upstream. Therefore, raising the elevation of the bridge decks and removing the existing abutments would lower the water surface by two to four feet during the 100-year flood event, also known as the 1% annual chance flood. Minor channel improvements around the existing bridge abutments that would be removed are also proposed to improve the hydraulic efficiency of the river channel.

The proposed activities may result in temporary short-term and minor disturbances to the river channel and bottom sediments. It is anticipated that crews would work from the dry bank area; no construction vehicles would be allowed to enter the river channel. Any in-channel work associated with removal of bridge abutments would be performed in the dry with the aid of cofferdams.

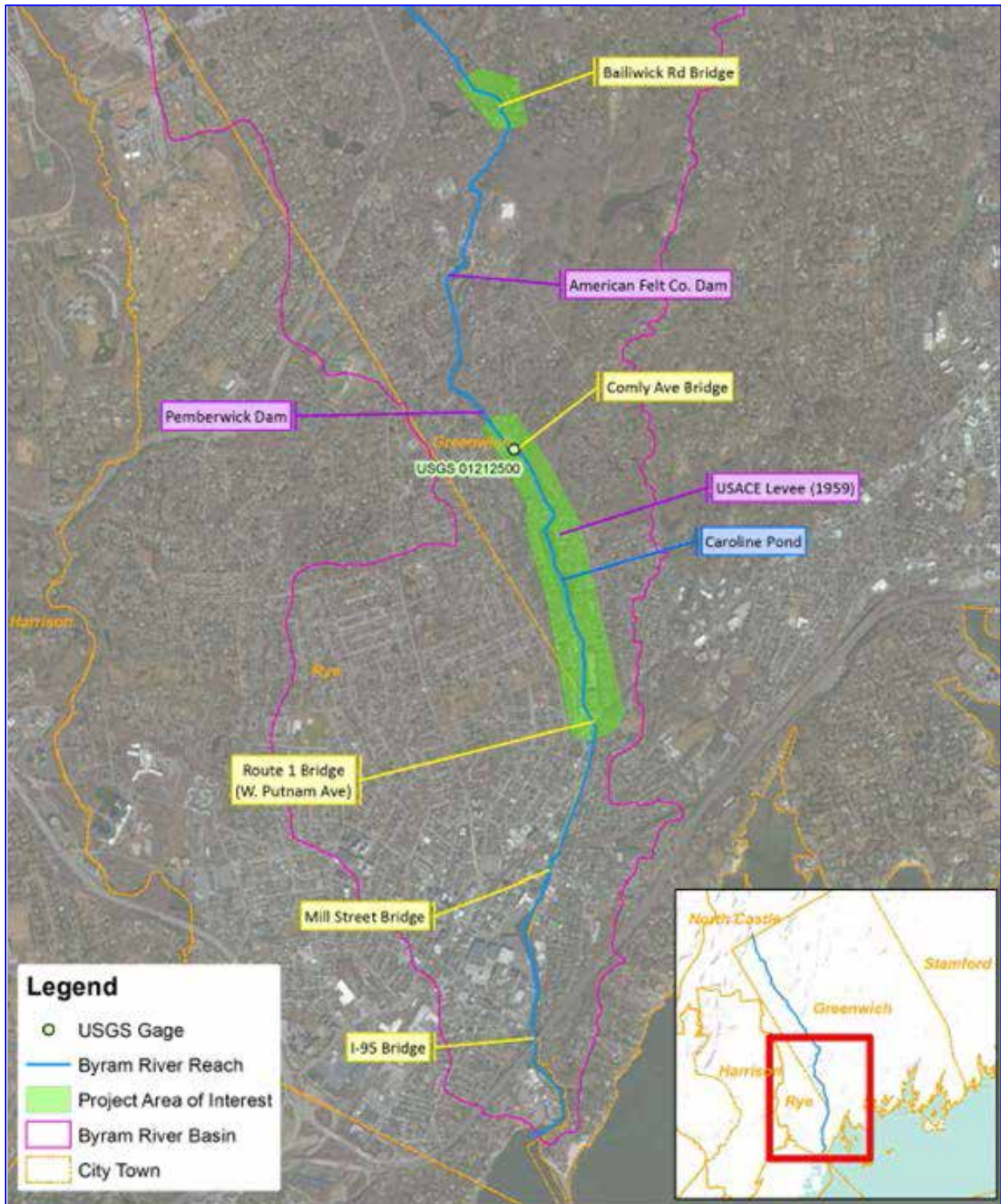
3.0 Description of Study Area

The study area is in Town of Greenwich, Fairfield County, Connecticut and the Village of Port Chester, Westchester County, New York. The Town of Greenwich and the Village of Port Chester have been subjected to repeated, severe flooding caused by overflow of the Byram River due to precipitation events of high intensity, large amounts, and/or prolonged duration. The source of fluvial flooding is the Byram River. The 500-year floodplain in the Byram River Basin contains approximately 500 structures. Equivalent annual damages have been estimated at \$3 million. The largest floods on record resulted from the storms of October 1955, June 1972, September 1975, and April 2007. The study is scoped to address fluvial flood events, not coastal flooding, which constitute a separate flood mechanism.

The Byram River is approximately 13.5 miles long with a watershed of approximately 30 square miles. The river largely flows from north to south through five towns in both Connecticut (Town of Greenwich) and New York (Towns of Rye, North Castle, New Castle, and Bedford). The project area focuses on the river reach in the area of the southbound to northbound Route 1 bridges. The river width varies from approximately 70 feet at the southbound Route 1 bridge to approximately 80 feet at the northbound Route 1 bridge. The river banks are natural in the project area with an established tree canopy providing shade and cover. The natural substrate consists of muck and silt with exposed gravel bars.

All waters in New York State are assigned a letter classification that denotes their best uses. Letter classes such as A, B, C, and D are assigned to fresh surface waters, and SA, SB, SC, I, and SD

Figure 1 - Byram River Project Area



to saline (marine) surface waters (NYSDEC 2018. <http://www.dec.ny.gov/chemical/23853.html>). The surface water quality classification of the tidal portion of the Byram River is SC (source: New York Department of Environmental Conservation Environmental Resource Mapper and 6NYCRR Chapter X). The non-tidal portion, north of the Route 1 bridges, is designated as Class C. Both Class SC and C waters are suitable for fish, shellfish and wildlife propagation and survival, and have a best usage of fishing. The water quality is suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes (6 NYCRR Part 701).

4.0 Analysis of Effects on Essential Fish Habitat (EFH)

Best management practices would be utilized to avoid, minimize and mitigate potential adverse effects to EFH. The removal of the existing bridge abutments and subsequent restoration of the river banks would be required to take place in the “dry” using a cofferdam (i.e. Portodam or equivalent) to minimize any increase in turbidity in surrounding waters. The proposed removal of the bridge abutments may temporarily increase turbidity; however, any increases in turbidity are projected to be short in duration and contained within the cofferdam area. Any impact on water quality would also be temporary and localized since turbidity levels and the concentration of materials suspended in the water column would quickly return to ambient conditions. A silt curtain would be installed downstream of the work area to further prevent any sediment from migrating downstream. Furthermore, to minimize impacts to federally-managed fish species, in-stream work would not be conducted during recommended time of year (TOY) restrictions. The duration of the in-stream work is expected to be no longer than 30 days for the two bridges. The EFH Worksheet is Attachment A and provides more detailed analyses of the potential adverse effects on EFH in the project area.

5.0 Direct and Indirect Effects on EFH Managed Species

5.1 EFH Species Listed for the Project Area

As mentioned above, since NOAA’s EFH mapping system grids are not detailed enough to show EFH designations within the affected reach of the Byram River, the mapped EFH designations for the Long Island Sound were used. The federally-managed species with EFH designations in the Long Island Sound within the distinct designated 10’ latitudinal and longitudinal square closest to the tidal reach of the Byram River are listed in attached Tables 1 and 2 Attachment A. Table 1 covers the Greenwich CT grid and Table 2 covers the Village of Port Chester grid.

5.2 Potential EFH Impacts

The EFH Worksheet contained in Attachment A is the formal EFH assessment for the actions that comprise the proposed project.

5.2.1 Summary of Direct Impacts

There are no significant (permanent, long term or extensive) adverse direct impacts to EFH associated with the Federal Project.

5.2.2 Summary of Indirect Impacts

There are no significant (permanent, long term or extensive) adverse indirect impacts to EFH associated with the Federal project.

6.0 Cumulative Effects on EFH Managed Species

Based on a review of available existing information, there are no other known planned projects by the U.S. Army Corps of Engineers, Port Chester or Greenwich, or others in the project vicinity that would adversely impact federally-managed species or designated EFH associated with the Byram River. Therefore the proposed Project would not result in significant (i.e. permanent, long term or extensive) cumulative impacts on federally-managed species or designated EFH associated with the proposed Project.

Attachment A contains support for our analyses of potential effects to EFH from the proposed Project.

7.0 Conclusion

Based on the analyses and conclusions presented the proposed bridge replacements would have no significant impact to EFH for the species and life stages listed in Tables 1 and 2. Disturbance to river sediments would be temporary due to the removal of the existing bridge abutments, center pier and subsequent bank stabilization.

Environmentally sound engineering practices and BMPs would be employed to avoid and minimize adverse impacts to EFH. BMPs such as use of cofferdam to complete the in-stream work in the “dry”, downstream silt curtain, and implementing recommended TOY restrictions to protect managed fishery resources during sensitive life stages would ensure minimal adverse impacts to these resources and designated EFH. By utilizing these BMPs (in addition to any Special Conditions mandated by the states), the project would avoid and minimize impacts to natural resources, and result in no need for additional or compensatory mitigation measures.

There are no significant (permanent, long term or extensive) adverse direct effects or indirect effects to EFH associated with the Federal project.

The District has concluded that there would be no significant adverse effect on EFH resulting from the construction of the proposed Byram River Basin Flood Risk Management Feasibility Study project, and therefore concludes that EFH Consultation is not required.

Attachment A
EFH Assessment Worksheet

NOAA FISHERIES
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
Essential Fish Habitat (EFH) Consultation Guidance
EFH ASSESSMENT WORKSHEET

Introduction:

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) mandates that federal agencies conduct an essential fish habitat (EFH) consultation with NOAA Fisheries regarding any of their actions authorized, funded, or undertaken that may adversely affect EFH. An adverse effect means any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

This worksheet has been designed to assist in determining whether a consultation is necessary and in preparing EFH assessments. This worksheet should be used as your EFH assessment or as a guideline for the development of your EFH assessment. At a minimum, all the information required to complete this worksheet should be included in your EFH assessment. If the answers in the worksheet do not fully evaluate the adverse effects to EFH, we may request additional information in order to complete the consultation.

An expanded EFH assessment may be required for more complex projects in order to fully characterize the effects of the project and the avoidance and minimization of impacts to EFH. While the EFH worksheet may be used for larger projects, the format may not be sufficient to incorporate the extent of detail required, and a separate EFH assessment may be developed. However, regardless of format, the analysis outlined in this worksheet should be included for an expanded EFH assessment, along with additional information that may be necessary. This additional information includes:

- the results of on-site inspections to evaluate the habitat and site-specific effects
- the views of recognized experts on the habitat or the species that may be affected
- a review of pertinent literature and related information
- an analysis of alternatives to the action that could avoid or minimize the adverse effects on EFH.

Your analysis of adverse effects to EFH under the MSA should focus on impacts to the habitat for all life stages of species with designated EFH, rather than individual responses of fish species. Fish habitat includes the substrate and benthic resources (e.g., submerged aquatic vegetation, shellfish beds, salt marsh wetlands), as well as the water column and prey species.

Consultation with us may also be necessary if a proposed action results in adverse impacts to other NOAA-trust resources. Part 6 of the worksheet is designed to help assess the effects of the action on other NOAA-trust resources. This helps maintain efficiency in our interagency coordination process. In addition, further consultation may be required if a proposed action impacts marine mammals or threatened and endangered species for which we are responsible. Staff from our Greater Atlantic Regional Fisheries Office, Protected Resources Division should be contacted regarding potential impacts to marine mammals or threatened and endangered species.

Summary of Essential Fish Habitat (EFH) Designation

10 x 10 Square Coordinates:

Boundary	North	East	South	West
Coordinate	41° 10.0' N	73° 30.0' W	41° 00.0' N	73° 40.0' W

Square Description (i.e. habitat, landmarks, coastline markers): Atlantic Ocean waters within the square within Long Island Sound affecting south of the following: Greenwich, CT., Belle Harbor, CT., Cos Cob, CT., Riverside, CT., Stamford, CT., Glenbrook, CT., and Mianus, CT., along with Greenwich Pt., Shippan Pt., Field Pt., Cos Cob Harbor, and the entrance to the Ripparan River and the Mianus River, from Holly Pond south of Noroton Heights to east of Port Chester NY. Also affected are: Captain Harbor, Newfoundland Reef, The Cows, Stamford Harbor, Westcott Cove, and western Holly Pond.

Table 1

Species	Eggs	Larvae	Juveniles	Adults
Atlantic salmon (<i>Salmo salar</i>)			X	X
Atlantic cod (<i>Gadus morhua</i>)				
haddock (<i>Melanogrammus aeglefinus</i>)				
pollock (<i>Pollachius virens</i>)			X	X
whiting (<i>Merluccius bilinearis</i>)				
offshore hake (<i>Merluccius albidus</i>)				
red hake (<i>Urophycis chuss</i>)	X	X	X	X
white hake (<i>Urophycis tenuis</i>)				
redfish (<i>Sebastes fasciatus</i>)	n/a			
witch flounder (<i>Glyptocephalus cynoglossus</i>)				
winter flounder (<i>Pseudopleuronectes americanus</i>)	X	X	X	X
yellowtail flounder (<i>Limanda ferruginea</i>)				
windowpane flounder (<i>Scophthalmus aquosus</i>)	X	X	X	X
American plaice (<i>Hippoglossoides platessoides</i>)			X	X
ocean pout (<i>Macrozoarces americanus</i>)				
Atlantic halibut (<i>Hippoglossus hippoglossus</i>)				
Atlantic sea scallop (<i>Placopecten magellanicus</i>)				

Atlantic sea herring (<i>Clupea harengus</i>)			X	X
monkfish (<i>Lophius americanus</i>)				
bluefish (<i>Pomatomus saltatrix</i>)			X	X
long finned squid (<i>Loligo pealeii</i>)	n/a	n/a		
short finned squid (<i>Illex illecebrosus</i>)	n/a	n/a		
Atlantic butterfish (<i>Peprilus triacanthus</i>)				
Atlantic mackerel (<i>Scomber scombrus</i>)	X	X	X	X
summer flounder (<i>Paralichthys dentatus</i>)			X	
scup (<i>Stenotomus chrysops</i>)	X	X	X	X
black sea bass (<i>Centropristis striata</i>)	n/a		X	
surf clam (<i>Spisula solidissima</i>)	n/a	n/a		
ocean quahog (<i>Artica islandica</i>)	n/a	n/a		
spiny dogfish (<i>Squalus acanthias</i>)	n/a	n/a		
tilefish (<i>Lopholatilus chamaeleonticeps</i>)				
king mackerel (<i>Scomberomorus cavalla</i>)	X	X	X	X
Spanish mackerel (<i>Scomberomorus maculatus</i>)	X	X	X	X
cobia (<i>Rachycentron canadum</i>)	X	X	X	X
sand tiger shark (<i>Carcharias taurus</i>)		X		

Summary of Essential Fish Habitat (EFH) Designation

10 x 10 Square Coordinates:

Boundary	North	East	South	West
Coordinate	41° 00.0 N	73° 40.0 W	40° 50.0 N	73° 50.0 W

Square Description (i.e. habitat, landmarks, coastline markers): The waters within the square within the Hudson River estuary on the north shore of Long Island, affecting the following: north of Manhasset Neck, Port Washington, NY., Berker Pt., Sands Pt., and Mott Pt., the tip of Hewlett Pt. on the north of Great Neck, north of Manhasset, NY., and Douglastown, NY. Also, the waters within Long Island Sound south of mainland New York from Port Chester, NY., and Rye, NY., to Westchester, NY., on East Chester Bay, along with south of the following: Harrison, NY., Mamaroneck, NY., Larchmont, NY., Pelham, NY., New Rochelle, NY., Pelham Manor, NY., and East Chester, NY. Also, around the following islands and features: Hart, City, Davids, Pea, Hen, Glen, Hunter and Huckleberry, the Scotch Caps, Middle Gorund, Execution Rocks, Gangway Rocks, Porgy Shoal and Hen and Chickens Rocks, along with the Hutchinson River, Mamaroneck Harbor, Milton Harbor, and Larchmont Harbor.

Table 2

Species	Eggs	Larvae	Juveniles	Adults
Atlantic cod (<i>Gadus morhua</i>)			X	X
haddock (<i>Melanogrammus aeglefinus</i>)				
pollock (<i>Pollachius virens</i>)			X	X
whiting (<i>Merluccius bilinearis</i>)				
offshore hake (<i>Merluccius albidus</i>)				
red hake (<i>Urophycis chuss</i>)	X	X	X	X
white hake (<i>Urophycis tenuis</i>)				
redfish (<i>Sebastes fasciatus</i>)	n/a			
witch flounder (<i>Glyptocephalus cynoglossus</i>)				
winter flounder (<i>Pseudopleuronectes americanus</i>)	X	X	X	X
yellowtail flounder (<i>Limanda ferruginea</i>)				
windowpane flounder (<i>Scophthalmus aquosus</i>)	X	X	X	X
American plaice (<i>Hippoglossoides platessoides</i>)				
ocean pout (<i>Macrozoarces americanus</i>)				
Atlantic halibut (<i>Hippoglossus hippoglossus</i>)				
Atlantic sea scallop (<i>Placopecten magellanicus</i>)				
Atlantic sea herring (<i>Clupea harengus</i>)		X	X	X
monkfish (<i>Lophius americanus</i>)				
bluefish (<i>Pomatomus saltatrix</i>)			X	X
long finned squid (<i>Loligo pealeii</i>)	n/a	n/a		

short finned squid (<i>Illex illecebrosus</i>)	n/a	n/a		
Atlantic butterfish (<i>Peprilus triacanthus</i>)		X	X	X
Atlantic mackerel (<i>Scomber scombrus</i>)			X	X
summer flounder (<i>Paralichthys dentatus</i>)		X	X	X
scup (<i>Stenotomus chrysops</i>)	X	X	X	X
black sea bass (<i>Centropristis striata</i>)	n/a		X	X
surf clam (<i>Spisula solidissima</i>)	n/a	n/a		
ocean quahog (<i>Artica islandica</i>)	n/a	n/a		
spiny dogfish (<i>Squalus acanthias</i>)	n/a	n/a		
tilefish (<i>Lopholatilus chamaeleonticeps</i>)				
king mackerel (<i>Scomberomorus cavalla</i>)	X	X	X	X
Spanish mackerel (<i>Scomberomorus maculatus</i>)	X	X	X	X
cobia (<i>Rachycentron canadum</i>)	X	X	X	X
sand tiger shark (<i>Carcharias taurus</i>)		X		

EFH ASSESSMENT WORKSHEET FOR FEDERAL AGENCIES (modified 3/2016)

PROJECT NAME:

DATE:

PROJECT NO.:

LOCATION (Water body, county, physical address):

PREPARER:

Step 1: Use [NOAA's EFH Mapper](#) to generate the list of designated EFH for federally-managed species and life stages for the geographic area of interest. Use this list as part of the initial screening process to determine if EFH for those species occurs in the vicinity of the proposed action. The list can be included as an attachment to the worksheet. Make a preliminary determination on the need to conduct an EFH consultation.

1. INITIAL CONSIDERATIONS		
EFH Designations	Yes	No
Is the action located in or adjacent to EFH designated for eggs? List the species:		
Is the action located in or adjacent to EFH designated for larvae? List the species:		
Is the action located in or adjacent to EFH designated for juveniles? List the species:		

<p>Is the action located in or adjacent to EFH designated for adults or spawning adults? List the species:</p>		
<p>If you answered 'no' to all questions above, then an EFH consultation is not required - go to Section 5. If you answered 'yes' to any of the above questions, proceed to Section 2 and complete the remainder of the worksheet.</p>		

Step 2: In order to assess impacts, it is critical to know the habitat characteristics of the site before the activity is undertaken. Use existing information, to the extent possible, in answering these questions. Identify the sources of the information provided and provide as much description as available. These should not be yes or no answers. Please note that there may be circumstances in which new information must be collected to appropriately characterize the site and assess impacts. Project plans that show the location and extent of sensitive habitats, as well as water depths, the HTL, MHW and MLW should be provided.

2. SITE CHARACTERISTICS	
Site Characteristics	Description
Is the site intertidal, sub-tidal, or water column?	
What are the sediment characteristics?	
Is there submerged aquatic vegetation (SAV) at or adjacent to project site? If so describe the SAV species and spatial extent.	
Are there wetlands present on or adjacent to the site? If so, describe the spatial extent and vegetation types.	

<p>Is there shellfish present at or adjacent to the project site? If so, please describe the spatial extent and species present.</p>	
<p>Are there mudflats present at or adjacent to the project site? If so please describe the spatial extent.</p>	
<p>Is there rocky or cobble bottom habitat present at or adjacent to the project site? If so, please describe the spatial extent.</p>	
<p>Is Habitat Area of Particular Concern (HAPC) designated at or near the site? If so for which species, what type habitat type, size, characteristics?</p>	
<p>What is the typical salinity, depth and water temperature regime/range?</p>	
<p>What is the normal frequency of site disturbance, both natural and man-made?</p>	
<p>What is the area of proposed impact (work footprint & far afield)?</p>	

Step 3: This section is used to describe the anticipated impacts from the proposed action on the physical/chemical/biological environment at the project site and areas adjacent to the site that may be affected.

3. DESCRIPTION OF IMPACTS			
Impacts	Y	N	Description
Nature and duration of activity(s). Clearly describe the activities proposed and the duration of any disturbances.			
Will the benthic community be disturbed? If no, why not? If yes, describe in detail how the benthos will be impacted.			
Will SAV be impacted? If no, why not? If yes, describe in detail how the SAV will be impacted. Consider both direct and indirect impacts. Provide details of any SAV survey conducted at the site.			
Will salt marsh habitat be impacted? If no, why not? If yes, describe in detail how wetlands will be impacted. What is the aerial extent of the impacts? Are the effects temporary or permanent?			

<p>Will mudflat habitat be impacted? If no, why not? If yes, describe in detail how mudflats will be impacted. What is the aerial extent of the impacts? Are the effects temporary or permanent?</p>			
<p>Will shellfish habitat be impacted? If so, provide in detail how the shellfish habitat will be impacted. What is the aerial extent of the impact? Provide details of any shellfish survey conducted at the site.</p>			
<p>Will hard bottom (rocky, cobble, gravel) habitat be impacted at the site? If so, provide in detail how the hard bottom will be impacted. What is the aerial extent of the impact?</p>			
<p>Will sediments be altered and/or sedimentation rates change? If no, why not? If yes, describe how.</p>			
<p>Will turbidity increase? If no, why not? If yes, describe the causes, the extent of the effects, and the duration.</p>			

Will water depth change? What are the current and proposed depths?			
Will contaminants be released into sediments or water column? If yes, describe the nature of the contaminants and the extent of the effects.			
Will tidal flow, currents, or wave patterns be altered? If no, why not? If yes, describe in detail how.			
Will water quality be altered? If no, why not? If yes, describe in detail how. If the effects are temporary, describe the duration of the impact.			
Will ambient noise levels change? If no, why not? If yes, describe in detail how. If the effects are temporary, describe the duration and degree of impact.			
Does the action have the potential to impact prey species of federally managed fish with EFH designations?			

Step 4: This section is used to evaluate the consequences of the proposed action on the functions and values of EFH as well as the vulnerability of the EFH species and their life stages. Identify which species (from the list generated in Step 1) will be adversely impacted from the action. Assessment of EFH impacts should be based upon the site characteristics identified in Step 2 and the nature of the impacts described within Step 3. [NOAA's EFH Mapper](#) should be used during this assessment to determine the ecological parameters/ preferences associated with each species listed and the potential impact to those parameters.

4. EFH ASSESSMENT			
Functions and Values	Y	N	Describe habitat type, species and life stages to be adversely impacted
Will functions and values of EFH be impacted for:			
Spawning If yes, describe in detail how, and for which species. Describe how adverse effects will be avoided and minimized.			
Nursery If yes, describe in detail how and for which species. Describe how adverse effects will be avoided and minimized.			
Forage If yes, describe in detail how and for which species. Describe how adverse effects will be avoided and minimized.			
Shelter If yes, describe in detail how and for which species. Describe how adverse effects will be avoided and minimized.			

<p>Will impacts be temporary or permanent? Please indicate in description box and describe the duration of the impacts.</p>			
<p>Will compensatory mitigation be used? If no, why not? Describe plans for mitigation and how this will offset impacts to EFH. Include a conceptual compensatory mitigation plan, if applicable.</p>			

Step 5: This section provides the federal agency's determination on the degree of impact to EFH from the proposed action. The EFH determination also dictates the type of EFH consultation that will be required with NOAA Fisheries.

Please note: if information provided in the worksheet is insufficient to allow NOAA Fisheries to complete the EFH consultation additional information will be requested.

5. DETERMINATION OF IMPACT		
Federal Agency's EFH Determination		
<p>Overall degree of adverse effects on EFH (not including compensatory mitigation) will be: (check the appropriate statement)</p>		<p>There is no adverse effect on EFH or no EFH is designated at the project site. EFH Consultation is not required.</p>
		<p>The adverse effect on EFH is not substantial. This means that the adverse effects are either no more than minimal, temporary, or that they can be alleviated with minor project modifications or conservation recommendations. This is a request for an abbreviated EFH consultation.</p>
		<p>The adverse effect on EFH is substantial. This is a request for an expanded EFH consultation.</p>

Step 6: Consultation with NOAA Fisheries may also be required if the proposed action results in adverse impacts to other NOAA-trust resources, such as anadromous fish, shellfish, crustaceans, or their habitats as part of the Fish and Wildlife Coordination Act. Some examples of other NOAA-trust resources are listed below. Inquiries regarding potential impacts to marine mammals or threatened/endangered species should be directed to NOAA Fisheries' Protected Resources Division.

6. OTHER NOAA-TRUST RESOURCES IMPACT ASSESSMENT	
Species known to occur at site (list others that may apply)	Describe habitat impact type (i.e., physical, chemical, or biological disruption of spawning and/or egg development habitat, juvenile nursery and/or adult feeding or migration habitat). Please note, impacts to federally listed species of fish, sea turtles, and marine mammals must be coordinated with the GARFO Protected Resources Division.
alewife	
American eel	
American shad	
Atlantic menhaden	
blue crab	
blue mussel	
blueback herring	

Eastern oyster	
horseshoe crab	
quahog	
soft-shell clams	
striped bass	
other species:	

Useful Links

[National Wetland Inventory Maps](#)

[EPA's National Estuaries Program](#)

[Northeast Regional Ocean Council \(NROC\) Data](#)

[Mid-Atlantic Regional Council on the Ocean \(MARCO\) Data](#)

Resources by State:

Maine

[Eelgrass maps](#)

[Maine Office of GIS Data Catalog](#)

[Casco Bay Estuary Partnership](#)

[Maine GIS Stream Habitat Viewer](#)

New Hampshire

[New Hampshire's Statewide GIS Clearinghouse, NH GRANIT](#)

[New Hampshire Coastal Viewer](#)

Massachusetts

[Eelgrass maps](#)

[MADMF Recommended Time of Year Restrictions Document](#)

[Massachusetts Bays National Estuary Program](#)

[Buzzards Bay National Estuary Program](#)

[Massachusetts Division of Marine Fisheries](#)

[Massachusetts Office of Coastal Zone Management](#)

Rhode Island

[Eelgrass maps](#)

[Narraganset Bay Estuary Program](#)

[Rhode Island Division of Marine Fisheries](#)

[Rhode Island Coastal Resources Management Council](#)

Connecticut

[Eelgrass Maps](#)

[Long Island Sound Study](#)

[CT GIS Resources](#)

[CT DEEP Office of Long Island Sound Programs and Fisheries](#)

[CT Bureau of Aquaculture Shellfish](#)

[Maps CT River Watershed Council](#)

New York

[Eelgrass report](#)

[Peconic Estuary Program](#)

[NY/NJ Harbor Estuary](#)

New Jersey

[Submerged Aquatic Vegetation mapping](#)

[Barnegat Bay Partnership](#)

Delaware

[Partnership for the Delaware Estuary](#)

[Center for Delaware Inland Bays](#)

Maryland

[Submerged Aquatic Vegetation mapping](#)

[MERLIN](#)

[Maryland Coastal Bays Program](#)

Virginia

[Submerged Aquatic Vegetation mapping](#)