ESSENTIAL FISH HABITAT ASSESSMENT FOR NARROW BAY

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For

Suffolk County Parks Department

A. PROJECT DESCRIPTION

The proposed project for which an NPS permit is requested is the construction of a multi-use pier on the north side of Smith Point County Park in Shirley, New York. The 12 foot wide 142' long pier will extend 110 feet into Narrow Bay. The structure will be constructed of timber. All pilings will be installed using both jet injection and pile driving to reach the recommended depth. The decking will be built 6.5 feet above mean high water to allow for sunlight to reach the surface of the water to help promote the growth of the eelgrass bed in the area. The height of the pier will also increase the chance of the regeneration of vegetation in the area that, due to trampling, have been lost.

The pier will be used as an educational interpretive/fishing pier (no mooring of boats will be allowed) to expand both the education of the waterways of Long Island and to expand the fishing opportunities of the area. As of now, there is limited access for fishing for fishermen on this portion of the beach due to the shallow water and limited beach area. The construction of this pier will allow shore fishermen to reach the deeper waters without disturbing the wetlands of the area. With the creation of the pier, the wetland areas will be afforded some protection from trampling and will be able to regenerate. Also, education on the estuarine habitats in the bay is important in the protection of these areas both on Long Island and in other areas of the coast.

Table 1

Summary of Essential Fish Habitat

Name of Estuary/ Bay/ River: Great South Bay, New York

10' x 10' latitude and longitude squares included in this bay or estuary or river (southeast corner boundaries):

4050/7220; 4050/7230; 4040/7230; 4040/7240; 4040/7250; 4040/ 7300; 4040/7310; 4040/7320; 4030/7300; 4030/7310; 4030/7320; 4030/7330; 4040/7340

Species	Eggs	Larvae	Juveniles	Adults	Spawning Adults
Atlantic salmon *(Salmo salar)*				S	
pollock *(Pollachius virens)*			S		
redfish *(Sebastes fasciatus)*	n/a				
witch flounder *(Glyptocephalus cynoglossus)*					
winter flounder *(Pleuronectes americanus)*	M,S	M,S	M,S	M,S	M,S
yellowtail flounder *(Pleuronectes ferruginea)*					
windowpane flounder *(Scopthalmus aquosus)*	M,S	M,S	M,S	M,S	M,S
American plaice *(Hippoglossoides platessoides)*			S	S	
Atlantic sea herring *(Clupea harengus)*			S	S	
bluefish *(Pomatomus saltatrix)*			M,S	M,S	
long finned squid *(Loligo pealei)*	n/a	n/a			
short finned squid *(Illex illecebrosus)*	n/a	n/a			
Atlantic butterfish *(Peprilus triacanthus)*	S	S	S	S	
Atlantic mackerel *(Scomber scombrus)*	S	S	S	S	
summer flounder *(Paralicthys dentatus)*			M,S	M,S	
scup *(Stenotomus chrysops)*			S	S	
black sea bass *(Centropristus striata)*				S	
king mackerel *(Scomberomorus cavalla)*	X	X	X	X	
Spanish mackerel *(Scomberomorus maculatus)*	X	X	X	X	
cobia *(Rachycentron canadum)*	X	X	X	X	

X= EFH has been designated in this area for species.
S = The EFH designation for this species includes the seawater salinity zone of this bay or estuary (salinity > or = 25.0%).
M = The EFH designation for this species includes the mixing water/ brackish salinity zone of this bay or estuary (0.5% < salinity < 25.0%).

B. EFH DESIGNATIONS

The Narrow Bay has been designated as Essential Fish Habitat (EFH) for 17 species of fish. All the species and life stages are shown above in Table 1 above.

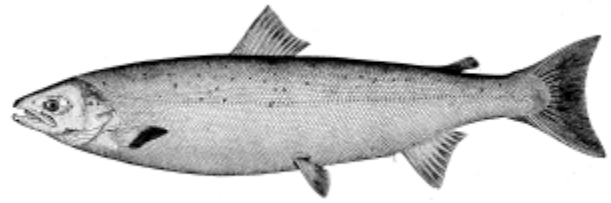
C. ANALYSIS OF EFFECT TO THE EFH

The Study area is in the Northeast corner of Smith Point County Park. The bottom substrate in this area is mostly comprised of silt and sand with broken concrete scattered throughout. Water depths in the area range from 2-6 feet, though depth in most of the work area is between 2-4 feet. Water temperatures in the area range from 0 to 27 degrees Celsius and salinity ranges from 26 to 29 parts per thousand (ppt).

In-water construction activities will be limited to installation of pilings using both jetting and pile driving. These activities will impact the area in a limited manner due to the slight increase in turbidity and suspended solids in the water column. Adult fish of the species found in the area are all mobile and will be able to avoid these impacts by leaving the local area during construction and returning when it is complete. Eggs and larvae in the immediate area may be displaced or destroyed. These adverse impacts will be localized to a very small area and will be temporary and short-term. The overall impact of the proposed action is minor. These impacts will be minimized by the tidal action of the area, as well as by seasonal restrictions on in-water construction activities and proper use of sediment control devices, if necessary, as determined in the course of required consultations with the National Marine Fisheries Service. Seasonal restrictions on in-water construction activities minimize impacts to larval and juvenile life-stages that are seasonally sensitive in warm water temperatures.

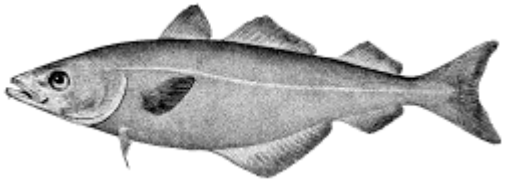
An analysis of EFH for each species and appropriate life stages from Table 1 and the likelihood of the species being present in the project area, are discussed below.

ATLANTIC SALMON



Narrow Bay has been designated as Essential Fish Habitat (EFH) for Atlantic Salmon Adults. Adult Salmon returning to spawn are found in waters of temperatures less than 22.8 deg. Celsius (C). Oceanic salmon are mostly pelagic and range in waters from New England to Maine and remain in deeper waters until returning to their birth streams. Due to the habitat and environmental conditions of the site, salmon are not likely to be found in this area.

POLLACK

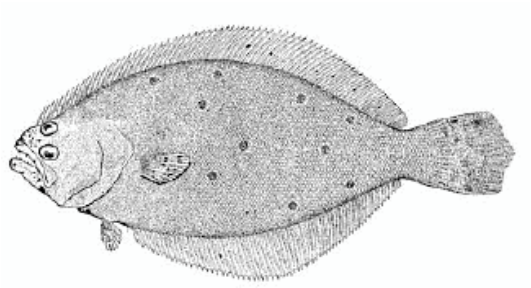


Narrow Bay has been designated as EFH for juvenile Pollack. They are found in habitats with aquatic vegetation with a sand or mud bottom, in the gulf of Maine and Georges Bank. The are usually seen in water with temperatures below 18 deg. C and a salinity of 29 to 32 parts per thousand (ppt). Due to the shallow warmwater and the salinity below their preferred range, Pollack will most likely not be found on the site.

WINTER FLOUNDER

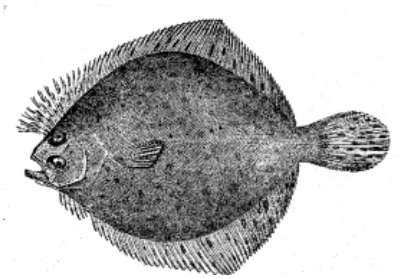
Narrow Bay has been designated EFH for Winter Flounder eggs, larvae, juveniles, adults, and spawning adults. Winter flounder eggs are found in bottom habitats with sand, silt, mud or gravel, with water temperatures below 10 deg C, salinity between 10-30% and water depths less than 5 meters. Most eggs are observed between February and June with peaks in the northeast in March. Larvae Winter Flounder are found in water less than 6 meters in depth with temperatures less than 15 deg. C and salinities from 4- 33 %. Most larvae are captured between the months of March and July. Juvenile (young of year) Winter Flounder are found in bottom habitats with a substrate of mud and fine sand, temperatures below 28 deg. C and depth less than 10 meters. 1-year-old flounder can be found in bottom habitats of mud or fine sand, in water to about 50' with temperatures below 25 deg. C. Adult winter flounder are found in the bays and estuaries along the eastern coast during winter months and migrate to cooler deeper waters in the summer. They tend to be found in waters below 25 deg. C and depths to 100' with salinities from 15 to 33 %. Spawning Adults are observed between February and June in a fine sand or mud substrate (vegetated or not) with water temperatures below 15 deg.C and depths less than 6 meters and a salinity 6 to 36%. Since habitat and environmental conditions in this area are conducive to the winter flounder, it is expected that they will be present on the site.

SUMMER FLOUNDER



Narrow Bay has been designated as EFH as well as Habitat Area of Particular Concern (HAPC) for juvenile and adult Summer Flounder or Fluke. Juveniles are also found in the brackish and seawater zones on mudflats and eelgrass beds and on open bay areas with temperatures exceeding 37 deg C and summer salinities to 30 ppt. During summer months adults will be found inshore and will be present in the same areas as juvenile fluke, they migrate to deeper waters for the winter months. Juvenile and adult Summer Flounder may be present on the site.

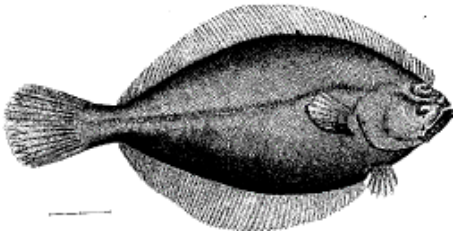
WINDOWPANE FLOUNDER



The Narrow Bay has been designated as EFH for all life stages of Windowpane Flounder. The eggs of the Windowpane Flounder can be found from February to November with peaks in May and October. They are seen in waters with temperatures less than 20 deg. C and depths to 70'. The larvae are found in the pelagic waters in temperatures below 20 deg C and depths to 70'. Larvae are found from February to November approximately the same time as the eggs are observed. Juvenile Windowpane Flounder are found in

bottom substrate of mud or fine sand with water temperatures less than 25 deg C and depths from 1' to 100' and salinities ranging from 5.5 to 36%. Adults are found in a bottom substrate of silt or fine sand in temperatures of less than 26 deg. C and depths to approximately 75 foot. Spawning takes place from February to December but peaks in May in this area. Spawning occurs in waters from 1 to 75 foot deep and temperatures below 21 deg C. Habitats and Environmental conditions in Narrow Bay are typical for Windowpane Flounder habitat and they may be found at the site.

AMERICAN PLAICE



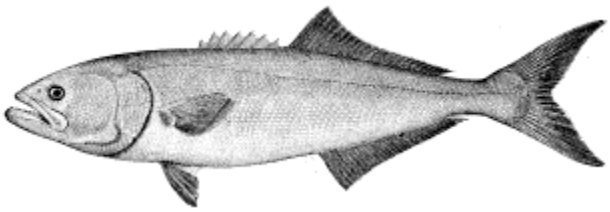
This area has been designated as EFH for American Plaice juveniles and adults. Both age classes are found in water from 45 to 175 feet of water and temperatures below 17 deg C. Due to the habitat and environmental conditions favored by American Plaice, they will most likely not be found on the site.

ATLANTIC HERRING

Narrow Bay has been designated as EFH for both juvenile and adult Atlantic Herring. Both age classes are found in pelagic waters and bottom habitats with temperatures below 10 deg C and depths ranging from 15 to 130 meters. Due to the fact that the preferred

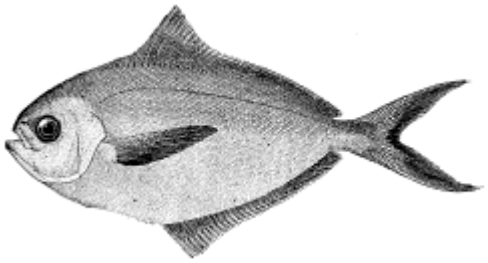
depths and water temperatures are lower than normally found in the work area, Atlantic Herring are not expected to be in the work area.

BLUEFISH



Narrow Bay has been designated as EFH for Juvenile and adult Bluefish. Bluefish are mostly a pelagic species spending most of their time in the deeper waters off the coast from Maine to Florida. In the summer months, bluefish migrate into the bays and estuaries along the Mid-Atlantic coast. They can be found in Narrow Bay from April to October depending on the prey species availability. Bluefish may be present in the work area.

BUTTERFISH



Narrow Bay has been designated as Essential Fish Habitat for all life stages of Butterfish. Larvae, juvenile and adult Butterfish are a pelagic species spending most or their time in water from 33 feet to 6000 feet deep. The eggs of the butterfish can be found in the brackish waters of estuaries along the eastern shoreline of the U.S. Since the habitat and environmental conditions are not conducive to the butterfish, they will most likely not be found in the work area.

ATLANTIC MACKEREL

Narrow Bay has been designated as EFH for Atlantic Mackerel. This species is found in the pelagic waters in depths to approximately 1200 feet and water temperatures between 39 and 72 deg F. The eggs have been collected in waters from shore to approximately 15 meters and temperatures from 5 to 23 Deg C. Eggs are most often seen in beginning in the fall and peaking in winter and spring. The larvae can be found in the bays and estuaries along the Atlantic Coast in waters from 10 meters to approximately 130 meters deep. Juvenile Mackerel are found to a depth of 1,500 feet and waters from 4 to 16 deg C. Since water temperatures and depths in the area are not favorable for the Atlantic Mackerel, they will most likely not be present in the area.

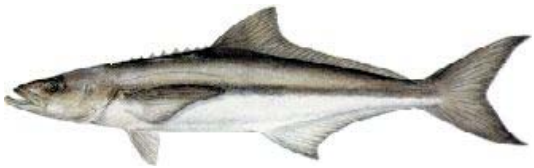
KING MACKEREL

Narrow Bay has been designated as EFH for all life stages of King Mackerel. EFH for King Mackerel is the pelagic waters around sandy shoals of capes and offshore bars, high profile rocky bottoms and the oceanside of barrier islands. It is a migratory pelagic species and would not be expected in the shallow waters of Narrow Bay and will not be found at the work area.

SPANISH MACKEREL

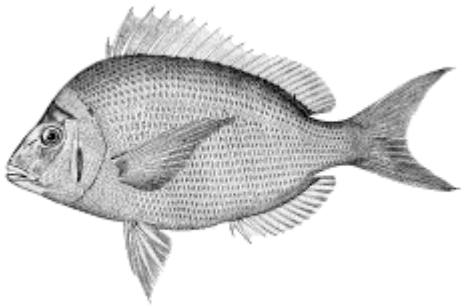
Narrow Bay has been designated as EFH for all life stages of Spanish Mackerel. EFH for Spanish Mackerel is the pelagic waters around sandy shoals of capes and offshore bars, high profile rocky bottoms and the oceanside of barrier islands. It is a migratory pelagic species and would not be expected in the shallow waters of Narrow Bay and will not be found at the work area.

COBIA



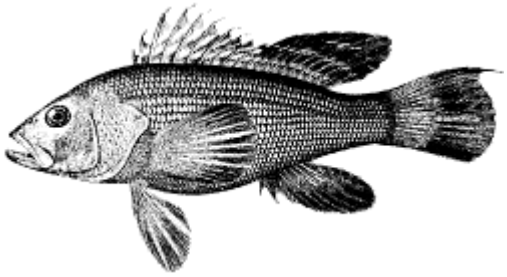
Narrow Bay has been designated as EFH for all life stages of Cobia. EFH for Cobia is the pelagic waters around sandy shoals of capes and offshore bars, high profile rocky bottoms and the oceanside of barrier islands. Also, Cobia can be found in high salinity bays, estuaries and seagrass habitat. Due though to the environmental conditions and the habitat of the site Cobia or not expected at the work site.

SCUP



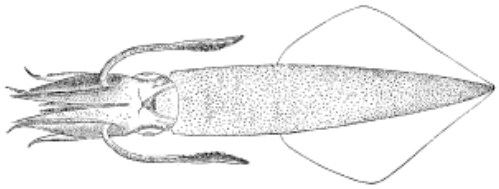
Narrow Bay has been designated as EFH for all life stages of Scup or Porgy. Eggs and larvae are found in the brackish and seawater zones of estuaries and bays along the east coast in water temperatures ranging from 55 to 73 deg F. Juveniles are found in bays in the spring and summer in water temperatures over 45 Deg F with habitats of sand, mud and eelgrass beds. Adult scup are found in the summer months in bays and estuaries and migrate to deeper waters in winter. Scup may be present in the project area.

BLACK SEA BASS



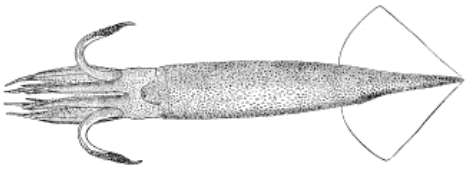
Narrow Bay is designated as EFH for Black Sea Bass. Eggs of the Black Sea Bass are usually found over the continental shelf though they may be found in the estuaries where adults are abundant throughout the year. Juveniles are found inshore on structured habitats such as sponge beds or eelgrass. Juveniles are found in rocky or sandy bottoms near eelgrass beds where prey species, such as crabs, can be found. Adults can be found in bays and estuaries near man made structure, such as docks or bridges from May to October. Due to the habitat and environmental conditions at the site adult Black Sea Bass will most likely not be present on the site.

LOLIGO SQUID (Long Finned Squid)



This area has been designated EFH for Loligo Squid. Pre-recruits (less than or equal to 8 cm) are found offshore from 0 to 700 feet of water. Recruits (greater than 8 cm) summer in the bays and estuaries along East Coast of United States and winter in deep offshore waters. Due to the habitat and environmental conditions not being conducive to Loligo Squid they will not be found in work area.

SHORT FINNED SQUID



This area has been designated as EFH for Short Finned Squid. Both Pre-recruits (less than or equal to 10 cm) and Recruits (greater than 10 cm) are found offshore in the pelagic waters from shoreline to 700 and 1000 feet respectively. They will not be found in the work area.

D. PROPOSED MITIGATION

Sediment controls will be installed in the proper manner if necessary, to minimize increases in turbidity outside the work area, prior to any construction. Final elevation of the decking over the water will be 6.5 feet to allow sunlight to reach below and encourage the growth of eelgrass in the area.

The pier has been realigned from its original position to minimize the impacts on the eelgrass beds in the area. The original alignment was to the northeast crossing the majority of the eastern bed. With the new alignment the pier will avoid the majority of the eelgrass. Also, due to the majority of this area being a sandy soil, problems with turbidity will be minimized.

E. CONCLUSION

This area is not optimal EFH for a majority of the species discussed above due to the depth and temperature of the site. There are several species (Winter Flounder, Summer Flounder, Windowpane Flounder, Bluefish and Scup) that will most likely be present in the work area but these species are mobile and will move out of the area when work begins and return after conclusion of the job and if present at all these species are only in the area in the spring and summer depending on water temperatures. The eggs and larvae of Scup, Windowpane Flounder and larvae of Winter Flounder are Planktonic (float in water) and may be affected by the work. Winter Flounder eggs are demersal as are many of the prey species in the area. However, since this is a small site with only portions of good EFH the impact will be minimal on these species. Care will be taken to create a little amount of disturbance the area so as to maintain the eelgrass beds of the area. Also, most work will be done in a small area so any disturbance will be minimized. Therefore, based upon the project design and local conditions, the minimal, localized, and short-term impacts of the in-water construction activities, and the described mitigation, the proposed project will not have any adverse effect on EFH.