

Environmental Sensitivity Index Maps

A Guide to Coastal Resources at Risk to Spilled Oil

Long Island Sound: Volume 1



Office of Response and Restoration

September 2016

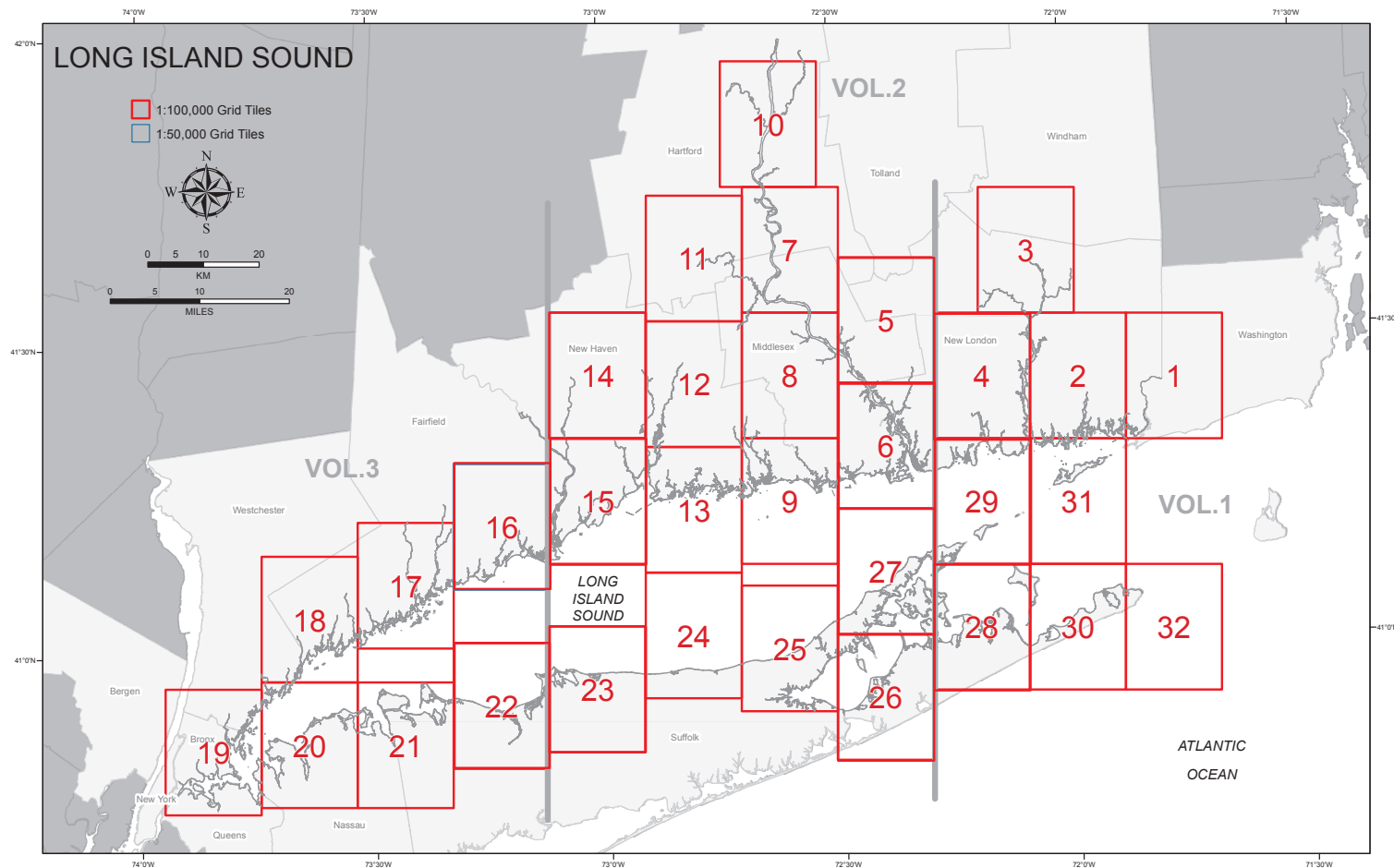
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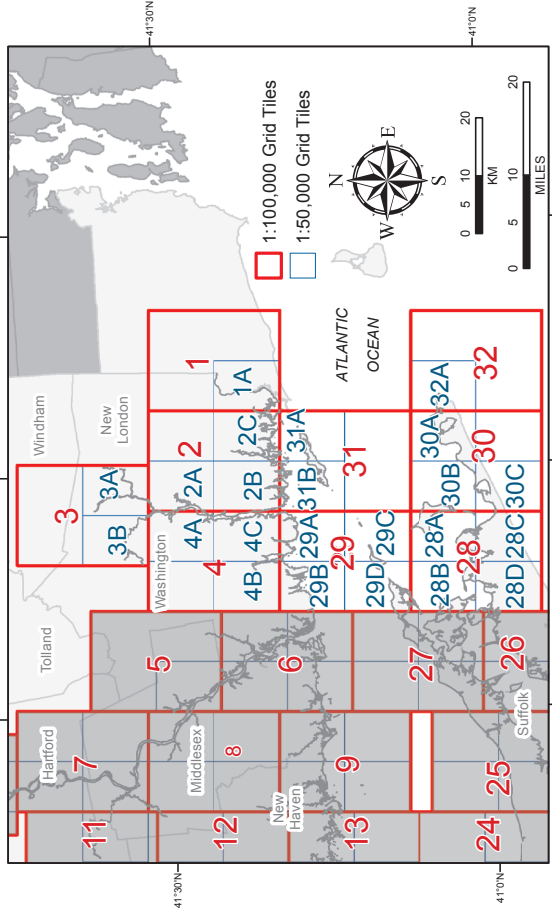
Index Maps

A Guide to Coastal Resources at Risk to Spilled Oil

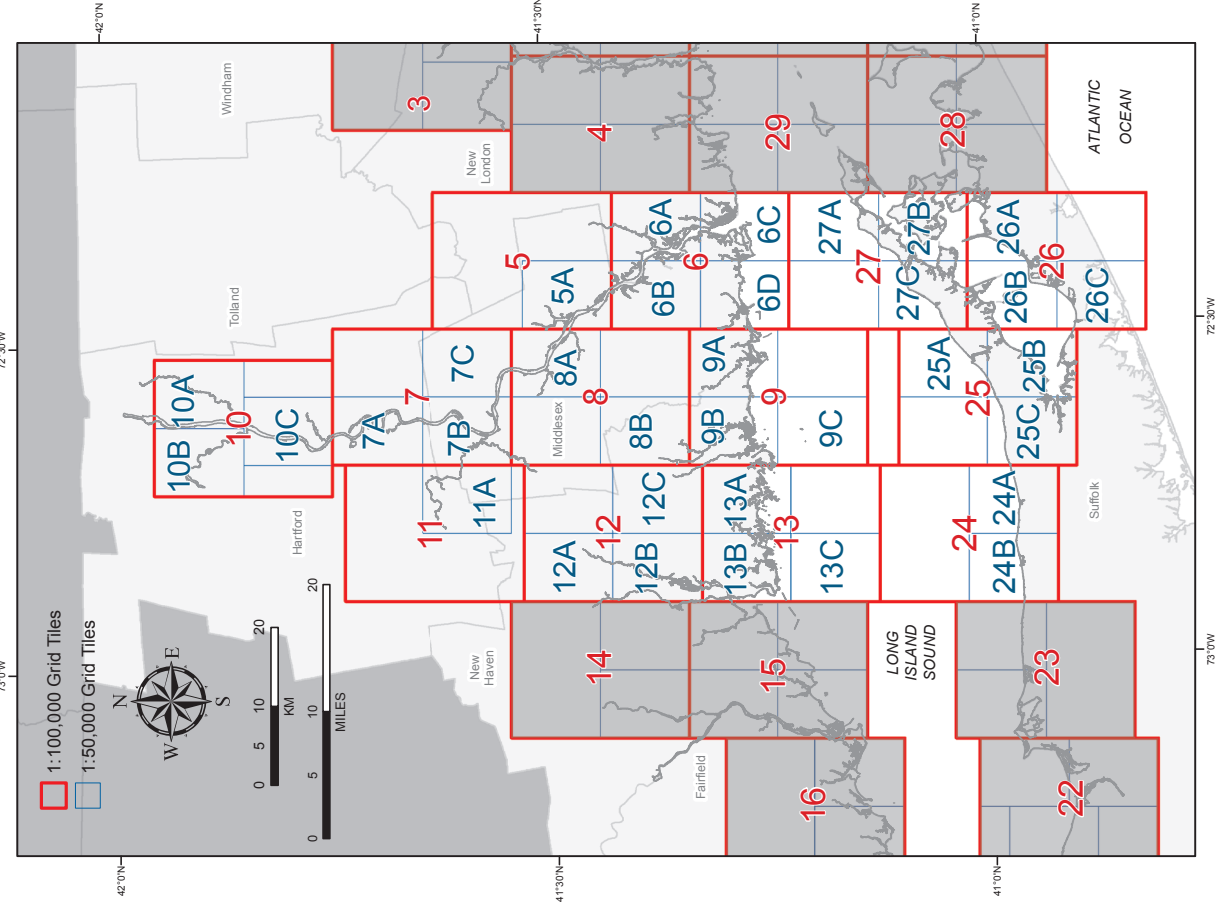
Long Island Sound



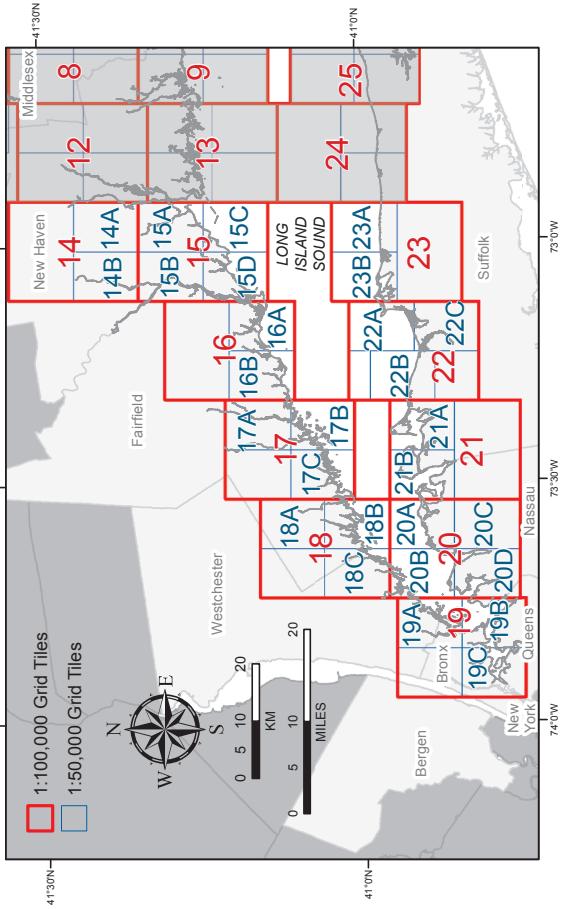
Long Island Sound East: Volume 1



Long Island Sound Central: Volume 2



Long Island Sound West: Volume 3



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ENVIRONMENTAL SENSITIVITY INDEX: LONG ISLAND SOUND

INTRODUCTION

This Environmental Sensitivity Index (ESI) atlas was developed for the marine and coastal areas of Long Island Sound. The ESI represents a compilation of information about three main categories: shoreline habitats, sensitive biological resources, and human-use resources. Though the data will be useful for many shoreline applications, the goal of the ESI data is to present a concise summary of resources that may be particularly vulnerable to spilled oil. The intent of the data should caveat other uses. As an example, the ESI is not intended to present a catalog or comprehensive listing of species present in an area, rather the focus is on species particularly sensitive to oiling and life stages where vulnerability may increase.

SHORELINE HABITAT MAPPING

The shoreline and classifications were fully updated using the following sources and methods. The shoreline and intertidal habitats were delineated using a mapped sequence of Light Detection and Ranging (LiDAR) and high resolution digital orthophotography datasets. The LiDAR data was acquired in 2014 as part of a post-Super Storm Sandy contract for the United States Geological Survey (USGS). This task required the LiDAR data be collected at a nominal pulse spacing (NPS) of 0.7 meters. The window for tidally impacted waters within the area of interest was mean low water (MLW) +/- 2 hours exclusive of neap tide. Seven (7) missions were flown between April 3, 2014 and April 21, 2014, as part of the USGS project.

The base shoreline was compiled at Mean Higher High Water (MHHW) first by LiDAR extraction, then refined within a Geographic Information System (GIS) utilizing high resolution digital orthophotos. After the shoreline was delineated, digital orthoimagery from various sources was used to classify shoreline segments using the standardized ESI rankings (see below). Imagery from the New York State Office of Information Technology Service (2013 and 2011), the New Jersey Office of Information Technology (2013), Connecticut Department of Transportation (2012), as well as various imagery sources for Google Earth and Bing Maps (2014) was used during the classification phase.

Shoreline features of 10 meters (m) or greater in length were classified. In addition, wetland polygon datasets originally created by the United States Fish and Wildlife Service National Wetland Inventory (NWI) were modified and updated to be used in conjunction with the ESI shoreline. The data was visually reviewed and classified against the aerial imagery and adjusted where necessary to allow for proper classification.

The ESI shoreline classification and ranking scale has been used to assess vulnerability of shoreline to spilled oil since the mid-1970s. Rankings range from 1 – least vulnerable, to 10 –

most vulnerable, with a variety of qualifiers unique to the geographic region. The scale incorporates the following considerations:

- | | |
|--|--|
| 1) Shoreline type (substrate, grain size, tidal elevation, origin) | 3) Biological productivity and sensitivity |
| 2) Exposure to wave and tidal energy | 4) Ease of cleanup |

Prediction of the behavior and persistence of oil in intertidal habitats is based on an understanding of the dynamics of the coastal environments, not just the substrate type and grain size. The intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affects the persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the slowness of natural processes in removal of oil stranded on the shoreline. The potential for biological injury and ease of cleanup of spilled oil are also important factors in the ESI shoreline ranking. Thus, shorelines exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity rank low on the scale, whereas sheltered shorelines with associated high biological activity have the highest ranking. The shoreline types delineated for Long Island Sound presented in order of increasing sensitivity to spilled oil, are listed below.

- | | |
|--|--|
| 1A) Exposed Rocky Shores | 7) Exposed Tidal Flats |
| 1B) Exposed, Solid Man-made Structures | 8A) Sheltered Rocky Shores |
| 2A) Exposed, Wave-cut Platforms in Clay | 8B) Sheltered, Solid Man-made Structures |
| 2B) Exposed Scarps and Steep Slopes in Mud | 8C) Sheltered Riprap |
| 3A) Fine- to Medium-grained Sand Beaches | 9A) Sheltered Tidal Flats |
| 3B) Scarps and Steep Slopes in Sand | 9B) Vegetated Low Banks |
| 4) Coarse-grained Sand Beaches | 10A) Salt- and Brackish-water Marshes |
| 5) Mixed Sand and Gravel Beaches | 10B) Freshwater Marshes |
| 6A) Gravel Beaches | 10C) Swamps |
| 6B) Riprap | 10D) Scrub-Shrub Wetlands |

For each of these shoreline types, a photo and description of the physical attributes, predicted oil behavior, and response considerations is included at the end of the introductory pages.

SENSITIVE BIOLOGICAL RESOURCES

Biological information presented in this atlas was collected, compiled, and reviewed with the assistance of biologists and resource managers from the following institutions:

- Atlantic States Marine Fisheries Commission
- Coastal Research and Education Society of Long Island
- Connecticut Department of Agriculture
- Connecticut Department of Energy and Environmental Protection
- Connecticut Natural Diversity Database
- Cornell University Cooperative Extension Service
- Long Island Sound Study
- Manomet Center for Conservation Sciences
- National Audubon Society
- National Oceanic and Atmospheric Administration
- New York State Department of Environmental Conservation
- New York State Department of State
- New York State Natural Heritage Program
- Peconic Bay Estuary Program
- Riverhead Foundation for Marine Research and Preservation
- Saltmarsh Habitat and Avian Research Program
- The Maritime Aquarium at Norwalk
- The Nature Conservancy
- United States Fish and Wildlife Service
- United States Geological Survey

The above institutions provided the majority of the biological information included in the atlas. A full list of data contributors can be found in the sources table and also in the metadata accompanying the digital atlas product.

The biological resources shown in this atlas were extracted from the ESI GIS data compiled for this region. The extracted features were mapped at scale of 1:50,000 and appear on the maps referenced by a combination of number and letter. For example, Map 1B will show the biological features in conjunction with the ESI shoreline. The biology on these maps is “layered” in the PDF files. This allows the user to turn off the biological features to more clearly see the underlying shoreline and habitat polygons.

KEY BIOLOGICAL FEATURES ON ESI MAPS

- 1) Occurrences of animal and plant species that are at risk to spilled oil or may be impacted during a spill response are represented in the database by polygons, points, and lines.
- 2) To avoid clutter, the front of the map features occurrences that cover less than 10 kilometers of the map extent. A Map ID is associated with each of these polygonal, linear or point features.
- 3) Each map includes a tabular report summarizing the species found in the area. Features that are shown on the map are referenced by their Map ID. Features that cover more than 10 kilometers are presented in the report as Widespread in Mapped Area. Species occurrences that appear in the database as General Distribution are listed in a third category, Also Present in Mapped Area. To fully understand the diversity of species present, ALL sections of the map report should be reviewed.
- 4) Associated with each species in the table is the state (S) and federal (F) protected status as threatened (T) or endangered (E), as well as concentration, seasonality, and life-history information. Federal listings were provided by USFWS. State listings were provided by NatureServe.
- 5) The table includes a Mapping Qualifier with each species record (see table of mapping qualifiers and guidelines below). The mapping qualifier should help users understand particular vulnerabilities associated with the map data.
- 6) Feature level source information is included in the GIS database used to create these maps. The GIS data also provides the extent polygons for all mapped features; it can be queried, filtered, and used with other GIS datasets.
- 7) Species have been divided into groups and subgroups based on their behavior, morphology, taxonomic classification, and spill vulnerability and sensitivity. The icons below reflect this grouping scheme.
- 8) Colors depicting monthly seasonality roughly reflect Winter/Spring/Summer/Fall, but are primarily intended to ease readability.

MARINE MAMMAL



Dolphin



Pinniped



Whale

TERRESTRIAL MAMMAL



Bat



Small Mammal

HERPETOFAUNA



Amphibian/
Snake



Turtle

BIRD



Alcid/Pelagic



Diving Bird



Gull/Tern



Passerine



Raptor



Shorebird



Wading



Waterfowl

HABITAT



Upland /Wetland/Plant



FAV

INVERTEBRATE



Bivalve



Cephalopod



Crab/Invertebrate/
Shellfish



Gastropod



Insect



Shrimp



Lobster

FISH



Fish



Nursery

Mapping Qualifiers and Guidelines

Element	Qualifier	Guidelines
All	Concentration Area	Areas where concentrations are considerably higher than other records of the same species in the area of interest.
All	General Distribution	Used for broad, general distributions of species that are often mapped to landscape- or habitat-scale features.
All	Vulnerable Occurrence	Intended for records of rare species with discrete occurrences, where the conservation value of the species should be highlighted for spill response.
Birds, Herpetofauna, Marine Mammals, Fish, Invertebrates	Migration	Used when an area is a known staging area of high importance to the species for birds; and/or areas are potential or known migration corridors in the marine environment for other elements.
Birds, Herpetofauna	Nesting	Applicable to all nesting birds and herps. Should represent known nesting areas rather than all potential nesting habitat.
Birds	Rafting	Similar to 'Concentration Area' qualifier, but specific to large on-water concentrations.
Birds	Wintering	Designates known areas of importance to wintering birds.
Benthic	High Ecological Value	For use in areas where benthic organisms provide high ecological services, high quality habitat, or known areas of high biodiversity.
Fish and Invertebrates	Harvest Area	May be used as a qualifier for distributions in special cases, where the general distribution was not mapped and/or widespread and the distribution of the harvested resources is used to depict important areas.
Fish and Invertebrates	Nursery Area	Refers to specific areas of known importance to early life history stages (e.g., larvae, juveniles) of a species.
Fish and Invertebrates	Spawning Area	Areas where animals are spawning. Spawning is loosely defined as the release of gametes or eggs from the adult.

MARINE MAMMALS

Marine mammals depicted in this atlas include seals, dolphins and whales. The most common seal found in the atlas area is the harbor seal. Harbor seals have established several regular haul out sites in Long Island. Harbor seals generally start showing up in Long Island Sound around late August in small numbers and then in larger numbers later in the fall and will stay through the winter months and into March. By April most will have left the area but a few will still be present. The harbor seal population is noted to have been steadily increasing in recent years. In Long Island Sound, harbor seals typically haul out on the sheltered parts of offshore rocky ledges and boulders during low tide. Gray seals are also common but not nearly as abundant as the harbor seal, except on Little Gull Island where they have established a year round haul out. Gray seals may be expected to be sighted in low numbers wherever harbor seals haul out and may be present year round. Other seal species that may occasionally show up in Long Island but not mapped here are harp and hooded seals. When they are sighted, it is usually among the many harbor seals at seal haul out sites.

Small numbers of bottlenose dolphin sightings are possible throughout Long Island Sound from May through September. Large pods of dolphins (75 – 150 individuals) enter the sound on occasion, most likely attracted by large schools of bait fish. These larger occurrences are unpredictable and usually occur many years apart (2015 and 2009 most recently). Although harbor porpoises are known to frequent the waters of Long Island Sound, there are no existing surveys and very little is known about their actual numbers or distribution. The common dolphin, saddle-backed dolphin and Atlantic white sided dolphin are not considered common in Long Island Sound, although they may be occasionally sighted.

The only regular sightings of whales occur in the far eastern part of Long Island Sound, where humpback and right whales are known to occur with some frequency. For the most part whale occurrences are uncommon and unpredictable in rest of the sound. Humpback, beluga, minke, long finned pilot and finback whales all have been occasionally spotted, separated by many years at a time, and there is no predictability for when they might enter the sound.

Also, it should be noted that a Florida Manatee will occasionally (once every several years) stray into Long Island Sound during the warm summer months.

Expert contacts for Long Island Sound marine mammals* are:

Name	Agency	Location	Phone	Species
Arthur Kopelman	Coastal Research and Education Society of Long Island	West Sayville, NY	631-319-6003	Marine mammals
Robert DiGiovanni	Riverhead Foundation for Marine Research	Riverhead, NY	631-369-9840	Marine mammals
Joseph Schnierlein	The Maritime Aquarium at Norwalk	Norwalk, CT	203-852-0700	Marine mammals
Janelle Schuh	Mystic Aquarium	Mystic, CT	860-572-5955	Marine mammals

***Note: this list is not meant to represent all marine mammal experts for the region.**

Major Data Sources Used: Marine Mammals

Riverhead Foundation for Marine Research and Preservation. 2015. Seal haulout sites around Long Island, NY and CT. Riverhead, NY, PDF map.

Coastal Research and Education Society of Long Island, Dr. Arthur Kopelman. 2015. Whales, dolphins and seals of Long Island Sound. West Sayville, NY, expert knowledge.

The Maritime Aquarium at Norwalk. 2016. Seal cruise count data. Norwalk, CT, spreadsheet.

BIRDS

Birds displayed in this atlas include: alcids, diving birds, gulls, terns, passerines, pelagic birds, raptors, shorebirds, wading birds, and waterfowl. Species that are federally and state listed, and those that are considered at risk due to oil spills or other potential disasters are included. Particular focus was paid to identifying “special use areas” such as migratory or wintering areas, nesting sites, concentration areas, roosting areas, and vulnerable occurrences.

Colonial waterbirds, shorebirds, and wading birds – Data for this species group came primarily from US Fish and Wildlife Service, New York Natural Heritage Program, Saltmarsh Habitat and Avian Research Program, Connecticut Natural Diversity Database, International Shorebird Survey, and New York State Significant Coastal Fish and Wildlife Habitats.

Waterfowl – Data for these species came primarily from US Fish and Wildlife Service, Mid-Winter Waterfowl Survey, the US Geological Survey Compendium of Avian Occurrence Information, and New York Significant Coastal Fish and Wildlife Habitats.

Seabirds – Data on the distribution of Seabirds was primarily provided by the US Geological Survey Compendium of Avian Occurrence Information.

Expert contacts for Long Island Sound birds* are:

Name	Agency	Location	Phone	Species
Patrick Comins	Connecticut Audubon Society	Southbury, CT	203-405-9115	CT birds
Karen Zyko	CT Natural Diversity Database	Hartford, CT	860-424-3585	CT birds
Nick Conrad	NY Natural Heritage Program	Albany, NY	518-402-8944	NY birds
Chris Elphick	University of Connecticut	Storrs, CT	860-486-4547	Saltmarsh species

***Note: this list is not meant to represent all bird experts for the region.**

Major Data Sources Used: Birds

CT Department of Energy and Environmental Protection. 2015. CT Natural Diversity Database, vector digital data.

NYS Natural Heritage Program. 2015. NYS NHP Biodiversity Database, vector digital data.

Connecticut Audubon Society. 2014. Expert input.

Manomet Center for Conservation Sciences. 2014. International Shorebird Survey. Vector digital data.

Saltmarsh Habitat and Avian Research Program. 2014. Vector digital data.

New York Department of State. 2014. Significant Fish and Coastal Wildlife Habitats. Vector digital data.

U.S. Fish and Wildlife Service. 2014. Mid-Winter Waterfowl Survey. Vector digital Data.

U.S. Geological Survey. 2014. Compendium of Avian Occurrence Information for the Continental Shelf Waters Along the Atlantic Coast of the United States. Vector digital data.

New York State Department of Environmental Conservation. 2014. Long Island Coastal Waterbird Survey. Vector digital data.

HERPETOFAUNA

Reptiles - All of the sea turtles in the Long Island Sound atlas area are federally protected threatened/endangered species. Juvenile loggerhead, Kemp's ridley, and green sea turtles regularly migrate to the waters of Long Island Sound for foraging during the warmer months from late June through late fall. Leatherback sea turtles only make use of the far eastern end of the Long Island Sound atlas area (east of Fishers Island). Sea turtles are not known to nest in any of the Long Island Sound area.

Terrestrial turtles that are state species of special concern that were mapped for this atlas include the diamondback terrapin, spotted turtle, Eastern box turtle, and wood turtle. In addition, the Eastern mud turtle is a state endangered species in New York. The diamondback terrapin has also been identified as a species of greatest conservation need in the Northeast United States. The Eastern hog-nosed snake is a state species of concern in both New York and Connecticut. The common wormsake is a species of concern in New York only.

Amphibians - The Southern leopard frog, Northern leopard frog, Eastern spadefoot toad, marbled salamander, and blue-spotted salamander are all state species of concern in one or both states. The tiger salamander is a state endangered species in the New York portion of the study area.

Expert contacts for Long Island Sound reptiles and amphibians* are:

Name	Agency	Location	Phone	Species
Arthur Kopelman	Coastal Research and Education Society of Long Island	West Sayville, NY	631-319-6003	Sea turtles
Robert DiGiovanni	Riverhead Foundation for Marine Research	Riverhead, NY	631-369-9840	Sea turtles
Janelle Schuh	Mystic Aquarium	Mystic, CT	860-572-5955	Sea turtles
Karen Zyko	CT Natural Diversity Database	Hartford, CT	860-424-3585	Reptiles and amphibians
Nick Conrad	NY Natural Heritage Program	Albany, NY	518-402-8944	Reptiles and amphibians
Russell Burke	Hofstra University	Hempstead, NY	516-463-5521	Terrapins
Mike Bottini	Long Island Nature Organization	Upton, NY	631-267-5228	Spotted Turtles

***Note: this list is not meant to represent all reptile/amphibian experts for the region.**

Major Data Sources Used: Reptiles and Amphibians

CT Department of Energy and Environmental Protection. 2015. CT Natural Diversity Database. Hartford, CT, vector digital data.

NYS Natural Heritage Program. 2015. NYS NHP Biodiversity Database. Albany, NY, vector digital data.

NYS Department of State. 2013. Significant Coastal Fish and Wildlife Habitats of New York. Albany, NY, vector digital data.

FISH

Species selected - Eighty nine species of fish are represented in this atlas, but this is not intended to include all species present within the study area. Fish species depicted in this atlas include select marine, estuarine, diadromous, and freshwater species. Species of conservation interest, ecological importance, or commercial or recreational importance are emphasized. In most cases, terms to describe species abundance include the commonly used terms of rare, common, and abundant.

Spatial framework – The central features of the study area include Long Island Sound, one of the Nation’s largest estuaries, and adjacent waters. Fish polygons were created based on the natural geography of the estuarine, tidal, and fresh waters of the study area, combined with species information from published reports, field survey data (e.g. trawl and seine), and expert knowledge. The HYDROLOGY layer in this ESI digital atlas, derived from recent aerial imagery, defined the shoreline of Long Island Sound and tidal tributaries, generally up to the extent of tidal influence and/or the first barrier upstream. Rather than adopt a grid cell spatial framework, we divided the estuarine seascape of the study area into commonly

used units including Eastern, Western, and Central Basins of Long Island Sound; Western and Eastern Narrows; Fishers Island Sound; Gardiners Bay; Peconic Bay; and Block Island Sound. Coastal embayments were clipped from these mainstem areas and considered as distinct estuarine units along the New York and Connecticut shores. Major tributaries such as the Connecticut River were subdivided to reflect the salinity gradient within tidal areas, and to separate tidal from non-tidal waters upstream. Some areas were delineated based on known concentrations of high-priority species using GIS data provided by regional experts (CT DEEP 2015a,b,c,d; NYS NHP 2015). Additional non-tidal fresh water bodies (i.e. lakes and streams) were adopted from the HYDROLOGY layer in cases where information was available to attribute these inland polygons with fish species (Jacobs and O'Donnell 2009, 2012; NYS DEC 2015 a, b). In some cases, stream polygons were developed by buffering a stream line feature to create a 10m-wide polygon. In all, the distributions of 89 fish species within the study area are represented by 614 polygons. A total of 75 sources were cited to develop the FISH layer.

Atlantic and shortnose sturgeon – Atlantic and shortnose sturgeon (both Federal and State Endangered) were mapped to areas where they are known to occur in rivers and estuarine waters of the study area, primarily in Connecticut River (SSSRT 2010) and certain estuarine areas. Areas where Atlantic sturgeon are known to congregate in Long Island Sound are based on GIS data provided by CT DEEP and NYS DEC staff, published literature, and expert knowledge (CT DEEP 2015c, Anderson et al. 2015, Savoy and Pacileo 2003, Waldman et al. 2013).

Alewife, blueback herring, American shad, and other diadromous species - Alewife and blueback herring (collectively known as river herring), and American shad are anadromous fish that once supported large commercial and recreational fisheries on the Atlantic Coast, but have become depleted due to barriers to migration, habitat loss, and overfishing. Spawning runs were mapped using published information from NYS DEC and CT DEEP as well as knowledge from regional experts (Benway 2015, CRASC 2015; Greene et al. 2009; Hattala et al. 2011; Jacobs and O'Donnell 2009, 2012; Savoy et al. 2004; Young 2013). River herring runs were mapped to the first known barrier such as a dam or impassable gradient, unless a fish passage facility is known to exist. If the run went beyond the water features in the ESI HYDROLOGY layer, then it was mapped using stream line features and buffered to create a 10m-wide polygon feature. These areas are designated with "Spawning Area" and "Nursery Area" mapping qualifiers to emphasize these important life history stages. Tidal rivers and embayments that are important to early life stages of river herring and were included as nursery areas. River herring pre-spawning movements in certain rivers were mapped as migration areas. Timing of migration and spawning was based on published life history summaries. Other diadromous (migratory) species in the study area include American eel, striped bass, sea lamprey, hickory shad, and sea-run brown trout. These species were mapped using published information from CT DEEP, NYS DEC, and other sources.

Long Island Sound mainstem areas –Major sources of information for fish in Long Island Sound include the published reports from the Long Island Sound Trawl Survey, conducted by Connecticut's Marine Fisheries Division in Old Lyme, CT (Gotschall and Pacileo 2015, Gotschall et al. 2000). A recent study by

The Nature Conservancy is based on these trawl survey data, and reports results on a per-species basis (Anderson et al. 2015). These sources were used to attribute fish species to the spatial framework polygons for Long Island Sound.

Coastal embayments - For the coastal embayments on the New York shore, NYSDEC staff provided Western Long Island (WLI) beach seine data for 1984 – 2013 that was used to develop species lists and concentrations for individual bays (NYS DEC 2014b). The WLI surveys are conducted from May to October and sampling stations are fixed locations based on accessibility. Bays surveyed include Little Neck Bay, Manhasset Bay, Hempstead Harbor, Oyster Bay, Stony Brook Harbor, Port Jefferson Harbor, and Peconic Bay. Trawl survey data were also provided for Peconic Bay (NYS DEC 2014a), and results were used to identify fishes and invertebrates common to that estuary. New York Department of State has designated certain areas as “Significant Coastal Fish and Wildlife Habitat”, and published assessments with information on fish, invertebrate, and wildlife species present (NYDS 2015). These narratives were used to supplement fish survey data for many areas, especially coastal embayments and shoals. For the coastal embayments and tidal tributaries on the Connecticut Shore, results of the Connecticut Beach Seine Surveys, Inshore Surveys, and other site-specific sources were applied (Molnar and Howell 2015, Howell 2015, Benway 2015).

Freshwater fishes in New York - Two state-listed freshwater fish species, the banded sunfish (NY state threatened), and swamp darter (NY state threatened), occur in the portions of the Peconic River system on Long Island and was mapped using New York State Natural Heritage Program data (NYS NHP 2015). Other fish species in freshwater streams, lakes, and ponds of Long Island were mapped using information published by New York Dept. Environmental Conservation (NYS DEC 2015 a, b), and also in the Bronx River (Rachlin et al. 2007, Bronx River Alliance 2015). Seasonality and was described using published summaries of life history parameters.

Freshwater fishes in Connecticut - State freshwater fish species within the study area that are either listed or special concern in Connecticut include the banded sunfish (CT state special concern), blueback herring (CT state special concern), American brook lamprey (CT state endangered), bridle shiner (CT state special concern), and rainbow smelt (CT state endangered). These species were mainly mapped using GIS data from Connecticut’s Natural Heritage Program (CT DEEP 2015), supplemented with other sources (CT DEEP 2015a; Jacobs and O’Donnell 2009, 2012). Other fish species in freshwater streams, lakes, and ponds of Connecticut were mapped using information published by Connecticut’s Dept. of Environmental Conservation and other sources (CT DEEP 2015e, Jacobs and O’Donnell 2009, 2012; Jacobs et al. 2004). Seasonality was described using published summaries of life history parameters.

Expert contacts for Long Island Sound fish* are:

Name	Agency	Location	Phone	Species
Penny Howell	CT Dept. Energy & Environmental Protection	Old Lyme, CT	860-447-4307	CT marine and estuarine fish
Deb Pacileo	CT Dept. Energy & Environmental Protection	Old Lyme, CT	860-447-4312	CT marine and estuarine fish
Karen Zyko	CT Natural Diversity Database	Hartford, CT	860-424-3585	CT marine and estuarine fish
Nick Conrad	NY Natural Heritage Program	Albany, NY	518-402-8944	NY marine and estuarine fish
Eileen O'Donnel	CT Dept. Energy & Environmental Protection	Hartford, CT	860-424-4177	CT freshwater and anadromous fish
Kim McKown	NY State Dept. Environmental Conservation	East Setauket, NY	631-444-0454	NY marine and estuarine fish
Byron Young	NY State Dept. Environmental Conservation (retired)	East Quogue, NY	631-294-9612	NY anadromous fish
John Maniscalco	NY State Dept. Environmental Conservation	East Setauket, NY	631-444-0437	NY marine and estuarine fish

***Note: this list is not meant to represent all fish experts for the region.**

Major Data Sources Used: Fish

Anderson, M., N. Frohling, K. Ruddock, S. Lloyd, and N. Maher. 2015. The Long Island Sound Ecological Assessment. The Nature Conservancy, New Haven CT. 89 pp. + appendices and digital data sets.

Benway, J.M. 2015. A Study of Marine Recreational Fisheries in Connecticut. Job 7: American shad monitoring and inshore seine surveys. Connecticut Dept. Energy and Environmental Protection, Bureau of Natural Resources, Marine Fisheries Division, Hartford CT. Federal Aid in Sport Fish Restoration, F-54-33 Annual Performance Report, March 1, 2013 – February 28, 2014. 22 pp.

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SSSRT. 2010. A Biological Assessment of shortnose sturgeon (*Acipenser brevirostrum*). Prep. By Shortnose Sturgeon Status Review Team. Report to National Marine Fisheries Service, Northeast Regional Office. November 1, 2010. 417 pp.

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Waldman, J.R., T. King, T. Savoy, L. Maceda, C. Grunwald, I. Wirgin. 2013. Stock Origins of Subadult and Adult Atlantic Sturgeon, *Acipenser oxyrinchus*, in a Non-natal Estuary, Long Island Sound. *Estuaries and Coasts* 36: 257-267.

Young, B. 2013. Alewife Monitoring Report for the Peconic River and Alewife Creek – 2013. Peconic River Fish Restoration Commission. 18 pp.

INVERTEBRATES

Thirty-three species of invertebrates are represented in this atlas, and this is not intended to include all species present within the study area. Species were selected based on conservation interest (i.e. endangered, threatened, or special concern), ecological importance, or commercial or recreational importance. Mollusk species include nine bivalves, one cephalopod (longfin squid), and one gastropod (channeled whelk). Ten insect species are included, most of which are considered rare, threatened, or endangered. Other arthropod species include seven decapod crabs, three shrimps, horseshoe crab, and American lobster. In all, a total of 698 polygons are used to represent the distributions of the 33 selected invertebrate species. A total of 29 sources were cited to develop the invertebrate data set.

Distributions of rare, endangered, or threatened invertebrate species (e.g., coastal barrens buckmoth, scarlet bluet) were represented by developing polygons based on information provided state Natural Heritage Programs in both Connecticut and New York (CT DEEP 2015, NYS NHP 2015). Locations of horseshoe crab spawning areas were identified from published reports and digital GIS data provided by regional experts (Cornell Univ. 2016, Molloy Coll. 2015, Sacred Heart Univ. 2016).

Bivalve shellfish species in inshore waters include blue and ribbed mussels, bay scallop, eastern oysters, quahog (hard clam), softshell clam, and Atlantic surf clam. In New York portions of Long Island Sound and embayments, these species were largely mapped based on landings data and harvest zone polygons provided by NYS Department of Conservation (NYS DEC 2013). Bivalve shellfish in areas along the

Connecticut shore were largely mapped using polygon representations of shellfish beds provided by CT Department of Agriculture – Bureau of Aquaculture (CT Dept. Ag. 2016).

In mainstem areas of Long Island Sound, information on invertebrate species was provided by published reports from the Long Island Sound Trawl Survey, conducted by Connecticut’s Marine Fisheries Division in Old Lyme, CT (Gotschall and Pacileo 2015). A recent study by The Nature Conservancy is based on these trawl survey data, and presents results on a per-species basis (Anderson et al. 2015). Invertebrate species featured in these sources include American lobster, longfin squid, horseshoe crab, and others.

In coastal embayments of the New York shore, Western Long Island (WLI) beach seine survey data (provided by NYSDEC staff) reported catch of invertebrate species as well as fishes (NYS DEC 2014b). Areas surveyed include Little Neck Bay, Manhasset Bay, Hempstead Harbor, Oyster Bay, Stony Brook Harbor, Port Jefferson Harbor, and Peconic Bay. Beach seine methods are especially effective for inshore species including blue crab, green crab, horseshoe crab, and spider crabs. Trawl survey data were also provided for Peconic Bay, with lady crab, spider crabs, blue crab, mantis shrimp, horseshoe crab, and longfin squid prominent in the catch (NYS DEC 2014a). New York Department of State’s assessments of “Significant Coastal Fish and Wildlife Habitat” provided additional information on invertebrate species present in specific areas (NYDS 2015). For the coastal embayments and tidal tributaries on the Connecticut shore, results of the Connecticut Beach Seine Surveys, Inshore Surveys, and other site-specific surveys were applied (Howell 2015, Molnar and Howell 2015, Fell et al. 2003).

Expert contacts for Long Island Sound invertebrates* are:

Name	Agency	Location	Phone	Species
David Carey	CT Dept. of Agriculture, Bureau of Aquaculture	Milford, CT	203-874-0696	CT Shellfish
Jennifer O’Dwyer	NY Department of Environmental Conservation	East Setauket, NY	631-444-0489	NY Shellfish
Kim McKown	NY State Dept. Environmental Conservation	East Setauket, NY	631-444-0454	NY Estuarine Invertebrates
John Tanacredi	Malloy College/CERCOM	Rockville Centre, NY	516-323-3591	NY Horseshoe Crabs
Matthew Sclafani	Cornell University Cooperative Extension	Riverhead, NY	631-727-7850	NY Horseshoe Crabs
Jennifer Mattei	Sacred Heart University	Fairfield, CT	203-365-7577	CT Horseshoe Crabs
Karen Zyko	CT Natural Diversity Database	Hartford, CT	860-424-3585	CT Rare Insects
Nick Conrad	NY Natural Heritage Program	Albany, NY	518-402-8944	NY Rare Insects

***Note: this list is not meant to represent all invertebrate experts for the region.**

Major Data Sources Used: Invertebrates

Anderson, M., N. Frohling, K. Ruddock, S. Lloyd, and N. Maher. 2015. The Long Island Sound Ecological Assessment. The Nature Conservancy, New Haven CT. 89 pp. + appendices and digital data sets.

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Connecticut Department of Energy and Environmental Protection. 2015. Connecticut Natural Diversity Database, vector digital data.

Connecticut Dept. of Agriculture, Bureau of Aquaculture. 2016. Connecticut shellfish beds, vector digital data.

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Gotschall, K.F., M.W. Johnson, and D.G. Simpson. 2000. The Distribution and Size Composition of Finfish, American Lobster, and Long-Finned Squid in Long Island Sound Based on the Connecticut Fisheries Division Bottom Trawl Survey, 1984–1994. NOAA Technical Report NMFS 148. 195 pp.

Howell, P.T. 2015. A Study of Marine Recreational Fisheries in Connecticut. Job 9: Volunteer estuarine fisheries database. Connecticut Dept. Energy and Environmental Protection, Bureau of Natural Resources, Marine Fisheries Division, Hartford CT. Federal Aid in Sport Fish Restoration, F-54-33 Annual Performance Report, March 1, 2013 – February 28, 2014. 14 pp.

Malek, A., M. LaFrance, and J. King. 2010. Fisheries Ecology in Rhode Island and Block Island Sounds for the Rhode Island Special Area Management Plan. University of Rhode Island, Narragansett RI. Technical Report #14. November 30, 2010. 57 pp.

Malloy College/CERCOM. 2015. Horseshoe crab spawning areas in Long Island, vector digital data.

Molnar, D.R., and P.T. Howell. 2015. A Study of Marine Recreational Fisheries in Connecticut. Job 8: Estuarine seine survey. Connecticut Dept. Energy and Environmental Protection, Bureau of Natural Resources, Marine Fisheries Division, Hartford CT. Federal Aid in Sport Fish Restoration, F-54-33 Annual Performance Report, March 1, 2013 – February 28, 2014. 28 pp.

New York Department of State. 2015. Significant Coastal Fish and Wildlife Habitats – Long Island Sound and Long Island. New York State, Department of State, Office of Planning and Development. <http://www.dos.ny.gov/opd/programs/consistency/scfwhabitats.html#li>

New York State Department of Environmental Conservation. 2014a. Peconic Bay Trawl Survey. Microsoft Access digital database, provided by J. Maniscalco, New York Dept. Environmental Conservation, Marine Fisheries Division, East Setauket, NY.

New York State Department of Environmental Conservation. 2014b. Western Long Island Sound Beach Seine Survey. Microsoft Access digital database, provided by J. Maniscalco, New York Dept. Environmental Conservation, Marine Fisheries Division, East Setauket, NY.

New York State Department of Environmental Conservation. 2013. New York shellfish harvest areas, vector digital data.

New York State Natural Heritage Program. 2015. New York State Natural Heritage Program, Biodiversity Database, vector digital data.

Sacred Heart University. 2016. Project Limulus juvenile horseshoe crab spawning density, document.

Stone, S.L., T.A. Lowery, J.D. Field, S.H. Jury, D.M. Nelson, M.E. Monaco, C.D. Williams, and L.A. Andreasen. 1994. Distribution and abundance of fishes and invertebrates in Mid-Atlantic estuaries. ELMR Rep. No. 12. NOAA/NOS SEA Division, Silver Spring MD. 280 p.

HABITATS

Plant species that are threatened, endangered or species of concern were mapped in this atlas. Submerged aquatic vegetation was mapped under the Benthic section. The plant data included in the atlas is based primarily on digital data obtained from the state natural heritage programs.

Expert contacts for Long Island Sound habitats* are:

Name	Agency	Location	Phone	Species
Karen Zyko	CT Natural Diversity Program	Hartford, CT	860-424-3585	CT Plants
Nick Conrad	NY Natural Heritage Program	Albany, NY	518-402-8944	NY Plants

***Note: this list is not meant to represent all rare plant experts for the region.**

Major Data Sources Used: Habitats

CT Department of Energy and Environmental Protection. 2015. CT Natural Diversity Database, vector digital data.

NYS Natural Heritage Program. 2015. NYS NHP Biodiversity Database, vector digital data.

BENTHIC

Benthic plant species that are threatened, endangered or species of concern were mapped in this atlas.

Expert contacts for Long Island Sound benthic organisms* are:

Name	Agency	Location	Phone	Species
Ralph Tiner	US Fish and Wildlife Service Northeastern Region	Hadley, MA	413-253-8200	Eelgrass
Alison Branco	Peconic Estuary Program	Yaphank, NY	631-852-5805	Eelgrass
Karen Zyko	CT Natural Diversity Program	Hartford, CT	860-424-3585	CT rare benthic organisms
Nick Conrad	NY Natural Heritage Program	Albany, NY	518-402-8944	NY rare benthic organisms

***Note: this list is not meant to represent all benthic organism experts for the region.**

Major Data Sources Used: Benthic

CT Department of Energy and Environmental Protection. 2015. CT Natural Diversity Database, vector digital data.

NYS Natural Heritage Program. 2015. NYS NHP Biodiversity Database, vector digital data.

Peconic Estuary Program. 2014. Peconic Eelgrass Mapping 2014 Groundtruthed Final, vector digital data.

TERRESTRIAL MAMMALS

With regard to oil or chemical spills, the most noteworthy terrestrial mammals found in the Long Island Sound study area are the semi-aquatic mammals, which include the northern river otter, muskrat, mink and beaver. There are notable differences in populations of these mammals between the Connecticut coastal area and Long Island in New York.

The northern river otter (*Lontra Canadensis*) had previously been extirpated from Long Island, but recently has re-established a breeding population. The area from Oyster Bay east through the Nissequogue River have definite established populations and this area has been mapped as a vulnerable occurrence. Additionally, experts believe recolonization is actively occurring in the entire Long Island portion of the study area, so all bays, coves, marshes, tidal creeks and adjacent freshwater bodies should be considered to potentially have resident river otters, especially eastward all the way toward Orient Point. In Connecticut, the River Otter population is considered healthy and they should be considered as potentially present in all coastal areas where there are riverine, tidal creek, marsh and nearshore freshwater pond environments.

In both Connecticut and New York, the muskrat is considered ubiquitous in all nearshore aquatic environments including fresh and estuarine marshes, riverine environments and freshwater ponds and

upper reaches of salt ponds. Because of their ubiquitous nature, the muskrat is not mapped in this atlas, however, they should be considered as potentially present in all of the above mentioned environments.

Along the Connecticut coastal area, mink are less common than the muskrat, but may be present anywhere where muskrat are found. On Long Island they are also present wherever muskrat may be found, but very uncommon. Mink are not mapped in this atlas due to lack of reliable distribution information.

The beaver while widely distributed in Connecticut, has been extirpated from Long Island. Reliable distribution data for the Connecticut population is not available and therefore beaver is not mapped here. Beavers however should be considered possibly present in the riparian zone anywhere in the Connecticut portion of the study area.

Also noteworthy is the least shrew (*Cryptotis parva*), a state endangered small mammal found only in a small part of the Connecticut coastal area. The New England Cottontail is a US Fish and Wildlife Service candidate listing species. The red bat, silver-haired bat, and hoary bat all are a species of special concern in Connecticut.

Expert contacts for Long Island Sound terrestrial mammals* are:

Name	Agency	Location	Phone	Species
Karen Zyko	CT Natural Diversity Database	Hartford, CT	860-424-3585	CT Terrestrial Mammals
Mike Bottini	Long Island Nature Organization	Upton, NY	631-267-5228	NY Terrestrial Mammals

***Note: this list is not meant to represent all terrestrial mammal experts for the region.**

Major Data Sources Used: Terrestrial Mammals

CT Department of Energy and Environmental Protection. 2015. CT Natural Diversity Database, vector digital data.

Long Island Nature Organization. 2016. Terrestrial Mammals on Long Island, expert knowledge.

INVASIVE SPECIES

The spread of invasive or non-native species can degrade habitat, increase the potential for crop damage and diseases in humans, livestock and natural resources, reduce biodiversity through competition and limit recreational opportunities. Invasive species often opportunistically spread after disturbance events alter the natural landscape. Oil spill response and clean up often alters the landscape in a manner conducive to the spread of invasive species as crews often mobilize from all over the U.S. in response to large scale spill events. Boats, trailers, waders and clean up equipment can spread invasive species from waterbody to waterbody unless properly cleaned after use. Invasive species that were mapped are shown on the HUMAN-USE RESOURCE maps.

Boats, trailers, waders and other fishing equipment can spread invasive species from waterbody to waterbody unless properly cleaned after use. Regulations prohibit boats from launching from or leaving DEC launch sites without first draining the boat and cleaning the boat, trailer and equipment of visible plant and animal material. Many New York counties, towns and villages also have laws in place that prohibit the transport of aquatic invasive species on boats, trailers and equipment.

Asiatic sand sedge and water chestnut are invasive species of particular concern to land managers in this AOI. Asiatic sand sedge is an exotic plant that threatens beaches and the rare species that rely on them such as seabeach amaranth and piping plover. It was recently discovered in New York on Staten Island and Long Island following Hurricane Sandy and a large effort is underway to eradicate it. Invasive plants can also form dense monocultures that could impede oil spill response. Water chestnut, a freshwater invasive floating aquatic plant, forms thick, impenetrable mats in June and July. Invasive species are not included on the ESI maps as they are not priority resources for protection, but planners and responders should be aware of their presence and coordinate response activities with the appropriate invasive species coordinator and/or land manager to prevent the spread of these species.

New York Invasive Species Information: <http://www.nyis.info/index.php>

Connecticut Invasive Species Information:

http://www.ct.gov/deep/cwp/view.asp?a=2702&q=323494&deepNav_GID=1641%20

Invasive species that were mapped are shown on the HUMAN-USE RESOURCE maps.

WILDLIFE REHABILITATION

The following contact provides veterinary care and/or retrieval of wildlife adversely affected by an event:























Tri-State Bird Rescue & Research. 170 Possum Hollow Road, Newark, DE 19711. (302)-737-9543.

HUMAN-USE RESOURCES

The human-use resources shown in this atlas were extracted from the ESI GIS data compiled for this region. The extracted features were mapped at scale of 1:100,000 and appear on the maps referenced by a number. For example, Map 1 will show the human-use features in conjunction with the ESI shoreline.

Management areas such as wildlife refuges and state parks are mapped as polygons. Where the feature is a known point location (e.g., marinas, airports, water intakes), the specific location is displayed.

Map IDs can be found in the accompanying data tables for point and polygon features mapped. The Map ID may provide more information (i.e., name, contact) for that particular resource. The types of human use resources mapped in this atlas are depicted below.

	Abandoned Vessel		Historic Wreck
	Access		Historical Site
	Airport		Landfill
	Anchorage		Lock and Dam
	Aquaculture		Management Area
	Archaeological Sites		Marina
	Army Corps of Engineers		Military
	Artificial Reef		Mine Site
	Beach		National Landmark
	Boat Ramp		Nature Conservancy
	Campground		NOAA Facility
	Coast Guard		Park
	Commercial Fishing		Port
	EPA Facility		Recreational Fishing
	EPA Region		Repeated Measurement Site
	Essential Habitat		State Protected Area
	FEMA Region		Tribal Land
	Ferry		Waste Disposal
	Fishery Area		Water Intake
	Heliport		Wildlife Refuge

Abandoned Vessel: Data on locations of abandoned and derelict vessels comes from NOAA's Office of Coast Survey Automated Wrecks and Obstructions Information System (AWOIS)

Access: Vehicular or foot access locations to beach, wetland or river shoreline. Primarily public, but may include some private access points (as notated in the name).

Airport/Heliport: Refers to locations of airports, airfields, landing strips and standalone heliports, whether they are manned or unmanned.

Anchorage: Mapped as points or polygons, this refers to locations (or areas) where commercial vessels can be anchored offshore outside shipping lanes.

Aquaculture: Farmed and/or managed aquaculture/mariculture sites that may be impacted by oiling, natural disaster or cleanup activity.

Archaeological Site: Water, coastal, or wetland-associated archaeological sites.

Army Corps of Engineers: Mapped as polygons, this refers to the jurisdictional boundaries for the USACE.

Artificial Reef: Locations of reefs made out of man-made materials or natural materials purposely placed at a site for fishing or sport diving purposes.

Beach: High use recreational beach sites, typified by a nearby parking lot of substantial size, and likely (but not necessarily) other recreational beach amenities such as bath houses, life guard stations and food and drink concessions.

Boat Ramp: Publicly available boat ramps or launch sites.

Campground: Refers to public campgrounds.

Coast Guard: USCG jurisdictional boundaries (districts or sectors) and/or USCG stations locations.

Commercial Fishing: Important, high use sites, fished by commercial fishers on a regular basis.

Environmental Protection Agency Region: Jurisdictional boundaries for EPA regions.

Environmental Protection Agency Facility: Represents facilities required to file a Risk Management Plan (RMP) due to the presence of extremely hazardous substances that may result in a chemical accident. The data comes from the USEPA.

Essential Habitat: Significant habitats needed to support key life stages of ecological communities or species.

Federal Emergency Management Agency Region: Jurisdictional boundaries for FEMA regions.

Ferry: Mapped as points, this refers location of state and local ferry terminals. The data may come from state or local programs.

Ferry Route: Ferry routes were digitized by Quantum Spatial Inc. using the ESRI World Street Map.

Fishery Area: Mapped as points or polygons, this refers to defined areas or locations where fish or shellfish species are managed by a federal or state agency.

Historic Wreck: Abandoned and derelict vessels of historic significance.

Historic Site: Known historical sites that are found on the Registry of National Historic Places and state registries, and are sites that may be disturbed by oiling or cleanup activity.

Landfill: Permanent waste and debris disposal locations.

Lock and Dam: Marine lock systems and/or dams.

Management Area: Refers to lands that are managed at a local or agency level and may include managed lands that do not fall into another, more specific, human use type.

Marina: Refers to publically available marina locations. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge. Also refer to: Boat Ramp (BR).

Mine Site: Refers to commodity mines such as for gravel.

Military: Military installation data were provided by the U.S. Census Bureau's MAF/TIGER geographic database.

National Landmark: Refers to locations of National Landmarks that are managed by the National Park Service that may be disturbed by oiling or disaster cleanup activities. These data come from the National Park Service, National Historic Landmarks Program. Also refer to: Historical Site.

Nature Conservancy: Areas that are managed by the Nature Conservancy.

National Oceanic Atmospheric Administration Facility: Locations of NOAA facilities.

National Park: Locations of National Parks that are managed by the National Park Service.

Park (Regional or State): Refers to jurisdictional boundaries of parks, natural preserves, recreation areas, etc. that are managed at the state, regional, local level.

Port: Locations of commercial docks and ports such as container ports.

Recreational Fishing: Locations that are fished for sport, either for pleasure or competition.

Repeated Measurement Site: Locations where oceanographic data is routinely recorded, and/or sites routinely visited by scientists to observe and record biological and contaminant trends. Some examples include: Data Buoys (DB), Tide Gauges (TG), Mussel Watch Sites (MWS), Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), Long-term Ecological Research Site (LTER), Water Quality Stations (WQ), etc.

Rail Route: Refers to train lines as part of a transit system.

Shipping Lane: The general flow of merchant shipping between two departure/terminal areas. These are normally found in oceans or large lakes as a regularly used route for vessels.

State Protected Area: Areas that receive varied levels of state protection. Examples of areas with this designation are wilderness areas and exploited areas.

State (or State Border): Refers to the official border between states.

State Waters: Refers to waters that a state has jurisdiction over, commonly derived from the low-water mark of each state extending approximately 3 nautical miles (nm) offshore.

Tribal Land: Areas managed by a Native American tribe under the United States Bureau of Indian Affairs (BIA).

Waste Disposal: These locations represent facilities for waste collection, compaction, recycling, and disposal.

Water Intake: Refers to locations where water is withdrawn from streams, lakes, rivers, and reservoirs, such as drinking water intakes, industrial intakes, and aquaculture intakes.

Wildlife Refuge: Government managed areas that provide species protection by heavily regulated hunting practices, wildlife and forestry management, and restrictions on human activity.

GEOGRAPHIC INFORMATION SYSTEM

All maps were produced using the ESI Geographic Information System (GIS) data compiled for this region. These data are stored as spatial data layers and associated databases. The format for the data varies depending on the type of information or features for which the data are being stored.

Under separate cover is a metadata document that details the data dictionary, processing techniques, data lineage, and other descriptive information for the digital datasets and maps that were used to create this atlas. Below is a brief synopsis of the information contained in the digital version. Refer to the metadata file for a full explanation of the data and its structure.

MAJOR ROADS

The major roads polyline layer represents major thoroughfares within the United States (ArcGIS Content Team (ESRI) and Tele Atlas North America Inc., U.S. Major Roads, ed. 10, published June 30, 2010, ESRI® Data & Maps series, Redlands, CA, USA). These roads are shown on the maps, but are not part of the underlying ESI GIS data.

SHORELINE CLASSIFICATIONS

The ESI shoreline habitat classification is stored as lines and polygons with associated attributes. In many cases, a shoreline may have two or three different classifications or colored lines on the shoreline. These multiple classifications are represented in the database by ESI#1/ESI#2, where ESI#1 is the landward-most classification and ESI#2 is the seaward-most classification. In addition to the line features, marshes (ESI=10A, ESI=10B), swamps (ESI=10C), and scrub-shrub wetlands (ESI=10D) are also stored as polygons.

SENSITIVE BIOLOGICAL RESOURCES

Biological resources are stored as points, lines and polygons. Associated with each feature is a unique identification number that is linked to a series of data tables that further identify the resources. The main biological resource table consists of a list of species identification numbers for each site, the concentration of each species at each site, a mapping qualifier, and identification codes for seasonality and source information. This data table is linked to other tables that describe the seasonality and life-history time periods for each species (at month resolution) for the specified map feature. Other data tables linked to the first table include: the species identification table, which includes common and scientific names; the species status table, which gives information for state and/or federal threatened or endangered listings; and the source database, which provides source metadata at the feature-species level (specific sources are listed for each species occurring at each mapped feature in the biology feature classes).

HUMAN-USE FEATURES

Human-use features are represented as polygons, points or lines. Management areas such as wildlife refuges, national parks and state parks are mapped as polygons. Known locations such as marinas, high use beaches, airports and water intakes are displayed as points when security risks allow. Bridges and railroads are mapped as line features.

ACKNOWLEDGMENTS

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The biological and human-use data included on the maps were provided by numerous individuals and agencies. Staff at the New York State Department of Environmental Conservation, New York State Natural Heritage Program, and Audubon of New York contributed a vast amount of information to this effort, including first-hand expertise, publications, maps, and digital data. Other agencies and organizations contributing to data development and review included: New Jersey Department of Environmental Protection, U.S. Fish and Wildlife Service, New York Office of Parks, Recreation and Historic Preservation, and the New York Department of State.

At Quantum Spatial (QSI), numerous scientific, GIS, and graphic staff were involved with different phases of the project. Jennifer Halleran was Project Manager. The biological and human-use data were collected, compiled, and produced into the geodatabase by Jennifer Bohannon, Tim Marcella, and Mark Yoders. Jennifer Bohannon, Tim Marcella, and Mark Yoders prepared the final text documents and metadata.

The basemap, shoreline and wetland habitat collection and classification was completed by Woolpert Inc.

APPROPRIATE USE OF ATLAS AND DATA

This atlas and the associated database were developed to provide summary information on sensitive natural and human-use resources for the purposes of oil and chemical spill planning and response. Although the atlas and database should be very useful for other environmental and natural resource planning purposes, it should not be used in place of data held any contributing agencies. Likewise, information contained in the atlas and database cannot be used in place of consultations with natural and cultural resource agencies, or in place of field surveys. This atlas should not be used for navigation.

SPECIES LIST

Common Name*	Scientific Name*	Common Name*	Scientific Name*
BIRDS			
ALCID			
Razorbill	<i>Alca torda</i>	Barn Swallow	<i>Hirundo rustica</i>
DIVING		Belted kingfisher	<i>Ceryle alcyon</i>
Common loon	<i>Gavia immer</i>	Black-and-white warbler	<i>Mniotilta varia</i>
Cormorants	<i>Phalacrocorax spp.</i>	Black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>
Diving birds		Black-capped chickadee	<i>Poecile atricapillus</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>	Blue jay	<i>Cyanocitta cristata</i>
Great cormorant	<i>Phalacrocorax carbo</i>	Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>
Grebes		Blue-winged warbler	<i>Vermivora cyanoptera</i>
Horned grebe	<i>Podiceps auritus</i>	Boat-tailed grackle	<i>Quiscalus major</i>
Loons	<i>Gavia spp.</i>	Brown thrasher	<i>Toxostoma rufum</i>
Pied-billed grebe	<i>Podilymbus podiceps</i>	Brown-headed cowbird	<i>Molothrus ater</i>
Red-necked grebe	<i>Podiceps grisegena</i>	Carolina wren	<i>Thryothorus ludovicianus</i>
Red-throated loon	<i>Gavia stellata</i>	Cedar waxwing	<i>Bombycilla cedrorum</i>
GULL/TERN		Cerulean warbler	<i>Setophaga cerulea</i>
Black skimmer	<i>Rynchops niger</i>	Chestnut-sided warbler	<i>Setophaga pensylvanica</i>
Black tern	<i>Chlidonias niger</i>	Chimney swift	<i>Chaetura pelagica</i>
Bonaparte's gull	<i>Larus philadelphia</i>	Chipping sparrow	<i>Spizella passerina</i>
Common tern	<i>Sterna hirundo</i>	Chuck-will's-widow	<i>Antrostomus carolinensis</i>
Forster's tern	<i>Sterna forsteri</i>	Common grackle	<i>Quiscalus quiscula</i>
Great black-backed gull	<i>Larus marinus</i>	Common yellowthroat	<i>Geothlypis trichas</i>
Herring gull	<i>Larus argentatus</i>	Downy woodpecker	<i>Picoides pubescens</i>
Laughing gull	<i>Larus atricilla</i>	Eastern kingbird	<i>Tyrannus tyrannus</i>
Least tern	<i>Sternula antillarum</i>	Eastern phoebe	<i>Sayornis phoebe</i>
Ring-billed gull	<i>Larus delawarensis</i>	Eastern towhee	<i>Pipilo erythrophthalmus</i>
<u>Roseate tern</u>	<u><i>Sterna dougallii</i></u>	European starling	<i>Sturnus vulgaris</i>
Terns		Fish crow	<i>Corvus ossifragus</i>
LAND FOWL		Grasshopper sparrow	<i>Ammodramus savannarum</i>
Wild turkey	<i>Meleagris gallopavo</i>	Gray catbird	<i>Dumetella carolinensis</i>
PASSERINE		Great crested flycatcher	<i>Myiarchus crinitus</i>
Acadian flycatcher	<i>Empidonax virescens</i>	Horned lark	<i>Eremophila alpestris</i>
Acadian flycatcher	<i>Empidonax virescens</i>	House finch	<i>Carpodacus mexicanus</i>
American crow	<i>Corvus brachyrhynchos</i>	House sparrow	<i>Passer domesticus</i>
American goldfinch	<i>Carduelis tristis</i>	House wren	<i>Troglodytes aedon</i>
American robin	<i>Turdus migratorius</i>	Indigo bunting	<i>Passerina cyanea</i>
Baltimore oriole	<i>Icterus galbula</i>	Kentucky warbler	<i>Oporornis formosus</i>
Bank swallow	<i>Riparia riparia</i>	Marsh wren	<i>Cistothorus palustris</i>

SPECIES LIST

Common Name*	Scientific Name*	Common Name*	Scientific Name*
BIRDS cont.		PELAGIC	
Mourning dove	<i>Zenaidura macroura</i>	Black-legged kittiwake	<i>Rissa tridactyla</i>
Nelson's sparrow	<i>Ammodramus nelsoni</i>	Cory's shearwater	<i>Calonectris diomedea</i>
Northern cardinal	<i>Cardinalis cardinalis</i>	Northern gannet	<i>Morus bassanus</i>
Northern flicker	<i>Colaptes auratus</i>	Wilson's storm-petrel	<i>Oceanites oceanicus</i>
Northern mockingbird	<i>Mimus polyglottos</i>	RAPTOR	
Northern parula	<i>Setophaga americana</i>	American kestrel	<i>Falco sparverius</i>
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	Bald eagle	<i>Haliaeetus leucocephalus</i>
Orchard oriole	<i>Icterus spurius</i>	Barn owl	<i>Tyto alba</i>
Passerine birds		Broad-winged hawk	<i>Buteo platypterus</i>
Pine warbler	<i>Setophaga pinus</i>	Eastern screech owl	<i>Megascops asio</i>
Prairie warbler	<i>Setophaga discolor</i>	Great horned owl	<i>Bubo virginianus</i>
Prothonotary warbler	<i>Protonotaria citrea</i>	Long-eared owl	<i>Asio otus</i>
Purple finch	<i>Carpodacus purpureus</i>	Northern goshawk	<i>Accipiter gentilis</i>
Purple martin	<i>Progne subis</i>	Northern harrier	<i>Circus cyaneus</i>
Red-bellied woodpecker	<i>Melanerpes carolinus</i>	Osprey	<i>Pandion haliaetus</i>
Red-eyed vireo	<i>Vireo olivaceus</i>	Peregrine falcon	<i>Falco peregrinus</i>
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	Raptors	
Red-winged blackbird	<i>Agelaius phoeniceus</i>	Red-shouldered hawk	<i>Buteo lineatus</i>
Ruby-throated hummingbird	<i>Archilochus colubris</i>	Red-tailed hawk	<i>Buteo jamaicensis</i>
Saltmarsh sparrow	<i>Ammodramus caudacutus</i>	Short-eared owl	<i>Asio flammeus</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>	Snowy owl	<i>Nyctea scandiaca</i>
Scarlet tanager	<i>Piranga olivacea</i>	SHOREBIRD	
Seaside sparrow	<i>Ammodramus maritimus</i>	American oystercatcher	<i>Haematopus palliatus</i>
Song sparrow	<i>Melospiza melodia</i>	Black-bellied plover	<i>Pluvialis squatarola</i>
Swamp sparrow	<i>Melospiza georgiana</i>	Dunlin	<i>Calidris alpina</i>
Tree swallow	<i>Tachycineta bicolor</i>	Greater yellowlegs	<i>Tringa melanoleuca</i>
Veery	<i>Catharus fuscescens</i>	Killdeer	<i>Charadrius vociferus</i>
Warbling vireo	<i>Vireo gilvus</i>	Least sandpiper	<i>Calidris minutilla</i>
Whip-poor-will	<i>Antrostomus vociferus</i>	Lesser yellowlegs	<i>Tringa flavipes</i>
White-breasted nuthatch	<i>Sitta carolinensis</i>	Pectoral sandpiper	<i>Calidris melanotos</i>
Willow flycatcher	<i>Empidonax traillii</i>	<u>Piping plover</u>	<u>Charadrius melodus</u>
Woodthrush	<i>Hylocichla mustelina</i>	Purple sandpiper	<i>Calidris maritima</i>
Yellow warbler	<i>Setophaga petechia</i>	<u>Red knot</u>	<u>Calidris canutus</u>
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Ruddy turnstone	<i>Arenaria interpres</i>
Yellow-breasted chat	<i>Icteria virens</i>	Sanderling	<i>Calidris alba</i>
		Semipalmated plover	<i>Charadrius semipalmatus</i>
		Semipalmated sandpiper	<i>Calidris pusilla</i>

SPECIES LIST

Common Name*	Scientific Name*	Common Name*	Scientific Name*
BIRDS cont.			
Shorebirds		Brant	<i>Branta bernicla</i>
Short-billed dowitcher	<i>Limnodromus griseus</i>	Bufflehead	<i>Bucephala albeola</i>
Spotted sandpiper	<i>Actitis macularia</i>	Canada goose	<i>Branta canadensis</i>
Upland sandpiper	<i>Bartramia longicauda</i>	Canvasback	<i>Aythya valisineria</i>
Whimbrel	<i>Numenius phaeopus</i>	Common eider	<i>Somateria mollissima</i>
Willet	<i>Tringa semipalmata</i>	Common goldeneye	<i>Bucephala clangula</i>
WADING		Common merganser	<i>Mergus merganser</i>
American bittern	<i>Botaurus lentiginosus</i>	Dabbling ducks	
Black rail	<i>Laterallus jamaicensis</i>	Diving ducks	
Black-crowned night-heron	<i>Nycticorax nycticorax</i>	Eurasian wigeon	<i>Anas penelope</i>
Cattle egret	<i>Bubulcus ibis</i>	Gadwall	<i>Anas strepera</i>
Clapper rail	<i>Rallus longirostris</i>	Goldeneye	<i>Bucephala spp.</i>
Egrets		Greater scaup	<i>Aythya marila</i>
		Green-winged teal	<i>Anas crecca</i>
Glossy ibis	<i>Plegadis falcinellus</i>	Harlequin duck	<i>Histrionicus histrionicus</i>
			<i>Lophodytes cucullatus</i>
Great blue heron	<i>Ardea herodias</i>	Hooded merganser	<i>Somateria spectabilis</i>
Great egret	<i>Ardea alba</i>	King eider	
Green heron	<i>Butorides virescens</i>	Lesser scaup	<i>Aythya affinis</i>
Hérons		Long-tailed duck	<i>Clangula hyemalis</i>
Ibises	<i>Threskiornithinae</i>	Mallard	<i>Anas platyrhynchos</i>
Least bittern	<i>Ixobrychus exilis</i>	Mergansers	
Little blue heron	<i>Egretta caerulea</i>	Mute swan	<i>Cygnus olor</i>
Snowy egret	<i>Egretta thula</i>	Northern pintail	<i>Anas acuta</i>
Sora	<i>Porzana carolina</i>	Northern shoveler	<i>Anas clypeata</i>
Tricolored heron	<i>Egretta tricolor</i>	Red-breasted merganser	<i>Mergus serrator</i>
Virginia rail	<i>Rallus limicola</i>	Redhead	<i>Aythya americana</i>
Wading birds		Ring-necked duck	<i>Aythya collaris</i>
Yellow-crowned night-heron	<i>Nyctanassa violacea</i>	Ruddy duck	<i>Oxyura jamaicensis</i>
WATERFOWL		Scaup	<i>Aythya spp.</i>
American black duck	<i>Anas rubripes</i>	Scoters	<i>Melanitta spp.</i>
American coot	<i>Fulica americana</i>	Snow goose	<i>Chen caerulescens</i>
American wigeon	<i>Anas americana</i>	Surf scoter	<i>Melanitta perspicillata</i>
Atlantic Brant	<i>Branta bernicla hrota</i>	Waterfowl	
Barrow's goldeneye	<i>Bucephala islandica</i>	White-winged scoter	<i>Melanitta fusca</i>
Black brant	<i>Branta bernicla nigricans</i>	Wood duck	<i>Aix sponsa</i>
Black scoter	<i>Melanitta americana</i>		
Blue-winged teal	<i>Anas discors</i>	FISH	
		Alewife	<i>Alosa pseudoharengus</i>
		American brook lamprey	<i>Lampetra appendix</i>

SPECIES LIST

Common Name*	Scientific Name*	Common Name*	Scientific Name*
FISH cont.		Goldfish	<i>Carassius auratus</i>
American eel	<i>Anguilla rostrata</i>	Grubby	<i>Myoxocephalus aeneus</i>
American sand lance	<i>Ammodytes americanus</i>	Hickory shad	<i>Alosa mediocris</i>
American shad	<i>Alosa sapidissima</i>	Hogchoker	<i>Trinectes maculatus</i>
Atlantic herring	<i>Clupea harengus</i>	Inland silverside	<i>Menidia beryllina</i>
Atlantic mackerel	<i>Scomber scombrus</i>	Inshore lizardfish	<i>Synodus foetens</i>
Atlantic menhaden	<i>Brevoortia tyrannus</i>	Largemouth bass	<i>Micropterus salmoides</i>
Atlantic moonfish	<i>Selene setapinnis</i>	Little skate	<i>Leucoraja erinacea</i>
Atlantic silverside	<i>Menidia menidia</i>	Mummichog	<i>Fundulus heteroclitus</i>
<u>Atlantic sturgeon</u>	<u><i>Acipenser oxyrinchus</i></u>	Naked goby	<i>Gobiosoma boscii</i>
Atlantic tomcod	<i>Microgadus tomcod</i>	Northern kingfish	<i>Menticirrhus saxatilis</i>
Banded killifish	<i>Fundulus diaphanus</i>	Northern pike	<i>Esox lucius</i>
Banded sunfish	<i>Enneacanthus obesus</i>	Northern pipefish	<i>Syngnathus fuscus</i>
Bay anchovy	<i>Anchoa mitchilli</i>	Northern puffer	<i>Sphoeroides maculatus</i>
Black crappie	<i>Pomoxis nigromaculatus</i>	Northern searobin	<i>Prionotus carolinus</i>
Black sea bass	<i>Centropristis striata</i>	Oyster toadfish	<i>Opsanus tau</i>
Blueback herring	<i>Alosa aestivalis</i>	Pollock	<i>Pollachius virens</i>
Bluefish	<i>Pomatomus saltatrix</i>	Pumpkinseed	<i>Lepomis gibbosus</i>
Bluegill	<i>Lepomis macrochirus</i>	Rainbow smelt	<i>Osmerus mordax</i>
Bowfin	<i>Amia calva</i>	Rainbow trout	<i>Oncorhynchus mykiss</i>
Bridle shiner	<i>Notropis bifrenatus</i>	Rainwater killifish	<i>Lucania parva</i>
Brook trout	<i>Salvelinus fontinalis</i>	Red hake	<i>Urophycis chuss</i>
Brown bullhead	<i>Ameiurus nebulosus</i>	Redbreast sunfish	<i>Lepomis auritus</i>
Brown trout	<i>Salmo trutta</i>	Redfin pickerel	<i>Esox americanus americanus</i>
Brown trout (sea run)	<i>Salmo trutta (sea run)</i>	Rock bass	<i>Ambloplites rupestris</i>
Butterfish	<i>Peprilus triacanthus</i>	Scup	<i>Stenotomus chrysops</i>
Central mudminnow	<i>Umbra limi</i>	Sea lamprey	<i>Petromyzon marinus</i>
Chain pickerel	<i>Esox niger</i>	Sheepshead minnow	<i>Cyprinodon variegatus</i>
Channel catfish	<i>Ictalurus punctatus</i>	<u>Shortnose sturgeon</u>	<u><i>Acipenser brevirostrum</i></u>
Chubsucker	<i>Erimyzon sp.</i>	Silver hake	<i>Merluccius bilinearis</i>
Common carp	<i>Cyprinus carpio</i>	Smallmouth bass	<i>Micropterus dolomieu</i>
Cunner	<i>Tautoglabrus adspersus</i>	Smooth dogfish	<i>Mustelus canis</i>
Fourspine stickleback	<i>Apeltes quadracus</i>	Spiny dogfish	<i>Squalus acanthias</i>
Gizzard shad	<i>Dorosoma cepedianum</i>	Spottail shiner	<i>Notropis hudsonius</i>
Golden shiner	<i>Notemigonus crysoleucas</i>	Spotted hake	<i>Urophycis regia</i>
		Striped bass	<i>Morone saxatilis</i>

SPECIES LIST

Common Name*	Scientific Name*		
FISH cont.		Black edge sedge	<i>Carex nigromarginata</i>
Striped killifish	<i>Fundulus majalis</i>	Bushy St. Johnswort	<i>Hypericum densiflorum</i>
Striped searobin	<i>Prionotus evolans</i>	Carey's smartweed	<i>Persicaria careyi</i>
Summer flounder	<i>Paralichthys dentatus</i>	Carolina clubmoss	<i>Lycopodiella caroliniana</i> var. <i>caroliniana</i>
Swamp darter	<i>Etheostoma fusiforme</i>	Carolina redroot	<i>Lachnanthes caroliniana</i>
Tautog	<i>Tautoga onitis</i>	Cattail sedge	<i>Carex typhina</i>
Tessellated darter	<i>Etheostoma olmstedi</i>	Clasping water horehound	<i>Lycopus amplexans</i>
Threespine stickleback	<i>Gasterosteus aculeatus</i>	Clustered bluets	<i>Oldenlandia uniflora</i>
Walleye	<i>Stizostedion vitreum vitreum</i>	Clustered mountainmint	<i>Pycnanthemum</i>
Weakfish	<i>Cynoscion regalis</i>	Clustered sedge	<i>Carex cumulata</i>
White catfish	<i>Ameiurus catus</i>	Coastal goldenrod	<i>Solidago latissimifolia</i>
White crappie	<i>Pomoxis annularis</i>	Combleaf mermaidweed	<i>Proserpinaca pectinata</i>
White perch	<i>Morone americana</i>	Common persimmon	<i>Diospyros virginiana</i>
White sucker	<i>Catostomus commersoni</i>	Cosmopolitan bulrush	<i>Bolboschoenus maritimus</i> ssp. <i>Paludosus</i>
Windowpane	<i>Scophthalmus aquosus</i>	Creeping lespedeza	<i>Lespedeza repens</i>
Winter flounder	<i>Pleuronectes americanus</i>	Davis' sedge	<i>Carex davisii</i>
Winter skate	<i>Leucoraja ocellata</i>	Devil's-tongue	<i>Opuntia humifusa</i>
Yellow perch	<i>Perca flavescens</i>	Dillenius' ticktrefoil	<i>Desmodium glabellum</i>
HABITATS		Drumheads	<i>Polygala cruciata</i>
PLANT		Dune sandspur	<i>Cenchrus tribuloides</i>
American burnweed	<i>Erechtites hieraciifolia</i> var. <i>megalocarpa</i>	Dwarf bulrush	<i>Lipocarpus micrantha</i>
American knotweed	<i>Polygonum aviculare</i> ssp. <i>buxiforme</i>	Dwarf saltwort	<i>Salicornia bigelovii</i>
American senna	<i>Senna hebecarpa</i>	Eastern grasswort	<i>Lilaeopsis chinensis</i>
Annual seepweed	<i>Suaeda linearis</i>	Eaton's beggars-tick	<i>Bidens eatonii</i>
Appalachian stitchwort	<i>Minuartia glabra</i>	Engelmann's spikerush	<i>Eleocharis engelmannii</i>
Arrowhead rattlebox	<i>Crotalaria sagittalis</i>	Estuary pipewort	<i>Eriocaulon parkeri</i>
Arumleaf arrowhead	<i>Sagittaria cuneata</i>	False Indian plaintain	<i>Hasteola suaveolens</i>
Atlantic white cedar	<i>Chamaecyparis thyoides</i>	False mermaidweed	<i>Floerkea proserpinacoides</i>
Awl-leaf arrowhead	<i>Sagittaria subulata</i>	Fernald's sedge	<i>Carex merritt-fernaldii</i>
Barratt's sedge	<i>Carex barrattii</i>	Fibrous bladderwort	<i>Utricularia striata</i>
Beaked agrimony	<i>Agrimonia rostellata</i>		
Bearded sprangletop	<i>Leptochloa fusca</i> ssp. <i>Fascicularis</i>		
Beck's water-marigold	<i>Bidens beckii</i>		

SPECIES LIST

Common Name*	Scientific Name*	Common Name*	Scientific Name*
HABITATS cont.			
Field paspalum	<i>Paspalum laeve</i>	Narrowleaf pinweed	<i>Lechea tenuifolia</i>
Giant orchid	<i>Pteroglossaspis ecristata</i>	Narrowleaf willow	<i>Salix exigua</i>
Globefruit primrose-willow	<i>Ludwigia sphaerocarpa</i>	Needletip blue-eyed grass	<i>Sisyrinchium mucronatum</i>
Golden dock	<i>Rumex maritimus</i>	New England blazing star	<i>Liatris scariosa</i> var. <i>novae-angliae</i>
Goldenclub	<i>Orontium aquaticum</i>	Northern coastal violet	<i>Viola brittoniana</i>
Goose tongue	<i>Plantago maritima</i> var. <i>juncoides</i>	Nuttall's milkwort	<i>Polygala nuttallii</i>
Great Plains flatsedge	<i>Cyperus lupulinus</i> ssp. <i>Lupulinus</i>	Oakes' evening primrose	<i>Oenothera oakesiana</i>
Hairy small-leaf ticktrefoil	<i>Desmodium ciliare</i>	Pennsylvania catchfly	<i>Silene caroliniana</i> ssp. <i>pennsylvanica</i>
Hyssopleaf hedgenettle	<i>Stachys hyssopifolia</i>	Peruvian dodder	<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>
Hyssopleaf thoroughwort	<i>Eupatorium hyssopifolium</i> var. <i>laciniatum</i>	Pilgrim grape	<i>Vitis</i> × <i>novae-angliae</i>
Justiceweed	<i>Eupatorium leucolepis</i>	Pine barren flatsedge	<i>Cyperus retrorsus</i> var. <i>retrorsus</i>
Large grass-leaved rush	<i>Juncus biflorus</i>	Pink tickseed	<i>Coreopsis rosea</i>
Leonard's skullcap	<i>Scutellaria parvula</i> var. <i>missouriensis</i>	Pitseed goosefoot	<i>Chenopodium berlandieri</i> var. <i>macrocalycium</i>
Lesser snakeroot	<i>Ageratina aromatica</i>	Purple milkweed	<i>Asclepias purpurascens</i>
Lizard's tail	<i>Saururus cernuus</i>	Rare plant	
Longbeak beaksedge	<i>Rhynchospora scirpoides</i>	Reznicek's sedge	<i>Carex reznicekii</i>
Long-tubercled spikerush	<i>Eleocharis tuberculosa</i>	Roland's seablite	<i>Suaeda rolandii</i>
Low frostweed	<i>Helianthemum propinquum</i>	Saltmarsh aster	<i>Symphyotrichum subulatum</i> var. <i>subulatum</i>
Lowland rotala	<i>Rotala ramosior</i>	Saltmarsh bulrush	<i>Schoenoplectus novae-angliae</i>
Lowland yellow loosestrife	<i>Lysimachia hybrida</i>	Saltmarsh false foxglove	<i>Agalinis maritima</i>
Manyflower marshpennywort	<i>Hydrocotyle umbellata</i>	Saltmarsh loosestrife	<i>Lythrum lineare</i>
Marsh fimbry	<i>Fimbristylis castanea</i>	Sand blackberry	<i>Rubus cuneifolius</i>
Marsh straw sedge	<i>Carex hormathodes</i>	Sand dropseed	<i>Sporobolus cryptandrus</i>
Meadow zizia	<i>Zizia aptera</i>	Sandplain flax	<i>Linum intercursum</i>
Midland sedge	<i>Carex mesochorea</i>	Scotland orache	<i>Atriplex glabriuscula</i>
Mitchell's sedge	<i>Carex mitchelliana</i>	Scottish licorice-root	<i>Ligusticum scoticum</i> ssp. <i>Scoticum</i>
Nantucket serviceberry	<i>Amelanchier nantucketensis</i>	Seacoast angelica	<i>Angelica lucida</i>
Narrowfruit horned beaksedge	<i>Rhynchospora inundata</i>	Seaside goldenrod	<i>Solidago sempervirens</i> var. <i>mexicana</i>
Narrowleaf lespedeza	<i>Lespedeza angustifolia</i>	Seaside sandplant	<i>Honckenya peploides</i>
		Seaside threeawn	<i>Aristida tuberculosa</i>
		Shortbeak beaksedge	<i>Rhynchospora nitens</i>
		Sickleleaf silkgrass	<i>Pityopsis falcata</i>

SPECIES LIST

Common Name*	Scientific Name*	Common Name*	Scientific Name*
HABITATS cont.			
Silverweed cinquefoil	<i>Potentilla anserina</i> <i>ssp. anserina</i>	White boneset	<i>Eupatorium album</i> <i>var. subvenosum</i>
Slender arrowhead	<i>Sagittaria teres</i>	White edge sedge	<i>Carex debilis</i> var. <i>debilis</i>
Slender blue flag	<i>Iris prismatica</i>	White milkweed	<i>Asclepias variegata</i>
Slender crabgrass	<i>Digitaria filiformis</i>	Whorled marshpennywort	<i>Hydrocotyle</i> <i>verticillata</i>
Slender marsh-pink	<i>Sabatia campanulata</i>	Widowsfrill	<i>Silene stellata</i>
Slender seapurslane	<i>Sesuvium maritimum</i>	Willdenow's sedge	<i>Carex basiantha</i>
Slender spikegrass	<i>Chasmanthium</i> <i>laxum</i>	Woolly beachheather	<i>Hudsonia tomentosa</i>
Slender spikerush	<i>Eleocharis tenuis</i> var. <i>pseudoptera</i>	Yellow giant hyssop	<i>Agastache nepetoides</i>
Slimspike threeawn	<i>Aristida longespica</i>	Yellow thistle	<i>Cirsium horridulum</i>
Small's yelloweyed grass	<i>Xyris smalliana</i>	UPLAND	
Smartweed dodder	<i>Cuscuta</i> <i>polygonorum</i>	Bitter panicum	<i>Panicum amarum</i>
Smooth hedge-nettle	<i>Stachys tenuifolia</i>	Bushy rockrose	<i>Helianthemum</i> <i>dumosum</i>
Southern arrowwood	<i>Viburnum dentatum</i> <i>var. venosum</i>	<u>Sandplain gerardia</u>	<u><i>Agalinis acuta</i></u>
Southern bladderwort	<i>Utricularia juncea</i>	Seaside knotweed	<i>Polygonum glaucum</i>
Squarrose sedge	<i>Carex squarrosa</i>	WETLAND	
Stiff ticktrefoil	<i>Desmodium obtusum</i>	Barton's St. John's-wort	<i>Hypericum</i> <i>adpressum</i>
Stiff-leaved goldenrod	<i>Solidago rigida</i>	Bog smartweed	<i>Polygonum setaceum</i>
Swamp cottonwood	<i>Populus heterophylla</i>	Northern gamma grass	<i>Tripsacum</i> <i>dactyloides</i>
Swamp lousewort	<i>Pedicularis lanceolata</i>	Red pigweed	<i>Chenopodium</i> <i>rubrum</i>
Swamp sunflower	<i>Helianthus</i> <i>angustifolius</i>	Saltmarsh spikerush	<i>Eleocharis halophila</i>
Sweetbay	<i>Magnolia virginiana</i>	Scirpus-like rush	<i>Juncus scirpoides</i>
Tall cinquefoil	<i>Potentilla arguta</i> <i>Dichantheium</i>	Sea pink	<i>Sabatia stellaris</i>
Tapered rosette grass	<i>acuminatum</i> var. <i>longiligulatum</i>	Short-fruited rush	<i>Juncus brachycarpus</i>
Terrestrial starwort	<i>Callitriche terrestris</i>	Spikerushes	<i>Eleocharis</i> spp.
Texan flatsedge	<i>Cyperus polystachyos</i> <i>var. texensis</i>	Featherfoil	<i>Hottonia inflata</i>
Thicket sedge	<i>Carex abscondita</i>	Small floating bladderwort	<i>Utricularia radiata</i>
Twining screwstem	<i>Bartonia paniculata</i> <i>ssp. Paniculata</i>	Spotted pondweed	<i>Potamogeton pulcher</i>
Velvety bush-clover	<i>Lespedeza stuevei</i>	BENTHIC	
Violet woodsorrel	<i>Oxalis violacea</i>	SUBMERGED AQUATIC VEGETATION	
Water pygmyweed	<i>Crassula aquatica</i>	Cutleaf watermilfoil	<i>Myriophyllum</i> <i>pinnatum</i>
Welsh mudwort	<i>Limosella australis</i>	Eelgrass	<i>Zostera marina</i>
Whip nutrush	<i>Scleria triglomerata</i>	Hornleaf riverweed	<i>Podostemum</i> <i>ceratophyllum</i>
		Shortspike watermilfoil	<i>Myriophyllum</i> <i>sibiricum</i>

SPECIES LIST

Common Name*	Scientific Name*	Common Name*	Scientific Name*
BENTHIC cont.			
Small pondweed	<i>Potamogeton pusillus</i> <i>ssp. gemmiparus</i>	Rare freshwater mussel	
Vasey's pondweed	<i>Potamogeton vaseyi</i>	Ribbed mussel	<i>Geukensia demissa</i>
HERPETOFAUNA		Softshell clam	<i>Mya arenaria</i>
AMPHIBIAN		CEPHALOPOD	
Blue-spotted salamander	<i>Ambystoma laterale</i>	Longfin squid	<i>Loligo pealeii</i>
Eastern spadefoot	<i>Scaphiopus holbrookii</i>	CRAB	
Marbled salamander	<i>Ambystoma opacum</i>	Atlantic rock crab	<i>Cancer irroratus</i>
Northern leopard frog	<i>Rana pipiens</i>	Blue crab	<i>Callinectes sapidus</i>
Rare amphibian		Fiddler crab	<i>Uca</i> sp.
Southern leopard frog	<i>Lithobates</i> <i>sphenocephalus</i>	Green crab	<i>Carcinus maenas</i>
SNAKE		Horseshoe crab	<i>Limulus polyphemus</i>
Common wormsake	<i>Carphophis amoenus</i>	Jonah crab	<i>Cancer borealis</i>
Eastern hog-nosed snake	<i>Heterodon platirhinos</i>	Lady crab	<i>Ovalipes ocellatus</i>
TURTLE		Spider crabs	<i>Libinia</i> spp.
Diamondback terrapin	<i>Malaclemys terrapin</i>	GASTROPOD	
Eastern box turtle	<i>Terrapene carolina</i> <i>carolina</i>	Channeled whelk	<i>Busycon</i> <i>canaliculatum</i>
Eastern mud turtle	<i>Kinosternon</i> <i>subrubrum</i>	LOBSTER	
<u>Green sea turtle</u>	<u><i>Chelonia mydas</i></u>	American lobster	<i>Homarus americanus</i>
<u>Kemp's ridley sea turtle</u>	<u><i>Lepidochelys kempii</i></u>	SHRIMP	
<u>Leatherback sea turtle</u>	<u><i>Dermochelys coriacea</i></u>	Grass shrimp	<i>Palaemonetes</i> spp.
<u>Loggerhead sea turtle</u>	<u><i>Caretta caretta</i></u>	Mantis shrimp	<i>Squilla empusa</i>
Rare reptile		Sevenspine bay shrimp	<i>Crangon</i> <i>septemspinosus</i>
Spotted turtle	<i>Clemmys guttata</i>	INSECTS	
Wood turtle	<i>Glyptemys insculpta</i>	Coastal barrens buckmoth	<i>Hemileuca maia</i> ssp. 5
INVERTEBRATES		Frosted elfin	<i>Callophrys irus</i>
BIVALVE		Hessel's hairstreak	<i>Callophrys hesseli</i>
Atlantic surfclam	<i>Spisula solidissima</i>	Jersey jair underwing	<i>Catocala jair</i> ssp. 2
Bay scallop	<i>Argopecten irradians</i>	Little bluet	<i>Enallagma</i> <i>minuscule</i>
Blue mussel	<i>Mytilus edulis</i>	Pine Barrens bluet	<i>Enallagma</i> <i>recurvatum</i>
Eastern oyster	<i>Crassostrea virginica</i>	Pine Barrens underwing	<i>Catocala herodias</i> <i>gerhardi</i>
<u>Endangered freshwater mussel</u>		Rare insect	
Northern quahog	<i>Mercenaria</i> <i>mercenaria</i>	Scarlet bluet	<i>Enallagma pictum</i>
		<u>Threatened insect</u>	

SPECIES LIST

Common Name*	Scientific Name*
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MARINE MAMMALS

DOLPHIN

Bottlenose dolphin	<i>Tursiops truncatus</i>
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Harbor porpoise	<i>Phocoena phocoena</i>
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SEAL

Gray seal	<i>Halichoerus grypus</i>
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Harbor seal	<i>Phoca vitulina</i>
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WHALE

<u>Humpback whale</u>	<u><i>Megaptera</i></u> <u><i>novaeangliae</i></u>
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<u>North Atlantic right whale</u>	<u><i>Eubalaena glacialis</i></u>
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TERRESTRIAL MAMMALS

BAT

Eastern red bat	<i>Lasiurus borealis</i>
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Hoary bat	<i>Lasiurus cinereus</i>
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Silver-haired bat	<i>Lasionycteris</i> <i>noctivagans</i>
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SMALL MAMMAL

New England cottontail	<i>Sylvilagus</i> <i>transitionalis</i>
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North American least shrew	<i>Cryptotis parva</i>
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Northern river otter	<i>Lontra canadensis</i>
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* Underlined species are listed as either threatened or endangered under the federal ESA, and/or are listed as threatened, endangered, or special concern by Connecticut and/or New York

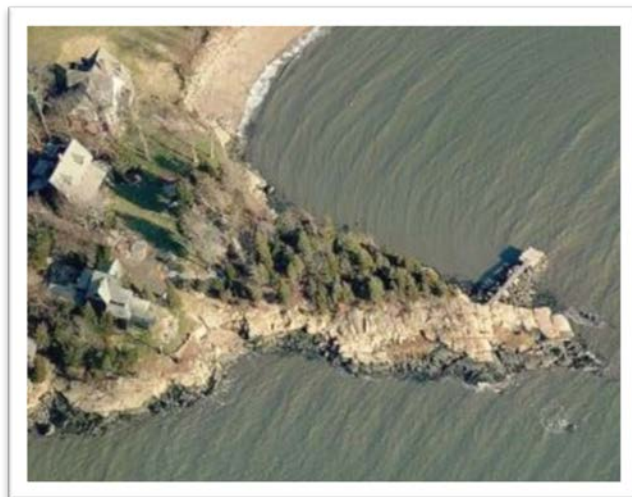
SHORELINE DESCRIPTIONS

EXPOSED ROCKY SHORES

ESI = 1A

DESCRIPTION

- The intertidal zone is steep (greater than 30° slope), with very little width; solid and composed of bedrock
- Sediment accumulations are uncommon because waves and currents remove debris slumped from the eroding cliffs
- There is strong vertical zonation of intertidal biological communities in the estuarine parts of the river
- This shoreline type is regularly exposed to wave action and strong currents
- Wave reflection is a common phenomenon along these shorelines
- Species density and diversity vary greatly depending on exposure and salinity, but barnacles, snails, mussels, amphipods, and macroalgae can be abundant



RESPONSE CONSIDERATIONS

- Cleanup is usually not required
- Access can be difficult and dangerous

PREDICTED OIL BEHAVIOR

- Oil is held offshore by waves reflecting off the steep, hard surfaces
- Any oil that is deposited is rapidly removed from exposed faces
- The most resistant oil would remain as a patchy band at or above the high-water line
- Impacts to intertidal communities are expected to be short-term in duration; An exception would be where heavy concentrations of a light refined product comes ashore very quickly

SHORELINE DESCRIPTIONS

EXPOSED, SOLID MAN-MADE STRUCTURES

ESI = 1B

DESCRIPTION

- These structures are solid, man-made structures such as seawalls, jetties, breakwaters, groins, revetments, piers, and port facilities
- Many structures are constructed of concrete, wood, or metal
- Often there is no exposed substrate at low tide, but multiple habitats are indicated if present
- They are built to protect the shore from erosion by waves, boat wakes, and currents, and so are exposed to rapid natural removal processes
- Attached animals and plants are sparse to moderate
- Present in highly developed industrial and port areas and scattered along residential waterfronts

PREDICTED OIL BEHAVIOR

- Oil is held offshore by waves reflecting off the steep, hard surface in exposed settings
- Oil readily adheres to the dry, rough surfaces, but it does not adhere to wet substrates
- The most resistant oil would remain as a band at or above the high-tide line



RESPONSE CONSIDERATIONS

- Cleanup is usually not required
- High-pressure water spraying may be conducted to:
 - remove persistent oil in crevices;
 - minimize aesthetic damage; and
 - prevent chronic leaching of oil from the structure

SHORELINE DESCRIPTIONS

EXPOSED, WAVE-CUT PLATFORMS IN BEDROCK

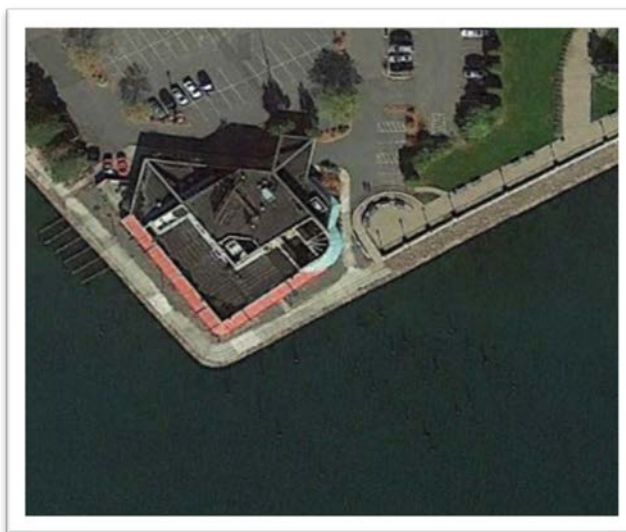
ESI = 2A

DESCRIPTION

- They are characterized by a narrow shelf or platform that can be flooded depending on water levels
- The substrate is solid and portions of the platform may be covered by a relatively thin veneer of sand or gravel
- The surface of the platform is irregular and the presence of tidal pools is common
- Species density and diversity vary greatly, but barnacles, snails, mussels, polychaetes, and macroalgae are often very abundant
- Attached organisms are accustomed to the impacts of the waves and the associated hydraulic pressure
- They are often found with gravel and mixed sediment beaches along the high tide line and are common at the foot of exposed rocky shores

PREDICTED OIL BEHAVIOR

- Oil will not adhere to the wet rock surface, but could penetrate crevices, sediment veneers, or associated beaches if present



- Persistence of oil is usually short-term, except in wave shadows or where the oil was deposited high above normal wave activity

RESPONSE CONSIDERATIONS

- Cleanup is usually not required except for areas of high recreational use
- Where the high-tide area is accessible, it may be feasible to manually remove heavy oil accumulations and oiled debris

SHORELINE DESCRIPTIONS

EXPOSED SCARPS AND STEEP SLOPES IN CLAY

ESI = 2B

DESCRIPTION

- Scarp heights vary from about 1 to 3 feet and usually consist of a heavily rooted, loamy or peaty soil
- May be fronted by a narrow beach of fine- to medium-grained sand
- Low biological utilization due to strong currents
- Typically backed by wetland vegetation
- Uncommon in study area

PREDICTED OIL BEHAVIOR

- Oil is not expected to adhere to the wet, impermeable clay surface but may adhere to roots or become entrapped in depressions or irregularities on the scarp surface near the high tide line. This oil may persist in small amounts, despite high wave energy
- There may be a thin band of oil left at or above the high water line
- Biological impacts can be immediate and severe, particularly if oil is left to pool on the landward side of scarp



RESPONSE CONSIDERATIONS

- Cleanup is usually not required, because oil is quickly removed by wave action
- Access may be difficult and dangerous
- Where the high-tide area is accessible, it may be feasible to remove heavy oil accumulations and oiled debris in order to protect a nearshore marine resource, such as marine birds

SHORELINE DESCRIPTIONS

FINE- TO MEDIUM-GRAINED SAND BEACHES

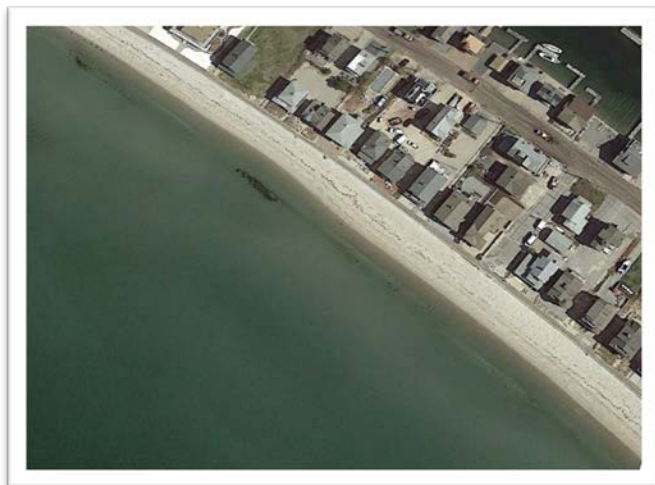
ESI = 3A

DESCRIPTION

- These beaches are flat to moderately sloping and relatively hard packed
- They are composed of quartz sand
- There can be heavy accumulations of wrack present
- They are utilized by birds and turtles
- Upper beach fauna include ghost crabs and amphipods; lower beach fauna can be moderate, but are highly variable
- They are generally areas of heavy recreational use

PREDICTED OIL BEHAVIOR

- Light oil accumulations will be deposited as oily swashes or bands along the upper intertidal zone
- Heavy oil accumulations will cover the entire beach surface; oil will be lifted off the lower beach with the rising tide
- Maximum penetration of oil into fine- to medium-grained sand is about 10-15 cm
- Burial of oiled layers by clean sand within the first week after a spill typically will be less than 30 cm along the upper beach face
- Organisms living in the beach sediment may be killed by smothering or lethal oil concentrations in the interstitial water
- Biological impacts include temporary declines in infauna, which can affect important shorebird foraging areas



RESPONSE CONSIDERATIONS

- These beaches are among the easiest shoreline types to clean
- Cleanup should concentrate on removing oil and oily debris from the upper swash zone once oil has come ashore
- Traffic through dune areas should be severely limited to prevent contamination of clean areas
- Manual cleanup, rather than road graders and front-end loaders, is advised to minimize the volume of sand removed from the shore and requiring disposal
- All efforts should focus on preventing the mixing of oil deeper into the sediments by vehicular and foot traffic
- Mechanical reworking of lightly oiled sediments from the high-tide line to the upper intertidal zone and be effective along outer beaches

SHORELINE DESCRIPTIONS

SCARPS AND STEEP SLOPES IN SAND

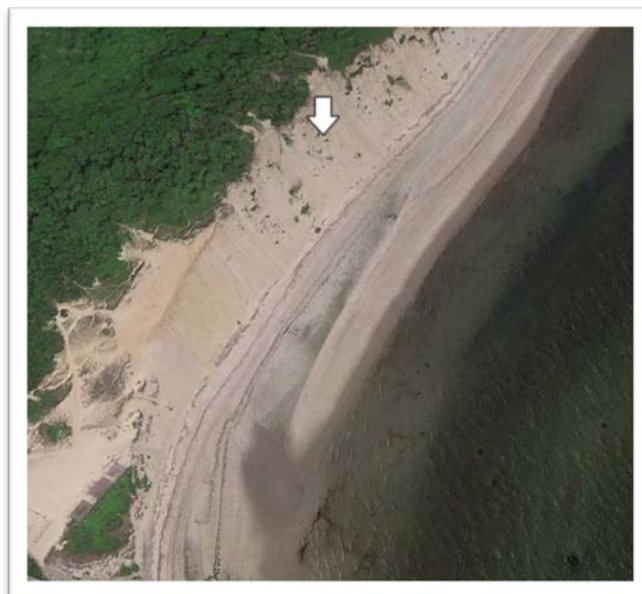
ESI = 3B

DESCRIPTION

- This shoreline type occurs where sandy bluffs are undercut by waves or currents and slump
- Some scarps are fronted by narrow beaches, if the erosion rates are moderate and episodic
- Trees growing at the top of these slopes are eventually undercut and woody debris can accumulate at the base of the scarp
- Biological utilization by birds and infauna is low

PREDICTED OIL BEHAVIOR

- Any stranded oil will concentrate at the high-water line and may penetrate sandy sediments if a beach is present
- Oil will also adhere to the dry surfaces of any woody debris that has accumulated at the base of the scarp
- Burial risk is low except when slumping of the bluff occurs
- Active erosion of the scarp will remove the oil



RESPONSE CONSIDERATIONS

- In most cases, cleanup is not necessary because of the short residence time of the oil
- The need for removal of oiled sediments and debris should be carefully evaluated because of the potential for increased erosion
- Closely supervised manual labor should be used so that the minimal amount of material is removed during cleanup

SHORELINE DESCRIPTIONS

COARSE-GRAINED SAND BEACHES

ESI = 4

DESCRIPTION

- These beaches are moderately sloping, are of variable width, and are composed of soft sediments. These characteristics combine to lower their trafficability
- Species density and diversity is generally lower than on fine-grained sand beaches
- Substrate permeability is moderate
- They are very common along the shoreline of the bay and banks of major rivers

PREDICTED OIL BEHAVIOR

- During small spills, oil will be deposited primarily as a band along the high-tide line
- Under very heavy accumulations, oil may spread across the entire beach face, though the oil will be lifted off the lower part of the beach with the rising tide
- Penetration of oil into coarse-grained sand can reach 25 cm
- Burial of oiled layers by clean sand can be as rapid as one tidal cycle and to depths of 60 cm or more
- Burial to depths of over one meter is possible if the oil comes ashore at the start of a depositional period
- Organisms living in the beach sediment may be killed by smothering or lethal oil concentrations in the interstitial water
- Biological impacts include temporary declines in infaunal populations, which can also affect important shorebird foraging areas



RESPONSE CONSIDERATIONS

- Removed oil primarily from the upper swash lines
- Removal of sediment should be limited to avoid erosion problems
- Mechanical reworking of the sediment into the surf zone may be used as a final polishing step to treat stained sand without sediment removal
- Activity in the oiled sand should be limited to prevent mixing oil deeper into the beach
- Use of heavy equipment for oil/sand removal may result in the removal of excessive amounts of sand; manual cleanup may be more effective

SHORELINE DESCRIPTIONS

MIXED SAND AND GRAVEL BEACHES

ESI = 5

DESCRIPTION

- Moderately sloping beaches composed of a mixture of sand and gravel (gravel component comprises between 20 to 80 percent of total sediments)
- Because of the mixed sediment sizes, there may be some areas on the beach of pure sand, pebbles, or cobbles
- There can be large-scale changes in the sediment distribution patterns depending upon season, because of transport of the sand offshore during storms
- Substrate has medium-to-high permeability

PREDICTED OIL BEHAVIOR

- During small spills, oil will be deposited along and above the high-tide swash
- Large spills will spread across the entire intertidal area
- Oil penetration into the beach sediments may be up to 50 cm; however, the sand fraction can be quite mobile, and oil behavior is much like on a sand beach if the sand fraction exceeds about 40 percent
- Burial of oil may be deep at and above the high-tide line, where oil tends to persist, particularly where beaches are only intermittently exposed to waves
- In sheltered pockets on the beach, pavements of asphalted sediments can form if there is no removal of heavy oil accumulations because most of the oil remains on the surface
- Once formed, these asphalt pavements can persist for years

RESPONSE CONSIDERATIONS

- Remove heavy accumulations of pooled oil as soon as possible



- All oiled debris should be removed
- Sediment removal should be limited as much as possible
- Low-pressure flushing can be used to float liquid oil away from the sediments for recovery by skimmers or sorbents. High-pressure spraying should be avoided because of potential for transporting contaminated finer sediments (sand) to the lower intertidal or subtidal zones
- Mechanical reworking of lightly oiled sediments from the high-tide zone to the middle intertidal zone can be effective in areas regularly exposed to wave activity (as evidenced by storm berms). However, oiled sediments should not be relocated below the mid-tide-zone
- In-place tilling/excavation may be used to reach deeply buried oil in layers in the middle zone on exposed beaches

SHORELINE DESCRIPTIONS

GRAVEL BEACHES

ESI = 6A

DESCRIPTION

- Gravel beaches can be steep, with multiple wave-built berms forming the upper bench
- Gravel beaches have the lowest trafficability of all beach types and may contain shell and woody debris
- Because of the high mobility of sediments on exposed gravel beaches, there are low densities of animals and plants
- Most permeable of all beach types

PREDICTED OIL BEHAVIOR

- Deep penetration of stranded oil is likely on wave-built gravel beaches because of their high permeability
- On exposed beaches, oil can be pushed over the high-tide and storm berms, pooling and persisting above the normal zone of wave wash
- Deeply penetrated oil can become sources of chronic sheening
- Long-term persistence will be controlled by the depth of the routine reworking by waves or boat wakes

RESPONSE CONSIDERATIONS

- Heavy accumulations of pooled oil should be removed quickly from the upper beach
- All oiled debris should be removed
- Sediment removal should be limited as much as possible
- Low-pressure flushing can be used to float fresh oil away from the sediments for recovery by skimmers or sorbents



- High-pressure spraying should be avoided because of the potential for transporting contaminated finer sediments (sand) to the lower intertidal or subtidal zones
- Mechanical reworking of oiled sediments from the high-tide line to the upper intertidal zone can be effective in areas regularly exposed to wave activity (as evidenced by storm berms). However, oiled sediments should not be relocated below the mid-tide-zone.
- In-place tilling may be used to reach deeply buried oil layers along the mid-intertidal zone on exposed beaches

SHORELINE DESCRIPTIONS

RIPRAP

ESI = 6B

DESCRIPTION

- Riprap structures are composed of cobble- to boulder-sized blocks of granite, limestone, or concrete
- Riprap structures are used for shoreline protection and tidal inlet stabilization
- Attached biota are sparse to moderate on exposed riprap
- Common along highly developed commercial waterfronts and residential areas

PREDICTED OIL BEHAVIOR

- Deep penetration of oil between the blocks is likely
- Oil adheres readily to the rough surfaces of the blocks
- Uncleaned oil can cause chronic leaching until the oil hardens



RESPONSE CONSIDERATIONS

- When the oil is fresh and liquid, high-pressure spraying and/or water flooding may be effective, making sure to recover all mobilized oil
- Heavy and weathered oils are more difficult to remove, requiring scraping and/or hot-water spraying
- It may be necessary to remove and replace heavily oiled blocks in high-use areas

SHORELINE DESCRIPTIONS

EXPOSED TIDAL FLATS

ESI = 7

DESCRIPTION

- Exposed tidal flats are broad, flat, intertidal areas composed primarily of sand and minor amounts of gravel (in a few areas)
- The presence of sand indicates that tidal currents and waves are strong enough to mobilize the sediments
- They are often associated with another shoreline type on the landward side of the flat, though they can occur as separate shoals; they are commonly associated with tidal inlets
- Biological utilization can be very high, with large numbers of infauna, heavy use by birds for roosting and foraging, and by foraging fish
- Sediments usually remain water-saturated, with only the topographically higher ridges drying out during low tide
- Sediments are generally too soft for vehicular traffic

PREDICTED OIL BEHAVIOR

- Oil does not usually adhere to the surface of exposed tidal flats, but rather moves across the flat and accumulates at the high-tide line
- Deposition of oil on the flat may occur on a falling tide if concentrations are heavy
- Oil does not penetrate water-saturated sediments



- Biological damage may be severe, primarily to infauna, thereby reducing food sources for birds and other predators

RESPONSE CONSIDERATIONS

- Currents and waves can be very effective in natural removal of the oil
- Cleanup is very difficult (and possible only during low tides)
- The use of machinery should be restricted to prevent mixing of oil into the sediments

SHORELINE DESCRIPTIONS

SHELTERED ROCKY SHORES

ESI = 8A

DESCRIPTION

- The substrate is solid and composed of bedrock
- Sediments (rock debris, etc.) may accumulate at the base of this shoreline type
- The slope of the intertidal zone is generally moderate to steep (greater than 15°) with little width
- This shoreline type is found on the northern coast of Long Island Sound

PREDICTED OIL BEHAVIOR

- Stranded oil will persist because of low energy setting

RESPONSE CONSIDERATIONS

- Low-pressure flushing at ambient temperatures is most effective when the oil is fresh and still liquid



- Care must be taken during flushing operations to prevent oily effluents from affecting biologically rich, lower intertidal levels
- Where the high-tide area is accessible, it may be feasible to remove heavy oil accumulations and oiled debris

SHORELINE DESCRIPTIONS

SHELTERED, SOLID MAN-MADE STRUCTURES

ESI = 8B

DESCRIPTION

- These structures are solid man-made structures such as seawalls, groins, revetments, piers, and port facilities
- Most of the structures are designed to protect a single lot, thus their composition, design, and condition are highly variable; most are constructed of concrete, wood, or metal
- Often there is no exposed beach at low tide, but multiple habitats are indicated if present
- High densities of attached biota may be present at lower tidal elevations
- Common in highly developed commercial areas and along residential waterfront areas throughout the bays

PREDICTED OIL BEHAVIOR

- Oil will adhere readily to rough surfaces, particularly along the high-tide line, forming a distinct oil band
- If the oil is not removed, it may cause chronic sheening until the oil hardens
- The lower intertidal zone usually stays wet (particularly if algae-covered), preventing oil from adhering to the surface



RESPONSE CONSIDERATIONS

- Cleanup of seawalls is usually conducted for aesthetic reasons or to prevent sheening
- Low- to high-pressure spraying at ambient water temperatures is most effective when the oil is fresh

SHORELINE DESCRIPTIONS

SHELTERED RIPRAP

ESI = 8C

DESCRIPTION

- Riprap structures are composed of cobble- to boulder-sized blocks of granite, limestone, or concrete
- These structures are found inside harbors and bays in developed areas, sheltered from direct exposure to waves
- High densities of attached biota may be present at lower tidal elevations
- Common in highly developed commercial and residential waterfront areas

PREDICTED OIL BEHAVIOR

- Oil adheres readily to the rough surfaces
- Deep penetration of oil between the blocks is likely
- If oil is left uncleaned, it may cause chronic leaching until the oil hardens



RESPONSE CONSIDERATIONS

- High-pressure spraying may be required to remove oil for aesthetic reasons and to prevent leaching of oil from the structure
- Cleanup crews should make sure to recover all released oil
- It may be necessary to remove and replace heavily oiled riprap in high-use areas

SHORELINE DESCRIPTIONS

SHELTERED TIDAL FLATS

ESI = 9A

DESCRIPTION

- Sheltered tidal flats are composed primarily of mud with minor amounts of sand and shell
- They are present in calm-water habitats, sheltered from regular wave activity, and are usually backed by marshes
- The sediments are very soft and cannot support even light foot traffic in many areas
- Sheltered tidal flats can be sparsely to heavily covered with algae and/or seagrasses
- They can have heavy wrack deposits along the upper fringe
- Large concentrations of shellfish, worms, and snails can be found on and in the sediments
- Bird life is seasonally abundant and flats are heavily utilized by birds for feeding
- Common within sheltered coves and bays

PREDICTED OIL BEHAVIOR

- Oil does not usually adhere to the surface of sheltered tidal flats, but rather moves across the flat and accumulates at the high-tide line
- Deposition of oil on the flat may occur on a falling tide if concentrations are heavy
- Oil will not penetrate the water-saturated sediments, but could penetrate burrows or other crevices in muddy sediments
- In areas of high suspended sediments, sorption of oil can result in deposition of contaminated sediments on the flats



- Biological damage may be severe

RESPONSE CONSIDERATIONS

- These are high-priority areas necessitating the use of spill protection devices to limit oil-spill impact; deflection or sorbent booms and open water skimmers should be used
- Cleanup of the flat surface is very difficult because of the soft substrate; many methods may be restricted
- Low-pressure flushing, vacuum, and deployment of sorbents from shallow-draft boats may be helpful

SHORELINE DESCRIPTIONS

VEGETATED LOW BANKS

ESI = 9B

DESCRIPTION

- These habitats are either low banks with grasses or trees and tree roots exposed to the water
- They are flooded occasionally by high water
- Sporadic along many tidal channels

PREDICTED OIL BEHAVIOR

- During low water stages there is little impact, with the oil coating a narrow band of sediment at the water level
- During high water stages, the oil could cover and coat the vegetation
- Oiling may cause loss of the grasses, but the trees should survive unless oil penetrates and persists in the substrate

RESPONSE CONSIDERATIONS

- Low-pressure flushing of oiled areas is effective in removing moderate to heavy accumulations of fresh oil from along the banks



- Sorbent and containment boom should be placed on the water side of the cleanup operations to contain and collect oil outflow
- Low- to high-pressure flushing can be used to remove weathered oil from tree roots and trunks, if deemed necessary in areas of high-use area

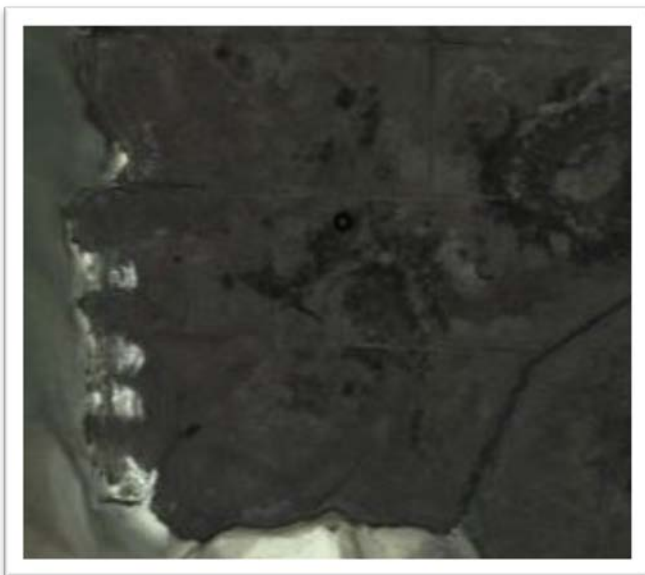
SHORELINE DESCRIPTIONS

SALT- AND BRACKISH-WATER MARSHES

ESI = 10A

DESCRIPTION

- Intertidal wetlands containing emergent, herbaceous vegetation
- Width of the marsh can vary widely, from a narrow fringe to extensive areas; many have been extensively ditched
- Sediments are composed of organic muds except on the margins of barrier islands and other exposed areas where sand is abundant
- Exposed areas are located along bays with wide fetches and along heavily trafficked waterways
- Sheltered areas and tidal creeks are not exposed to significant wave or boat wake activity
- Resident flora and fauna are abundant and diverse, with high utilization by birds, fish, and shellfish



PREDICTED OIL BEHAVIOR

- Oil adheres readily to intertidal vegetation
- The band of coating will vary widely, depending upon the water level at the time oil slicks are in the vegetation; there may be multiple bands
- Large slicks will persist through multiple tidal cycles and coat the entire stem from the high-tide line to the base
- If the vegetation is thick, heavy oil coating will be restricted to the outer fringe, although lighter oils can penetrate deeper, to the limit of tidal influence
- Medium to heavy oils do not readily adhere to or penetrate the fine sediments, but can pool on the surface or penetrate into burrows
- Light oils can penetrate the top few centimeters of sediment and deeply into burrows and cracks (up to 1 meter)

RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is natural recovery; natural removal processes and rates should be evaluated prior to conducting cleanup
- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing. During flushing, care must be taken to prevent transporting oil to sensitive areas down slope or along shore
- Cleanup activities should be carefully supervised to avoid vegetation damage
- Any cleanup activity must not mix the oil deeper into the sediments; trampling of the roots must be minimized
- Cutting of oiled vegetation should only be considered when other resources present are at great risk from leaving the oiled vegetation in place

SHORELINE DESCRIPTIONS

FRESHWATER MARSHES

ESI = 10B

DESCRIPTION

- These are grassy wetlands composed of emergent herbaceous vegetation
- They occur upstream of brackish vegetation along major rivers and tributary creeks
- Those along major channels are exposed to strong currents and boat wakes; smaller channels tend to be sheltered
- The sediment substrate is seldom exposed because daily water level changes are low; greater changes result from floods and wind-generated tides
- Resident flora and fauna are abundant and diverse, with high utilization by birds and fish



PREDICTED OIL BEHAVIOR

- Oil adheres readily to the vegetation
- The band of coating will vary widely, depending upon the water level at the time oil slicks are in the vegetation; there may be multiple bands
- If the vegetation is thick, heavy oil coating will be restricted to the outer fringe, although lighter oils can penetrate deeper
- Medium to heavy oils do not readily adhere to or penetrate the fine sediments, but can pool on the surface or penetrate into burrows

RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is natural recovery; natural removal processes and rates should be evaluated prior to conducting cleanup
- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing
- Cleanup activities should be carefully supervised to avoid vegetation damage
- Any cleanup activity must not mix the oil deeper into the sediments; trampling of the roots should be minimized through the use of walking boards
- Cutting of oiled vegetation should only be considered when other resources present are at great risk from leaving the oiled vegetation in place

SHORELINE DESCRIPTIONS

SWAMPS

ESI = 10C

DESCRIPTION

- Swamps consist of shrubs and hardwood forested wetlands, essentially flooded forests; vegetation is taller, on average, greater than 6 meters
- The sediment tends to be silty clay with large amounts of organic debris
- They are seasonally flooded, though there are many low, permanently flooded areas
- Resident flora and fauna are abundant with numerous species

PREDICTED OIL BEHAVIOR

- Oil behavior depends on whether the swamp is flooded or not
- During floods, most of the oil passes through the forest, coating the vegetation at the waterline, which changes levels throughout the flood event
- Woody vegetation is less sensitive than grasses to oil coating
- Some oil can be trapped and pooled on the swamp floodplain as water levels drop
- Penetration into the floodplain soils is usually limited because of high water levels, saturated soils, muddy composition, surface organic debris, and vegetation cover
- There can be large amounts of oily debris
- During dry periods, terrestrial spills flow downhill and accumulate in depressions or reach water bodies



RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is to let the area recover naturally
- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing. During flushing, care must be taken to prevent transporting oil to sensitive areas down slope or along shore
- Under stagnant water conditions, herding of oil with water spray may be needed to push oil to collection areas
- Oily debris can be removed where there is access
- Any cleanup activity must not mix the oil deeper into the sediments

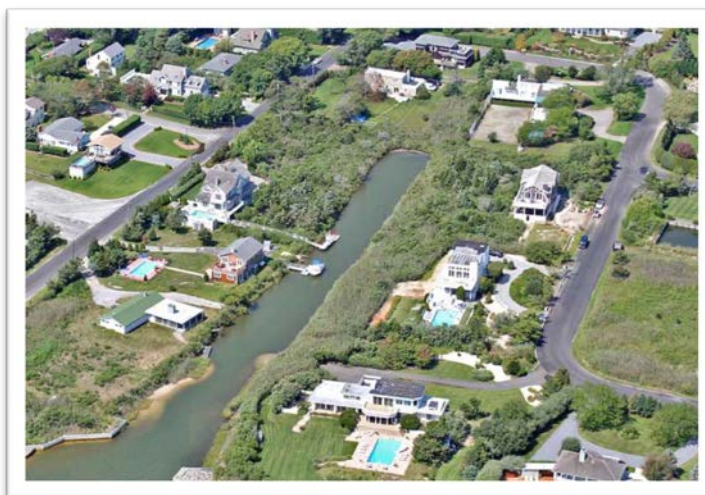
SHORELINE DESCRIPTIONS

SCRUB-SHRUB WETLANDS

ESI = 10D

DESCRIPTION

- Scrub-shrub wetlands consist of woody vegetation less than 6 m tall including true shrubs, small trees, and trees and shrubs that are stunted due to environmental conditions
- The sediments are silty clay mixed with organic debris
- They are seasonally flooded, though there are many low, permanently flooded areas
- Resident flora and fauna are abundant and diverse
- Present along sheltered portions of bays and tidal channels



PREDICTED OIL BEHAVIOR

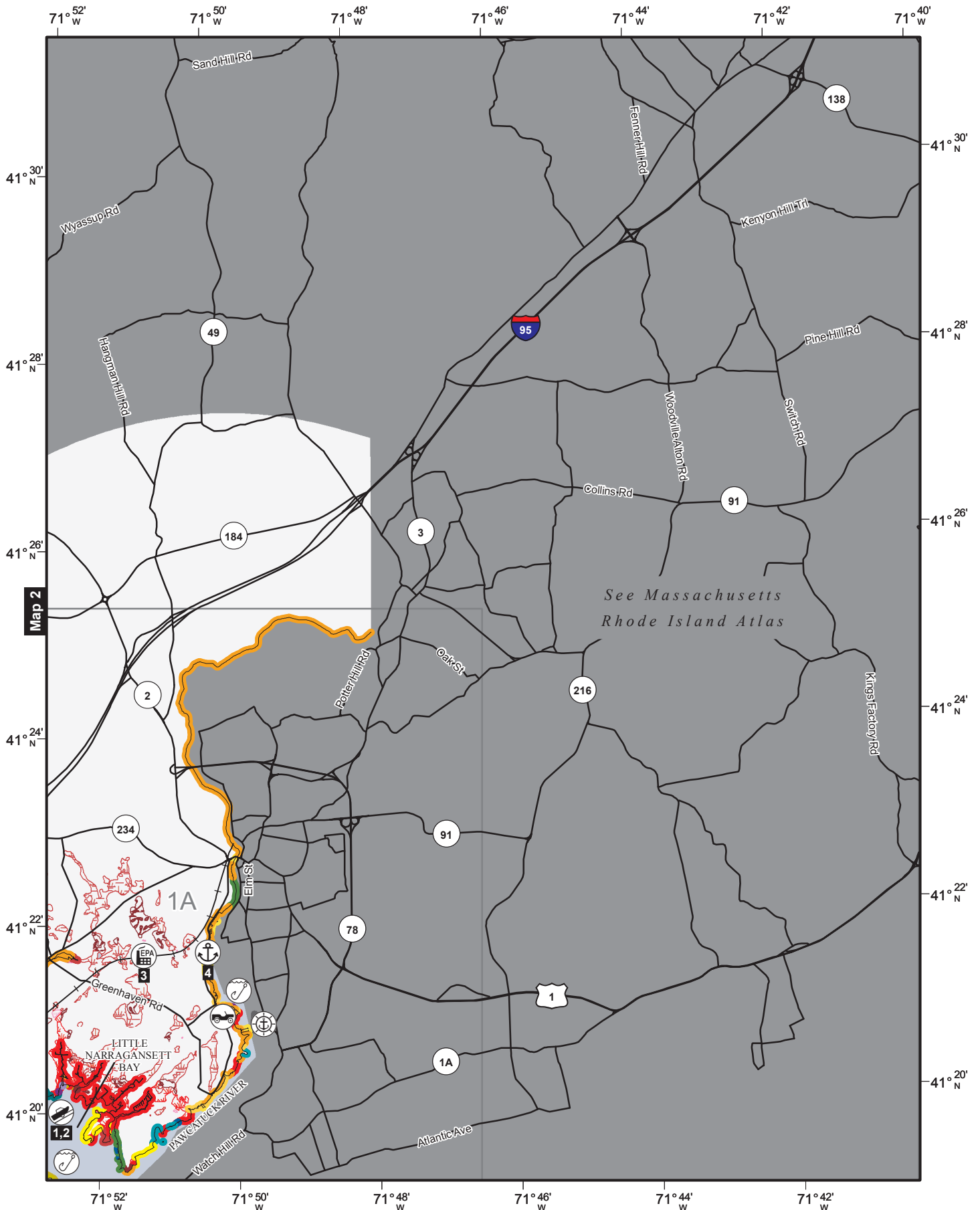
- Oil behavior depends on water level
- During high water, most of the oil passes through the wetland, coating the vegetation above the waterline
- Woody vegetation is less sensitive than grasses to oil
- Some oil can be trapped and pooled on the surface as water levels drop
- Penetration into the soils is usually limited because of high water levels, muddy composition, surface organic debris, and vegetation cover
- Large amounts of oily debris can remain
- During dry periods, terrestrial spills flow downhill and accumulate in depressions or reach water bodies

RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is natural recovery
- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing
- Under stagnant water conditions, herding of oil with water spray may be needed to push oil to collection areas
- Oily debris can be removed where there is access
- Any cleanup activity must not mix the oil deeper into the sediments. Trampling of the roots must be minimized
- Woody vegetation should not be cut

ENVIRONMENTAL SENSITIVITY INDEX MAPS





Map 1
Long Island Sound



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: September 2016

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 1
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Contact
1	BOAT RAMP	BARN ISLAND BOAT RAMP	JOSEPH MAHER, SENIOR ESR ADVISOR
2	BOAT RAMP	BARN ISLAND BOAT RAMP	
3	EPA FACILITY	RHODE ISLAND TERMINAL	
4	MARINA	NORWEST MARINE	
			848-225-5360

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SUMMER FLOUNDER - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLACK SEA BASS - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFIN TUNA - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFIN TUNA - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SANDBAR SHARK - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325

JURISDICTIONS

COUNTY: NEW COUNTY
COAST GUARD: DISTRICT 1, SECTOR LONG ISLAND SOUND
USACE: NORTH ATLANTIC DIVISION, NEW ENGLAND DISTRICT

FEMA: REGION I
EPA: REGION 1

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	353.12	0.55
10B	Freshwater Marshes	5.52	0.01
10C	Swamps	481.60	0.75
10D	Scrub and Shrub Wetlands	130.80	0.20
9A	Sheltered Tidal Flats	1.10	0.00
7	Exposed Tidal Flats	13.26	0.02

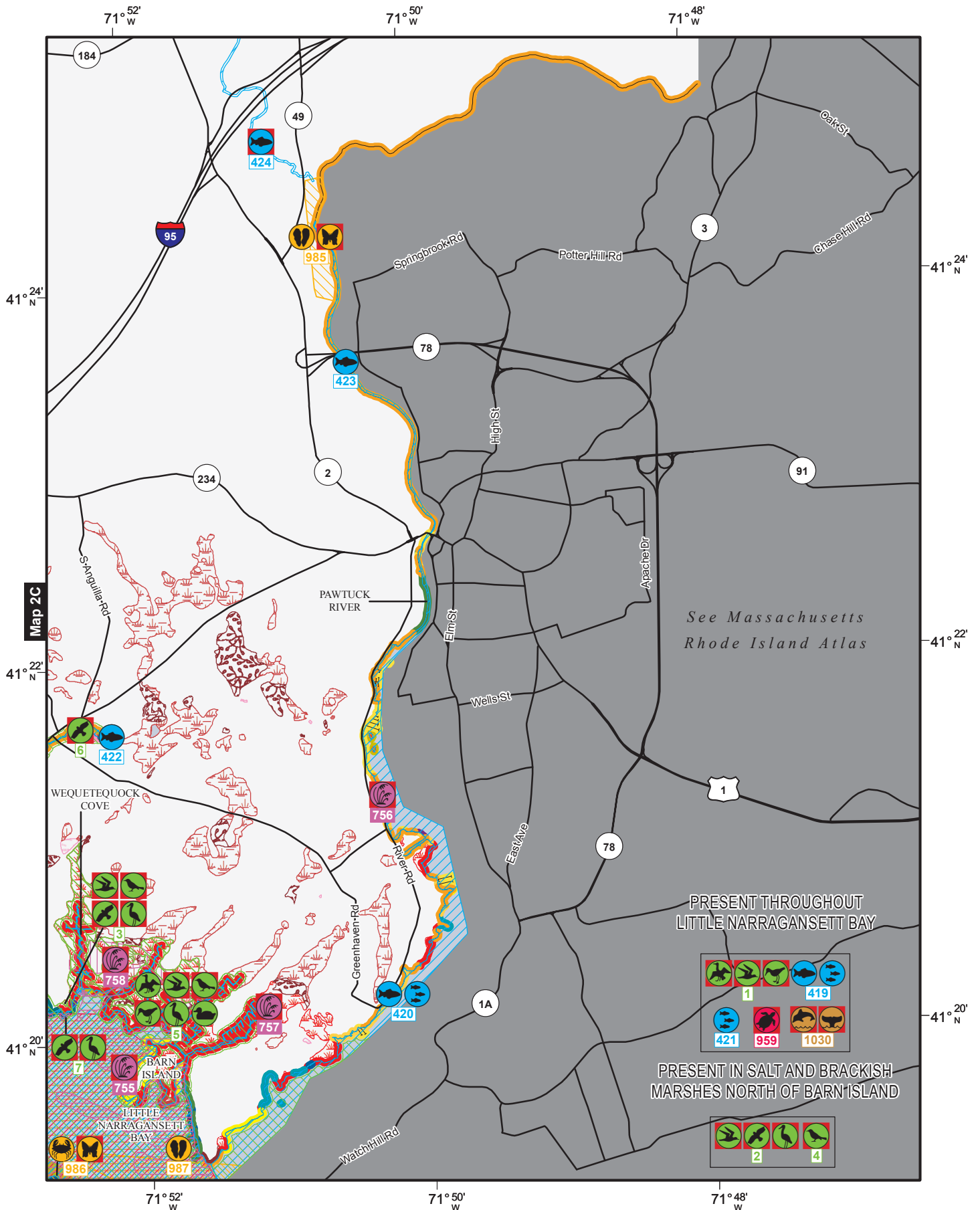
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	22,348.77	13.89	43%
10B	Freshwater Marshes	180.37	0.11	< 1%
10C	Swamps	727.51	0.45	1%
10D	Scrub and Shrub Wetlands	455.73	0.28	1%
9A	Sheltered Tidal Flats	533.60	0.33	1%
9B	Vegetated Low Banks	15,028.24	9.34	29%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	2,885.33	1.79	6%
8A	Sheltered, Impermeable, Rocky Shores	65.09	0.04	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	2,885.33	1.79	6%
8A	Sheltered, Impermeable, Rocky Shores	65.09	0.04	< 1%
8B	Sheltered, Solid Man-Made Structures	2,884.42	1.79	6%
8C	Sheltered Riprap	1,759.37	1.09	3%
7	Exposed Tidal Flats	847.67	0.53	2%
6A	Gravel Beaches	562.26	0.35	1%
6B	Riprap	1,479.40	0.92	3%
5	Mixed Sand and Gravel Beaches	1,011.19	0.63	2%
3A	Fine to Medium Grained Sand Beaches	662.77	0.41	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	39.26	0.02	< 1%
1A	Exposed, Rocky Shores	124.87	0.08	< 1%
1B	Exposed, Solid Man-Made Structures	15.26	0.01	< 1%
Total ESI Shoreline:		51,611.11	32.07	
Total Shoreline:		45,897.65	28.52	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov

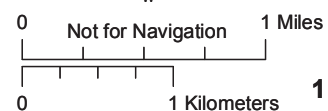




Map 1A
Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016



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Map 1A
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Monthly Presence
SAV	Eelgrass	High Ecological Value				Present													

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
1	Diving	Common loon	General Distribution	C/C			10S													-	-	-	-
	Diving	Pied-billed grebe	General Distribution	E/T			10S													-	-	-	-
	Gull/Tern	Black skimmer	General Distribution	-/C			Present													Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			10S													May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E			Present													May-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E			Present													Mar-Aug	-	-	-
2	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			5													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Glossy ibis	General Distribution	C/-			10S													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			10S													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			9													Mar-Aug	-	-	-
3	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
	Passerine	Seaside sparrow	General Distribution	T/C			Present													May-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			5													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Glossy ibis	General Distribution	C/-			10S													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			10S													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			9													Mar-Aug	-	-	-
4	Passerine	Seaside sparrow	General Distribution	T/C			Present													May-Aug	-	-	-
5	Diving	Grebes	Wintering				Present													-	Jan-Dec	-	-
	Diving	Loons	Wintering				Present													-	Apr-May	Oct-Nov	-
	Gull/Tern	Least tern	Concentration Area	T/T			Present													Apr-Aug	-	-	-
	Passerine	Saltmarsh sparrow	Concentration Area				Abundant													May-Aug	-	-	-
	Passerine	Seaside sparrow	Concentration Area	T/C			Abundant													May-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	T/-			Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	Concentration Area	T/E			Present													Mar-Aug	-	-	-
	Wading	Wading birds	Concentration Area				Present													Jan-Dec	-	-	-
	Waterfowl	Dabbling ducks	Migration				Present													-	Jan-Dec	-	-
6	Raptor	Osprey	General Distribution	-/C			10S													Mar-Aug	Mar-Jun	Jul-Nov	-
7	Raptor	Osprey	General Distribution	-/C			4													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Glossy ibis	General Distribution	C/-			Present													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			4													Mar-Aug	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D				
419	Diadromous	Alewife	Nursery Area			Common												Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area			Common												-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area			Abundant												May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area			Common												-	-	-	Jun-Oct	Jun-Oct
	Estuarine Resident	Atlantic silverside	Nursery Area			Abundant												May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Grubby	Nursery Area			Common												Dec-Apr	Dec-Apr	Jan-May	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area			Abundant												May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area			Common												Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area			Abundant												Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area			Abundant												May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
420	Estuarine Resident	Threespine stickleback	Nursery Area			Common												Apr-Sep	Apr-Sep	May-Oct	May-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area			Common												Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Diadromous	American shad	Migration			Common												May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Nov
	Diadromous	Striped bass	Migration			Common												-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	White perch	Nursery Area			Common												Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
	Estuarine Nursery	Winter flounder	Nursery Area			Abundant												Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Diadromous	Alewife	Spawning Area			Common												Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area			Common												-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Resident	Mummichog	Nursery Area			Abundant												May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Diadromous	American shad	Spawning Area			Common												May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
424	Freshwater	Banded sunfish	Vulnerable Occurrence	C/T		Uncommon												Apr-Jul	Apr-Jul	May-Aug	Jan-Dec	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Hatch	Interment	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D				
755	Plant	Scottish licorice-root	Vulnerable Occurrence	E/E		Low												-	-	-	-	-
756	Plant	Eastern grasswort	Vulnerable Occurrence	C/T		Present												-	-	-	-	-
757	Plant	Yellow thistle	Vulnerable Occurrence	E/-		Present												-	-	-	-	-
758	Plant	Scottish licorice-root	Vulnerable Occurrence	E/E		Present												-	-	-	-	-
	Plant	Yellow thistle	Vulnerable Occurrence	E/-		Present												-	-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Hatch	Interment	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D				
959	Turtle	Green sea turtle	General Distribution	T/T		Present												-	-	-	Jun-Nov	-
	Turtle	K. ridley sea turtle	General Distribution	E/E		Present												-	-	-	Jun-Nov	-
	Turtle	Leatherback sea turtle	General Distribution	E/E		Present												-	-	-	Jun-Nov	-
	Turtle	Loggerhead sea turtle	General Distribution	T/T		Present												-	-	-	Jun-Nov	-

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Eggs	Larvae	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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985	Bivalve	Rare freshwater mussel	Vulnerable Occurrence			Present																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										

MARINE MAMMALS





Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Calving	Pupping	Molt				
				S	F		J	F	M	A	M	J	J	A	S	O	N	D							
1030	Dolphin	Harbor porpoise	General Distribution	C/C		Present																			
	Whale	Humpback whale	General Distribution	-/E	E	Present																			
	Whale	N.A. right whale	General Distribution	-/E	E	Present																			

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
Alcid	Razorbill																
	D. crested cormorant													Mar-Aug			
	Great cormorant																
	Horned grebe																
	Red-throated loon																
Gull/Tern	Bonaparte's gull																
	G. black-backed gull													Mar-Aug			
	Herring gull													Mar-Aug			
	Laughing gull													Apr-Aug			
	Ring-billed gull																
Passerine	Acadian flycatcher																
	American crow													Jun-Jul	May-Jun	Aug-Sep	
	American goldfinch													Mar-Aug			
	American robin													Mar-Aug			
	Barn Swallow													Mar-Aug			
	Black-billed cuckoo													Apr-Aug			
	Black-capped chickadee													Jun-Aug	Apr-May	Sep-Oct	
	Blue jay													Mar-Aug			
	Brown-headed cowbird													Apr-Aug	Mar-May	Sep-Oct	
	Carolina wren													Mar-Aug			
	Chimney swift													Apr-Jul			
	Chipping sparrow													Jun-Jul	Apr-May	Aug-Sep	
	Common grackle													Mar-Aug			
	Common yellowthroat													Mar-Aug			
	Eastern towhee													Apr-Aug			
	European starling													Mar-Aug			
	Gray catbird													Mar-Aug			

BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	House finch													Mar-Aug	-	-	-
	Marsh wren													Apr-Aug	-	-	-
	Mourning dove													Mar-Aug	-	-	-
	Nelson's sparrow													-	-	Sep-Nov	-
	Northern cardinal													Mar-Aug	-	-	-
	Pine warbler													Jun-Aug	Apr-May	Sep-Oct	-
	Red-bellied woodpecker													Jun-Jul	Apr-May	Aug-Nov	-
	Red-winged blackbird													Mar-Aug	-	-	-
	Saltmarsh sparrow													May-Aug	-	-	-
	Scarlet tanager													Jun-Jul	May	Sep-Oct	-
	Song sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-
	Veery													Apr-Aug	-	-	-
	Willow flycatcher													May-Aug	-	-	-
	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Least sandpiper													-	Apr-Jun	Aug-Oct	-
	Lesser yellowlegs													-	Apr-Jun	Aug-Oct	-
	Semipalmated sandpiper													-	-	Jul-Oct	-
	Willet													Apr-Aug	-	-	-
	Great blue heron													Mar-Aug	-	-	-
	Virginia rail													Mar-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-

BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-Nov	-
	Scoters													-	Apr-May	Sep-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Gizzard shad													Apr-Jun	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
	Bluegill													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Pumpkinseed													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Redbreast sunfish													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Tessellated darter													Apr-May	Apr-May	Apr-Jun	Jan-Dec	Jan-Dec
	White sucker													Apr-May	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Blue crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec

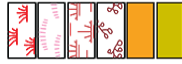
MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Bottlenose dolphin													-	-	-	-
	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	353.12	0.55
10B	Freshwater Marshes	5.52	0.01
10C	Swamps	481.62	0.75
10D	Scrub and Shrub Wetlands	130.81	0.20
9A	Sheltered Tidal Flats	1.10	0.00
7	Exposed Tidal Flats	13.26	0.02



ESI SHORELINE HABITAT TYPES

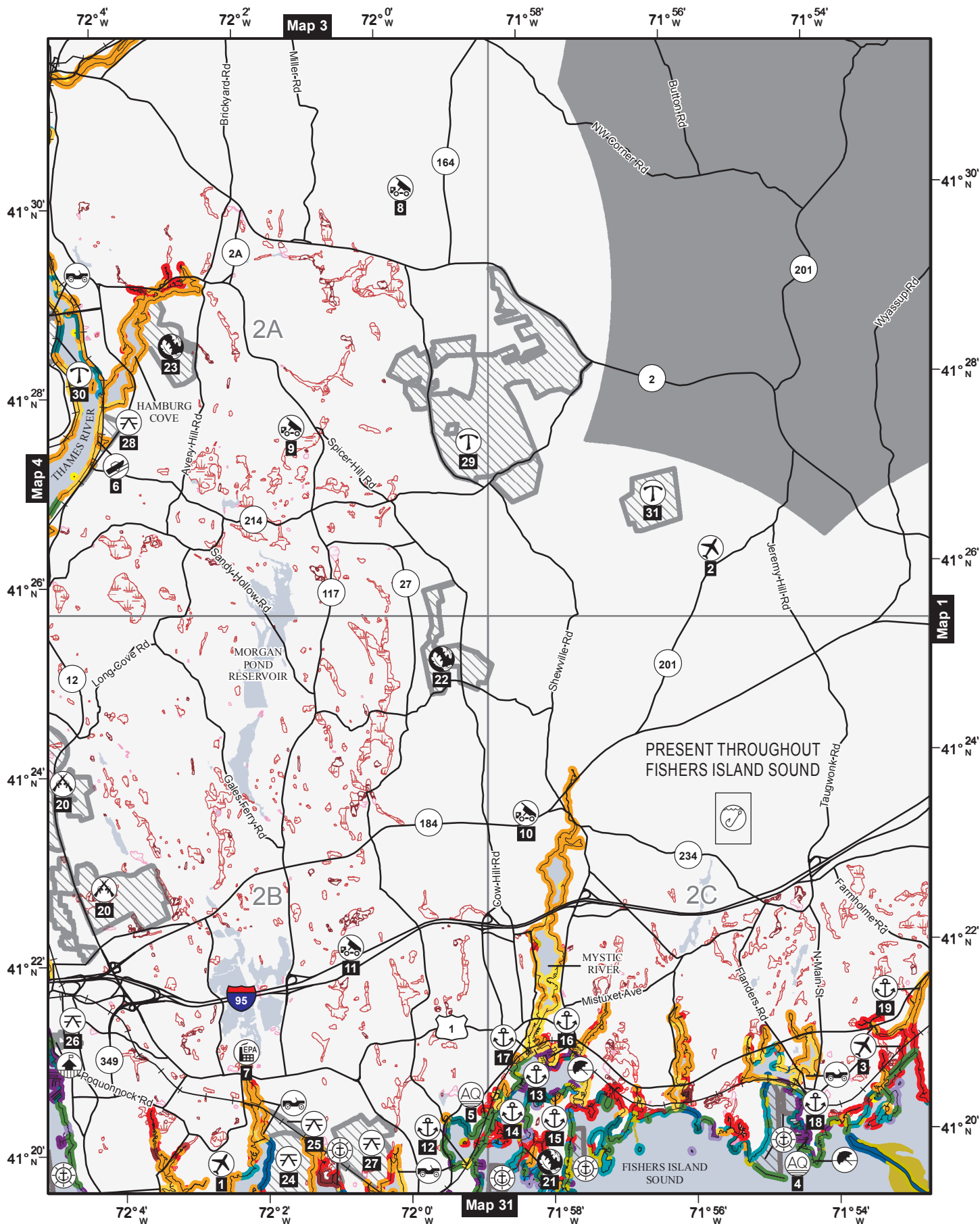
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	22,349.09	13.89	43%
10B	Freshwater Marshes	180.37	0.11	< 1%
10C	Swamps	727.51	0.45	1%
10D	Scrub and Shrub Wetlands	455.73	0.28	1%
9A	Sheltered Tidal Flats	533.60	0.33	1%
9B	Vegetated Low Banks	15,029.27	9.34	29%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	2,885.33	1.79	6%
8A	Sheltered, Impermeable, Rocky Shores	65.09	0.04	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	2,885.33	1.79	6%
8A	Sheltered, Impermeable, Rocky Shores	65.09	0.04	< 1%
8B	Sheltered, Solid Man-Made Structures	2,884.42	1.79	6%
8C	Sheltered Riprap	1,759.37	1.09	3%
7	Exposed Tidal Flats	847.58	0.53	2%
6A	Gravel Beaches	562.58	0.35	1%
6B	Riprap	1,479.40	0.92	3%
5	Mixed Sand and Gravel Beaches	1,011.19	0.63	2%
3A	Fine to Medium Grained Sand Beaches	662.68	0.41	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	39.26	0.02	< 1%
1A	Exposed, Rocky Shores	124.87	0.08	< 1%
1B	Exposed, Solid Man-Made Structures	15.26	0.01	< 1%

Total ESI Shoreline: 51,612.61 Total ESI Shoreline: 32.07
 Total Shoreline: 45,898.92 Total Shoreline: 28.52

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov





Map 2
Long Island Sound



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: September 2016

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 2
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AIRPORT	GROTON-NEW LONDON AIRPORT	FEDERAL AVIATION ADMINISTRATION
2	AIRPORT	WYCHWOOD FIELD AIRPORT	FEDERAL AVIATION ADMINISTRATION
3	AIRPORT	STONINGTON AIRPARK	FEDERAL AVIATION ADMINISTRATION
4	AQUACULTURE	NEW ENGLAND SCIENCE & SAILING FOUNDATION (CT082AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE
5	AQUACULTURE	CONNECTICUT CULTURED OYSTERS (CT039AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE
6	BOAT RAMP	STODDARD HILL PARK BOAT RAMP	203-874-0696
7	EPA FACILITY	CITY OF GROTON, WATER TREATMENT FACILITY	203-874-0696
8	LANDFILL	PRESTON TRANS STA & BW LANDFILL	860-446-4000
9	LANDFILL	LEDYARD TRANS STA & BW LANDFILL	PAUL YATCKO, DIRECTOR OF UTILITIES
10	LANDFILL	GROTON BULK WASTE LANDFILL	CT DEPT. OF ENERGY AND ENV. PROTECTION
11	LANDFILL	GROTON BULK WASTE LANDFILL	CT DEPT. OF ENERGY AND ENV. PROTECTION
12	MARINA	NOANK VILLAGE BOATYARD	CT DEPT. OF ENERGY AND ENV. PROTECTION
13	MARINA	MYSTIC SHIPYARD	
14	MARINA	MASONS ISLAND MARINA	
15	MARINA	MYSTIC RIVER MARINA	
16	MARINA	FORT RACHEL MARINA	
17	MARINA	GWENMOR MARINA	
18	MARINA	DON'S DOCK MARINA	
19	MARINA	STONINGTON MARINA	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
20	MILITARY	NAVAL SUBMARINE BASE NEW LONDON	860-694-5980
21	NATURE CONSERVANCY	MASONS ISLAND	203-568-6270
22	NATURE CONSERVANCY	PIKE/MARSHALL PRESERVE SITE	TNC CONNECTICUT CHAPTER OFFICE
23	NATURE CONSERVANCY	POQUETANUCK COVE	TNC CONNECTICUT CHAPTER OFFICE
24	PARK	BLUFF POINT COASTAL RESERVE	203-568-6270
25	PARK	BLUFF POINT STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION
26	PARK	FORT GRISWOLD STATE PARK	860-424-3016
27	PARK	HALEY FARM STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION
28	PARK	STODDARD HILL STATE PARK SCENIC RESERVE	860-424-3016
29	TRIBAL LANDS	MASHANTUCKET PEQUOT	CT DEPT. OF ENERGY AND ENV. PROTECTION
30	TRIBAL LANDS	MOHEGAN	U.S. CENSUS BUREAU, GEOGRAPHY DIVISION
31	TRIBAL LANDS	PAUCATUCK EASTERN PEQUOT	301-763-1128

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SUMMER FLOUNDER - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLACK SEA BASS - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325

ALSO PRESENT IN MAPPED AREA (POLYGONS) (continued)

Type	Name	Contact	Phone
ESSENTIAL HABITAT	SCUP - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFIN TUNA - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFIN TUNA - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SANDBAR SHARK - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325

JURISDICTIONS

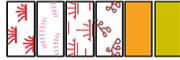
COUNTY: NEW COUNTY
 COAST GUARD: DISTRICT 1, SECTOR LONG ISLAND SOUND
 USACE: NORTH ATLANTIC DIVISION, NEW ENGLAND DISTRICT

FEMA: REGION I
 EPA: REGION 1

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	464.31	0.73
10B	Freshwater Marshes	164.92	0.26
10C	Swamps	2,227.30	3.48
10D	Scrub and Shrub Wetlands	359.77	0.56
9A	Sheltered Tidal Flats	29.42	0.05
7	Exposed Tidal Flats	195.77	0.31



ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	54,882.29	34.10	23%
10B	Freshwater Marshes	338.16	0.21	< 1%
10C	Swamps	901.13	0.56	< 1%
10D	Scrub and Shrub Wetlands	2,716.53	1.69	1%
9A	Sheltered Tidal Flats	9,351.78	5.81	4%
9B	Vegetated Low Banks	55,466.28	34.47	23%

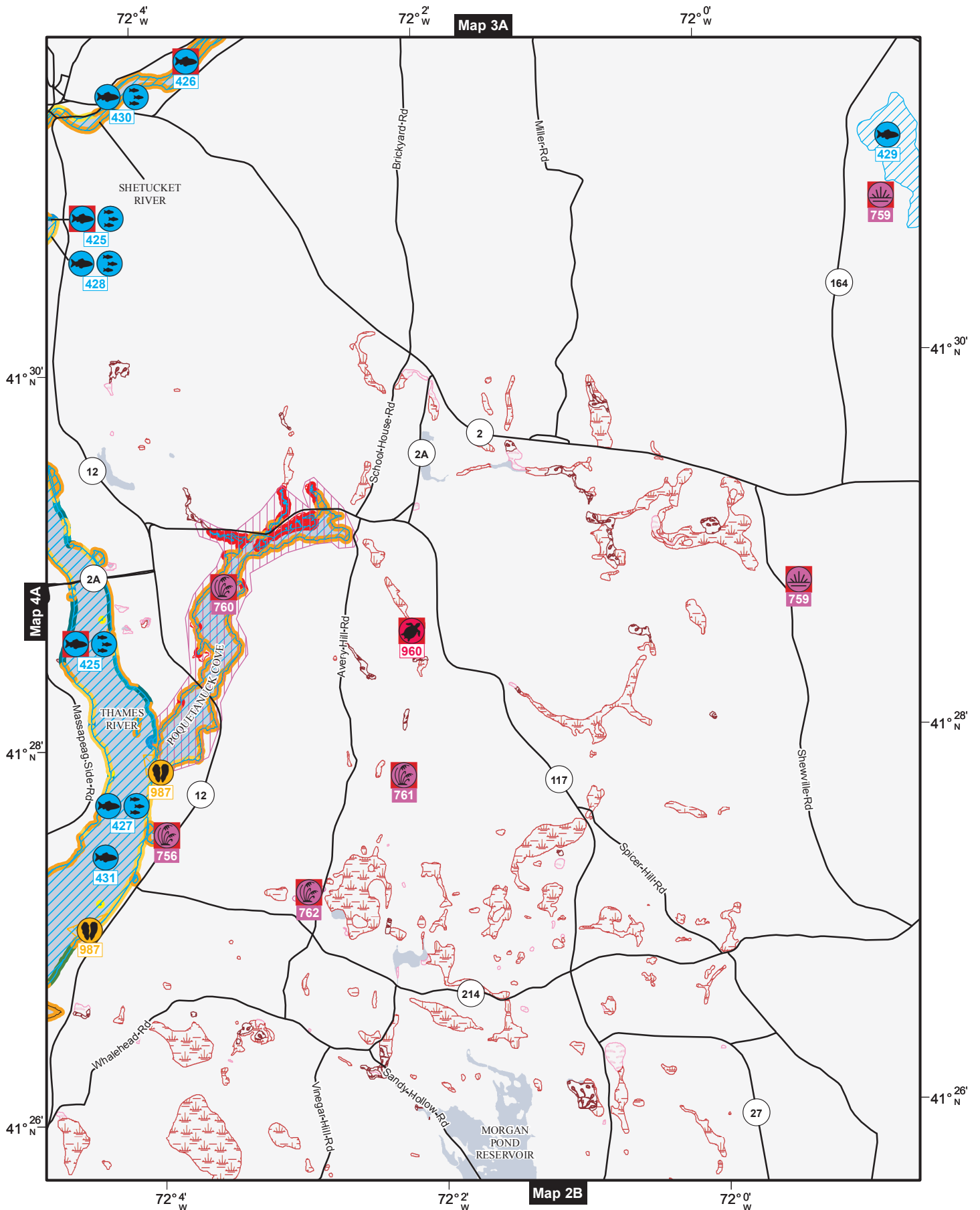
ESI SHORELINE HABITAT TYPES (continued)

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
8A	Sheltered, Impermeable, Rocky Shores	628.44	0.39	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	52.34	0.03	< 1%
8A	Sheltered, Impermeable, Rocky Shores	628.44	0.39	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	52.34	0.03	< 1%
8B	Sheltered, Solid Man-Made Structures	10,639.26	6.61	4%
8C	Sheltered Riprap	18,570.16	11.54	8%
7	Exposed Tidal Flats	10,524.67	6.54	4%
6A	Gravel Beaches	6,772.99	4.21	3%
6B	Riprap	20,975.62	13.03	9%
5	Mixed Sand and Gravel Beaches	10,688.81	6.64	5%
4	Coarse Grained Sand Beaches	1,892.61	1.18	1%
3A	Fine to Medium Grained Sand Beaches	6,887.98	4.28	3%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	4,070.54	2.53	2%
2B	Exposed Scarps and Steep Slopes (Clay)	388.63	0.24	< 1%
1A	Exposed, Rocky Shores	806.35	0.50	< 1%
1B	Exposed, Solid Man-Made Structures	20,407.09	12.68	9%
Total ESI Shoreline:		236,961.66	147.24	
Total Shoreline:		198,804.36	123.53	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov

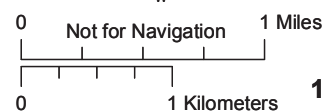




Map 2A
Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016



1:50,000



Map 2A Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F C/-	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
425	Diadromous	Blueback herring	Nursery Area		Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Striped bass	Nursery Area		Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bay anchovy	Nursery Area		Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Nursery Area		Abundant													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Scup	Nursery Area		Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Summer flounder	Nursery Area		Common													-	-	-	Mar-Nov	Mar-Nov
	Estuarine Nursery	Winter flounder	Nursery Area		Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area		Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area		Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area		Common													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area		Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Marine Benthic	Tautog	Nursery Area		Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
426	Diadromous	Blueback herring	Spawning Area	C/-	Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Striped bass	Migration		Common													-	-	-	Apr-Nov	Apr-Nov
427	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area		Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area		Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
428	Diadromous	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Sea lamprey	Migration		Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
	Estuarine Nursery	Atlantic menhaden	Nursery Area		Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area		Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
429	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
430	Diadromous	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Sea lamprey	Migration		Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
431	Diadromous	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	Sea lamprey	Migration		Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
756	Plant	Eastern grasswort	Vulnerable Occurrence	C/T	Present												
759	FAV	Featherfoil	Vulnerable Occurrence	C/T	Present												
760	Plant	Eastern grasswort	Vulnerable Occurrence	C/T	Present												
	Plant	Scotland orache	Vulnerable Occurrence	C/E	Present												
761	Plant	Dillenius' ticktrefoil	Vulnerable Occurrence	C/-	Present												
762	Plant	Goldclub	Vulnerable Occurrence	C/T	Present												

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
960	Turtle	Rare reptile	Vulnerable Occurrence	-/E	Present												

INVERTEBRATES



Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
987	Bivalve	Eastern oyster	Concentration Area		Present												

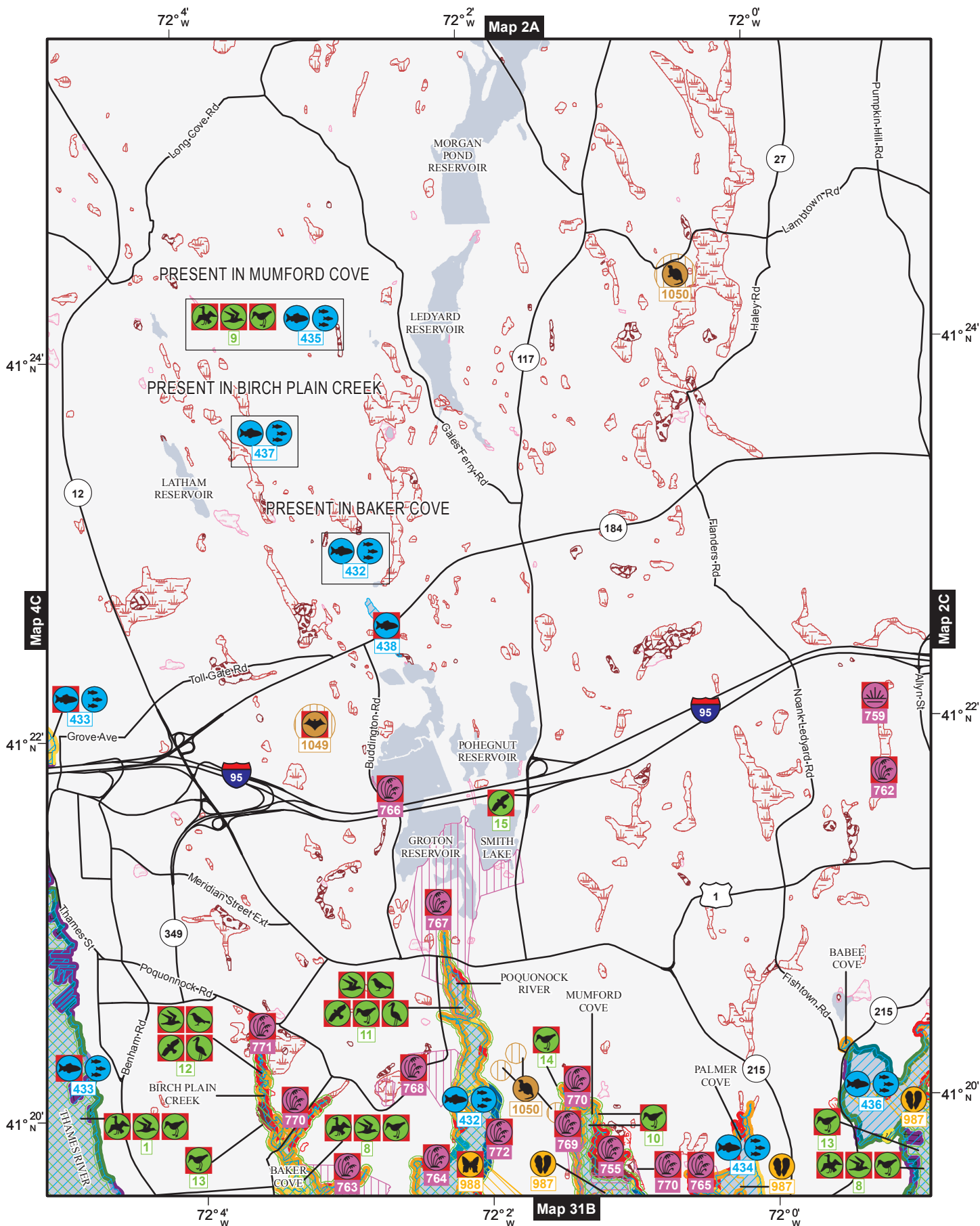
ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Mallard													Mar-Aug	-	-	-
	Red-breasted merganser													-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Gizzard shad													Apr-Jun	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
	Black crappie													May-Jun	May-Jun	May-Jun	Jan-Dec	Jan-Dec
	Bluegill													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Brown bullhead													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Chain pickerel													Mar-May	Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Channel catfish													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Pumpkinseed													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Redbreast sunfish													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Rock bass													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Smallmouth bass													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec



Map 2B
Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 2B
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence
SAV	Eelgrass	High Ecological Value				Present	J F M A M J J A S O N D
						Present	

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence	Nest	Mig.(S)	Mig.(F)	Molt
1	Diving	Common loon	General Distribution	C/C			10S	J F M A M J J A S O N D	-	-	-	-
	Diving	Pied-billed grebe	General Distribution	E/T			10S		-	-	-	-
	Gull/Tern	Black skimmer	General Distribution	-/C			Present		Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			10S		May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			Present		Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E		Present		May-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			Present		Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		Present		Mar-Aug	-	-	-
8	Diving	Common loon	General Distribution	C/C			10S		-	-	-	-
	Diving	Pied-billed grebe	General Distribution	E/T			10S		-	-	-	-
	Gull/Tern	Black skimmer	General Distribution	-/C			Present		Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			10S		May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			Present		Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E		Present		May-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		Present		Mar-Aug	-	-	-
9	Diving	Common loon	General Distribution	C/C			10S		-	-	-	-
	Diving	Pied-billed grebe	General Distribution	E/T			10S		-	-	-	-
	Gull/Tern	Black skimmer	General Distribution	-/C			Present		Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			10S		May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			Present		Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E		Present		May-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			Present		Mar-Aug	-	-	-
10	Shorebird	Piping plover	General Distribution	T/E	T		Present		Mar-Aug	-	-	-
11	Gull/Tern	Common tern	General Distribution	E/T			2		May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			3		Apr-Aug	-	-	-
	Passerine	Seaside sparrow	General Distribution	T/C			4		May-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			Present		Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	General Distribution	T/-			3		Mar-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	T/-			Present		Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		Present		Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E	T		Present		Mar-Aug	-	-	-
	Shorebird	Shorebirds	Migration				Present		-	Jan-Dec	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
								J	F	M	A	M	J	J	A	S	O	N	D				
	Wading	Great egret	General Distribution	T/-			10S													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			3													Mar-Aug	-	-	-
12	Gull/Tern	Common tern	General Distribution	E/T			10													May-Aug	-	-	-
	Passerine	Seaside sparrow	General Distribution	T/C			7													May-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-			Present													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			Present													Mar-Aug	-	-	-
13	Shorebird	American oystercatcher	General Distribution	T/-			Present													Mar-Aug	-	-	-
14	Shorebird	American oystercatcher	Nesting	T/-			Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E		T	Present													Mar-Aug	-	-	-
	Shorebird	Shorebirds	Migration				Present													-	Jan-Dec	-	-
15	Raptor	Bald eagle	General Distribution	T/T			Present													Feb-Aug	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
432	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area				Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Rainwater killifish	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Nursery	Winter flounder	Nursery Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Grubby	Nursery Area				Common													Dec-Apr	Dec-Apr	Jan-May	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Abundant													Jun-Sep	Jun-Sep	May-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area				Abundant													May-Aug	May-Aug	May-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Threespine stickleback	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Oct	May-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
433	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Blueback herring	Nursery Area				Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Sea lamprey	Migration	C/-			Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bay anchovy	Nursery Area				Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Nursery Area				Abundant													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Summer flounder	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
	Estuarine Nursery	White perch	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
	Estuarine Nursery	Winter flounder	Nursery Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
434	Estuarine Resident	Mummichog	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Common													Jun-Sep	Jun-Sep	Jan-Oct	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Marine Benthic	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area				Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Rainwater killifish	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
435	Estuarine Nursery	Winter flounder	Nursery Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Threespine stickleback	Nursery Area				Common													Dec-Apr	Dec-Apr	Jan-May	Jan-Dec	Jan-Dec
	Estuarine Resident	Grubby	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Abundant													Apr-Aug	Apr-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Abundant													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area				Abundant													May-Aug	May-Aug	May-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Threespine stickleback	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Oct	May-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
436	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area				Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Rainwater killifish	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Nursery	Winter flounder	Nursery Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Grubby	Nursery Area				Common													Dec-Apr	Dec-Apr	Jan-May	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Abundant													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
437	Estuarine Resident	Striped killifish	Nursery Area				Abundant													May-Aug	May-Aug	May-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Threespine stickleback	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Oct	May-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Brown trout (sea run)	Migration				Uncommon													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Sep-Jan
	Diadromous	Hickory shad	Concentration Area				Common													Jun-Aug	Jun-Aug	Jun-Aug	Jul-Nov	Jun-Nov
	Diadromous	Striped bass	Concentration Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Rainwater killifish	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
438	Estuarine Nursery	White perch	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
	Estuarine Nursery	Winter flounder	Concentration Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Estuarine Resident	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Estuarine Resident	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Estuarine Resident	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Estuarine Resident	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Estuarine Resident	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence																Eggs	Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D							
437	Diadromous	American eel	Nursery Area			Common													-	Apr-Aug	Jan-Dec	Sep-Nov			
	Estuarine Nursery	Atlantic menhaden	Nursery Area			Common												May-Oct	May-Nov	Apr-Nov	Apr-Nov				
	Estuarine Resident	Atlantic silverside	Nursery Area			Common												May-Aug	May-Aug	Jan-Dec	Jan-Dec				
	Estuarine Resident	Mummichog	Nursery Area			Common												May-Aug	May-Sep	Jan-Dec	Jan-Dec				
	Estuarine Resident	Sheepshead minnow	Nursery Area			Common												Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec				
438	Estuarine Resident	Striped killifish	Nursery Area			Common												May-Aug	May-Sep	Jan-Dec	Jan-Dec				
	Estuarine Resident	Threespine stickleback	Nursery Area			Common												Apr-Sep	May-Oct	May-Dec	Jan-Dec				
	Freshwater	Bridle shiner	Vulnerable Occurrence	C/-		Uncommon												May-Jul	May-Jul	Jan-Dec	Jan-Dec				

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
				S	F		J	F	M	A	M	J	J	A	S	O	N	D				
755	Plant	Scottish licorice-root	Vulnerable Occurrence	E/E		Low													-	-	-	-
759	FAV	Featherfoil	Vulnerable Occurrence	C/T		Present													-	-	-	-
762	Plant	Goldclub	Vulnerable Occurrence	C/T		Present													-	-	-	-
763	Plant	Field paspalum	Vulnerable Occurrence	E/E		Present													-	-	-	-
	Plant	Scotland orache	Vulnerable Occurrence	C/E		Present													-	-	-	-
	Plant	Scottish licorice-root	Vulnerable Occurrence	E/E		Present													-	-	-	-
	Plant	Seacoast angelica	Vulnerable Occurrence	E/-		Present													-	-	-	-
	Plant	Slimspike threeawn	Vulnerable Occurrence	C/-		Present													-	-	-	-
	Plant	Yellow thistle	Vulnerable Occurrence	E/-		Present													-	-	-	-
764	Plant	Scotland orache	Vulnerable Occurrence	C/E		Present													-	-	-	-
	Plant	Scottish licorice-root	Vulnerable Occurrence	E/E		Present													-	-	-	-
	Plant	Yellow thistle	Vulnerable Occurrence	E/-		Present													-	-	-	-
765	Plant	Purple milkweed	Vulnerable Occurrence	C/-		10													-	-	-	-
766	Plant	White edge sedge	Vulnerable Occurrence	-/T		Present													-	-	-	-
767	Plant	Eastern grasswort	Vulnerable Occurrence	C/T		Present													-	-	-	-
	Plant	Globef primrose-willow	Vulnerable Occurrence	E/T		Present													-	-	-	-
	Plant	Mfl. marshpennwort	Vulnerable Occurrence	E/-		Present													-	-	-	-
	Plant	Nuttall's milkwort	Vulnerable Occurrence	E/-		Present													-	-	-	-
	Wetland	Spikerushes	Vulnerable Occurrence	E/E		Present													-	-	-	-
768	Plant	Slimspike threeawn	Vulnerable Occurrence	C/-		Present													-	-	-	-
	Wetland	Spikerushes	Vulnerable Occurrence	E/E		Present													-	-	-	-
769	Plant	Violet woodsorrel	Vulnerable Occurrence	C/-		Present													-	-	-	-
	Plant	Woolly beachheather	Vulnerable Occurrence	T/-		Present													-	-	-	-
770	Plant	Woolly beachheather	Vulnerable Occurrence	T/-		Present													-	-	-	-
771	Plant	Cosmopolitan bulrush	Vulnerable Occurrence	C/-		Present													-	-	-	-
772	Plant	Sickleleaf silkgrass	Vulnerable Occurrence	E/-		Present													-	-	-	-

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	Monthly Presence																	Eggs	Larvae	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
					S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Spawn																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
987	Bivalve	Eastern oyster	Concentration Area				Present																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

TERRESTRIAL MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	Monthly Presence												Concentration								
					S	F	J	F	M	A	M	J	J	A	S	O			N	D					
1049	Bat	Silver-haired bat	Vulnerable Occurrence	C/-																					
1050	Small Mammal	New England cottontail	Vulnerable Occurrence																						

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Mapping Qualifier	CT/NY	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				J	F	M	A	M	J	J	A	S	O	N	D				
Alcid	Razorbill																		
	D. crested cormorant															Mar-Aug			
Diving	Great cormorant																		
	Horned grebe																		
Gull/Tern	Red-throated loon																		
	Bonaparte's gull																		
	G. black-backed gull															Mar-Aug			
	Herring gull															Mar-Aug			
	Laughing gull															Apr-Aug			
	Ring-billed gull																		
Passerine	Acadian flycatcher															Jun-Jul	May-Jun	Aug-Sep	
	American crow															Mar-Aug			
	American goldfinch															Mar-Aug			
	American robin															Mar-Aug			
	Barn Swallow															Apr-Aug			
	Cedar waxwing															Mar-Aug			
	Common grackle															Mar-Aug			
	Common yellowthroat															Apr-Aug			
	Eastern towhee															Mar-Aug			
	European starling															Mar-Aug			
	Gray catbird															Mar-Aug			
	Marsh wren															Apr-Aug			
	Northern cardinal															Mar-Aug			
	Northern mockingbird															Mar-Aug			
	Red-winged blackbird															Mar-Aug			
	Saltmarsh sparrow															May-Aug			
	Song sparrow															Mar-Aug			
	Tree swallow															Mar-Aug			
	Willow flycatcher															May-Aug			

INVERTEBRATES




Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Eggs	Larvae	Juveniles	Adults
				S	F	J	F	M	A	M	J	J	A	S	O	N	D				
987	Bivalve	Eastern oyster	Concentration Area															Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
988	Insect	Rare insect	Vulnerable Occurrence															-	-	-	Jan-Dec
	Insect	Threatened insect	Vulnerable Occurrence	E/-	T													-	-	-	Jan-Dec

TERRESTRIAL MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Eggs	Larvae	Juveniles	Adults
				S	F	J	F	M	A	M	J	J	A	S	O	N	D				
1049	Bat	Silver-haired bat	Vulnerable Occurrence	Cl-														-	-	-	-
1050	Small Mammal	New England cottontail	Vulnerable Occurrence															-	-	-	-





ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Diving	Razorbill													-	-	-	-
	D. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
 Gull/Tern	Red-throated loon													-	-	-	-
	Bonaparte's gull													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
 Passerine	Laughing gull													Apr-Aug	-	-	-
	Ring-billed gull													-	-	-	-
	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	American crow													Mar-Aug	-	-	-
	American goldfinch													Mar-Aug	-	-	-
	American robin													Mar-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Cedar waxwing													Mar-Aug	-	-	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Eastern towhee													Mar-Aug	-	-	-
	European starling													Mar-Aug	-	-	-
	Gray catbird													Mar-Aug	-	-	-
	Marsh wren													Apr-Aug	-	-	-
	Northern cardinal													Mar-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Red-winged blackbird													Mar-Aug	-	-	-
	Saltmarsh sparrow													May-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-
	Willow flycatcher													May-Aug	-	-	-

BIRDS (continued)

Monthly Presence

Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Dunlin													-	Apr-May	Oct-Nov	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Killdeer													Mar-Aug	-	-	-
	Least sandpiper													-	Apr-Jun	Aug-Oct	-
	Semipalmated sandpiper													-	-	Jul-Oct	-
	Short-billed dowitcher													-	-	Aug-Oct	-
	Willet													Apr-Aug	-	-	-
 	Clapper rail													Mar-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-Nov	-
	Scoters													-	Apr-May	Sep-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Diadromous	Gizzard shad													Apr-Jun	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
 Freshwater	White catfish													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Bivalve	Northern quahog													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
 Crab	Blue crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

ESI POLYGON HABITAT TYPES

<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10A	Salt and Brackish Water Marshes	91.66	0.14
10B	Freshwater Marshes	75.53	0.12
10C	Swamps	1,006.36	1.57
10D	Scrub and Shrub Wetlands	182.98	0.29
9A	Sheltered Tidal Flats	2.14	0.00
7	Exposed Tidal Flats	0.51	0.00

ESI SHORELINE HABITAT TYPES

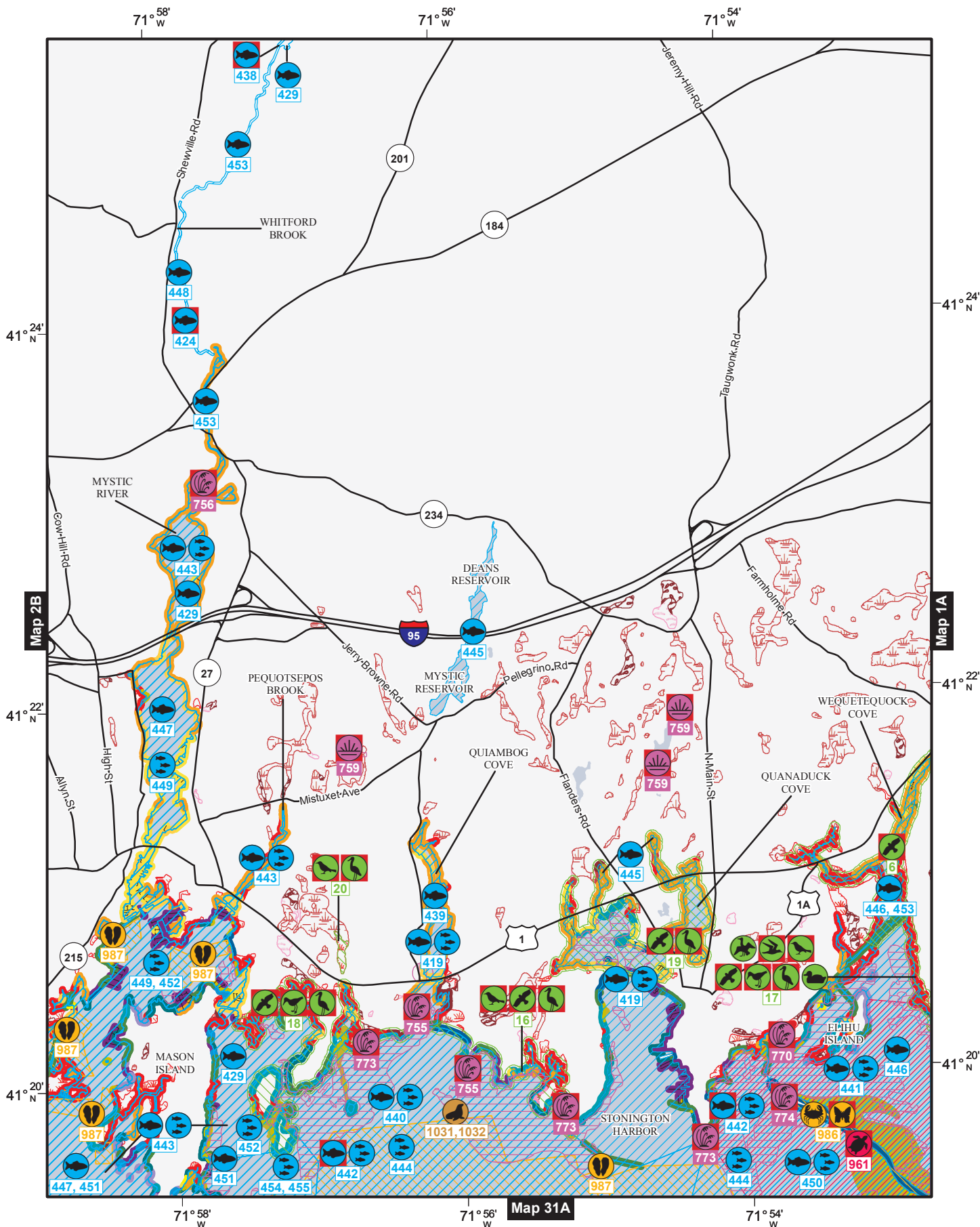
<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
10A	Salt and Brackish Water Marshes	10,148.50	6.31	23%
10B	Freshwater Marshes	29.03	0.02	< 1%
10C	Swamps	275.18	0.17	1%
10D	Scrub and Shrub Wetlands	874.07	0.54	2%
9A	Sheltered Tidal Flats	889.38	0.55	2%
9B	Vegetated Low Banks	11,130.00	6.92	26%
8A	Sheltered, Impermeable, Rocky Shores	120.20	0.07	< 1%
8B	Sheltered, Solid Man-Made Structures	428.92	0.27	1%
8C	Sheltered Riprap	2,854.60	1.77	7%
7	Exposed Tidal Flats	73.20	0.05	< 1%
6A	Gravel Beaches	726.62	0.45	2%
6B	Riprap	5,969.19	3.71	14%
5	Mixed Sand and Gravel Beaches	477.28	0.30	1%
3A	Fine to Medium Grained Sand Beaches	1,224.57	0.76	3%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	495.26	0.31	1%
1B	Exposed, Solid Man-Made Structures	7,637.32	4.75	18%

Total ESI Shoreline: 43,353.33 Total ESI Shoreline: 26.94
 Total Shoreline: 39,713.99 Total Shoreline: 24.68

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov

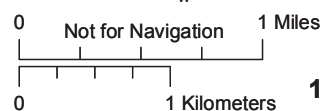




Map 2C
Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016



1:50,000



Map 2C
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Monthly Presence
SAV	Eelgrass	High Ecological Value				Present													

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
6	Raptor	Osprey	General Distribution	-JC			10S													Mar-Aug	Mar-Jun	Jul-Nov	-
16	Passerine	Purple martin	General Distribution	C/-			Present													Apr-Aug	-	-	-
	Passerine	Seaside sparrow	General Distribution	T/C			Present													May-Aug	-	-	-
	Raptor	Osprey	General Distribution	-JC			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Glossy ibis	General Distribution	C/-			10S													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			4													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			3													Mar-Aug	-	-	-
17	Diving	Grebes	Wintering				Present													-	Jan-Dec	-	-
	Diving	Loons	Wintering				Present													-	Apr-May	Oct-Nov	-
	Gull/Tern	Least tern	Concentration Area	T/T			Present													Apr-Aug	-	-	-
	Passerine	Saltmarsh sparrow	Concentration Area				Abundant													May-Aug	-	-	-
	Passerine	Seaside sparrow	Concentration Area	T/C			Abundant													May-Aug	-	-	-
	Raptor	Osprey	General Distribution	-JC			4													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	Nesting	T/-			Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	Concentration Area	T/E		T	Present													Mar-Aug	-	-	-
	Wading	Glossy ibis	General Distribution	C/-			Present													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			4													Mar-Aug	-	-	-
	Wading	Wading birds	Concentration Area				Present													Jan-Dec	-	-	-
	Waterfowl	Dabbling ducks	Migration				Present													-	Jan-Dec	-	-
18	Raptor	Osprey	General Distribution	-JC			10S													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	General Distribution	T/-			3													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			7													Mar-Aug	-	-	-
19	Wading	Snowy egret	General Distribution	T/-			2													Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-JC			3													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Glossy ibis	General Distribution	C/-			2													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			3													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			2													Mar-Aug	-	-	-
20	Passerine	Savannah sparrow	General Distribution	C/-			Present													Mar-Aug	-	-	-
	Wading	Glossy ibis	General Distribution	C/-			Present													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			3													Mar-Aug	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
419	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area				Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Grubby	Nursery Area				Common													Dec-Apr	Dec-Apr	Jan-May	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Abundant													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Threespine stickleback	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Oct	May-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
424	Freshwater	Banded sunfish	Vulnerable Occurrence	C/T			Uncommon													Apr-Jul	Apr-Jul	May-Aug	Jan-Dec	Jan-Dec
429	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
438	Freshwater	Bridle shiner	Vulnerable Occurrence	C/-			Uncommon													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
439	Diadromous	Hickory shad	Nursery Area				Common													Jun-Aug	Jun-Aug	Jun-Aug	Jul-Nov	Jun-Nov
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
440	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Scup	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Summer flounder	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
441	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area				Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Grubby	Nursery Area				Common													Dec-Apr	Dec-Apr	Jan-May	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Abundant													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area				Abundant													May-Aug	May-Aug	May-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Threespine stickleback	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Oct	May-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
442	Diadromous	Alewife	Nursery Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Diadromous	American eel	Migration				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	American shad	Nursery Area				Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
	Diadromous	Blueback herring	Migration				Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Estuarine Nursery	Atlantic herring	Nursery Area				Common													-	-	Mar-May	Jan-Dec	Jan-Dec
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Common													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bay anchovy	Nursery Area				Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Weakfish	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Estuarine Nursery	Windowpane	Nursery Area				Common													Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Marine Benthic	Little skate	Nursery Area				Common													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Marine Benthic	Northern searobin	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Marine Benthic	Red hake	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Eggs	Larvae	Juveniles	Adults
				J	F	M	A	M	J	J	A	S	O	N	D									
	Marine Benthic	Silver hake	Nursery Area															-	May-Oct	Mar-Nov	Mar-Nov			
	Marine Benthic	Smooth dogfish	Nursery Area															-	-	May-Oct	May-Oct			
	Marine Benthic	Spotted hake	Nursery Area															-	-	Mar-Nov	Mar-Nov			
	Marine Benthic	Striped searobin	Nursery Area															May-Sep	May-Sep	Apr-Nov	Apr-Nov			
	Marine Benthic	Tautog	Nursery Area															Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec			
	Marine Pelagic	Atlantic mackerel	Nursery Area															Apr-Jun	Apr-Jun	Apr-Nov	Apr-Nov			
	Marine Pelagic	Butterfish	Nursery Area															May-Aug	May-Aug	May-Dec	May-Dec			
443	Diadromous	Alewife	Nursery Area															Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov			
	Diadromous	Hickory shad	Concentration Area															Jun-Aug	Jun-Aug	Jul-Nov	Jun-Nov			
	Estuarine Nursery	Atlantic menhaden	Nursery Area															May-Oct	May-Oct	Apr-Nov	Apr-Nov			
	Estuarine Nursery	White perch	Nursery Area															Apr-Jul	Apr-Jul	Jan-Dec	Jan-Dec			
	Estuarine Resident	Mummichog	Nursery Area															May-Aug	May-Aug	Jan-Dec	Jan-Dec			
	Estuarine Resident	Sheepshead minnow	Nursery Area															Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec			
	Marine Benthic	Atlantic tomcod	Nursery Area															Nov-Feb	Nov-Mar	Sep-May	Sep-May			
444	Estuarine Nursery	Black sea bass	Nursery Area															-	-	Jan-Dec	Jan-Dec			
445	Diadromous	Alewife	Nursery Area															Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov			
	Diadromous	American eel	Nursery Area															-	-	Jan-Dec	Sep-Nov			
446	Diadromous	American eel	Nursery Area															-	-	Apr-Aug	Sep-Nov			
	Estuarine Resident	Mummichog	Nursery Area															May-Aug	May-Aug	Jan-Dec	Jan-Dec			
447	Diadromous	Brown trout (sea run)	Migration															Oct-Nov	Oct-Apr	Jan-Dec	Sep-Jan			
448	Diadromous	Alewife	Nursery Area															Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov			
449	Estuarine Nursery	Rainwater killifish	Nursery Area															May-Aug	May-Aug	Jan-Dec	Jan-Dec			
450	Diadromous	Striped bass	Concentration Area															-	-	Jan-Dec	Jan-Dec			
	Estuarine Nursery	Bluefish	Concentration Area															Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov			
	Estuarine Nursery	Scup	Concentration Area															May-Aug	May-Aug	May-Nov	May-Nov			
	Estuarine Nursery	Summer flounder	Concentration Area															-	-	Mar-Nov	Mar-Nov			
451	Diadromous	Striped bass	Concentration Area															-	-	Jan-Dec	Jan-Dec			
452	Estuarine Nursery	Winter flounder	Concentration Area															Feb-May	Feb-May	Jan-Dec	Jan-Dec			
453	Diadromous	Alewife	Spawning Area															Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov			
454	Estuarine Nursery	Bluefish	Concentration Area															Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov			
	Estuarine Nursery	Scup	Concentration Area															May-Aug	May-Aug	May-Nov	May-Nov			
	Estuarine Nursery	Summer flounder	Concentration Area															-	-	Mar-Nov	Mar-Nov			
455	Estuarine Nursery	Black sea bass	Concentration Area															-	-	Jan-Dec	Jan-Dec			

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	Mapping Qualifier	S	F	E/I	C/T	T/-
				S	F	J	F	M	A	M	J	J	A	S	O	N	D							
755	Plant	Scottish licorice-root	Vulnerable Occurrence															Low						
756	Plant	Eastern grasswort	Vulnerable Occurrence															Present						
759	FAV	Featherfoil	Vulnerable Occurrence															Present						
770	Plant	Woolly beachheather	Vulnerable Occurrence															Present						
773	Plant	Seaside sandplant	Vulnerable Occurrence															Present						
774	Plant	Seaside sandplant	Vulnerable Occurrence															Present						
	Plant	Woolly beachheather	Vulnerable Occurrence															Present						

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
					S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D		
961	Turtle	Leatherback sea turtle	General Distribution	E/E	E		Present														

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
986	Crab	Horseshoe crab	Spawning Area				Abundant													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
987	Insect	Frosted elfin	Vulnerable Occurrence	-/T			Present													Apr-May	Apr-May	Jun	Jul-Mar	Apr-Jun
	Bivalve	Eastern oyster	Concentration Area				Present													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Mating	Calving	Pupping	Molt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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1031	Pinniped	Gray seal	Haul Out				Present																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		</

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BIRDS

	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Diving	Common loon	General Distribution	C/C		10S													-	-	-	
		Pied-billed grebe	General Distribution	E/T		10S													-	-	-	
	Gull/Tern	Black skimmer	General Distribution	-/C		Present													Mar-Aug	-	-	
		Common tern	General Distribution	E/T		10S													May-Aug	-	-	
		Least tern	General Distribution	T/T		Present													Apr-Aug	-	-	
		Roseate tern	General Distribution	E/E	E	Present													May-Aug	-	-	
	Shorebird	American oystercatcher	General Distribution	T/-		Present													Mar-Aug	-	-	
		Piping plover	General Distribution	T/E	T	Present													Mar-Aug	-	-	



FISH

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
Estuarine Nursery	Winter flounder	Nursery Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec

REPTILES & AMPHIBIANS




Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							T/T	J	F	M	A	M	J	J	A	S	O	N	D				
Turtle	Green sea turtle	General Distribution				Present													-	-	-	Jun-Nov	-
	K. ridley sea turtle	General Distribution				Present													-	-	-	Jun-Nov	-
	Loggerhead sea turtle	General Distribution				Present													-	-	-	Jun-Nov	-

MARINE MAMMALS




Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
 Dolphin	Harbor porpoise	General Distribution	C/C		Present													-	-		
 Whale	Humpback whale	General Distribution	-/E	E	Present													-	-		
	N.A. right whale	General Distribution	-/E	E	Present													-	-		

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)



BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Alcids	Razorbill													-	-	-	-
	D. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
 Gull/Tern	Red-throated loon													-	-	-	-
	Bonaparte's gull													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
 Passerines	Laughing gull													Apr-Aug	-	-	-
	Ring-billed gull													-	-	-	-
	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	American crow													Mar-Aug	-	-	-
	American goldfinch													Mar-Aug	-	-	-
	American robin													Mar-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Black-capped chickadee													Mar-Aug	-	-	-
	Blue jay													Apr-Aug	Mar-May	Sep-Oct	-
	Brown-headed cowbird													Mar-Aug	-	-	-
	Carolina wren													Apr-Jul	-	-	-
	Chimney swift													Jun-Jul	Apr-May	Aug-Sep	-
	Chipping sparrow													Mar-Aug	-	-	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Eastern phoebe													May-Jul	Apr-May	Sep-Nov	-
	Eastern towhee													Mar-Aug	-	-	-
	European starling													Mar-Aug	-	-	-
	Fish crow													Mar-Aug	-	-	-
	Gray catbird													Mar-Aug	-	-	-
	House finch													Mar-Aug	-	-	-
	House sparrow													Mar-Aug	-	-	-
	Marsh wren													Apr-Aug	-	-	-
	Mourning dove													Mar-Aug	-	-	-
	Nelson's sparrow													-	-	Sep-Nov	-
	Northern cardinal													Mar-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-




BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Red-winged blackbird													Mar-Aug	-	-	-
	Saltmarsh sparrow													May-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-
	Willow flycatcher													May-Aug	-	-	-
	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Ruddy turnstone													-	Mar-May	Aug-Nov	-
	Willet													Apr-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													-	-	-	-
	Mute swan													Mar-Aug	-	-	-
	Northern pintail													Mar-Sep	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-Nov	-
	Scoters													-	Apr-May	Sep-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-



FISH

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
 Diadromous	Gizzard shad													Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
 Freshwater	Bluegill													May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Brook trout													Sep-Dec	Feb-May	Jan-Dec	Jan-Dec
	Chain pickerel													Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Pumpkinseed													May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Yellow perch													Mar-May	Mar-Aug	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
 Bivalve	Northern quahog													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
 Cephalopod	Longfin squid													May-Aug	May-Aug	Jan-Dec	Jan-Dec
 Crab	Blue crab													May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab													May-Jun	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Dolphin	Bottlenose dolphin													-	-	-	-
 Pinniped	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	346.89	0.54
10B	Freshwater Marshes	42.68	0.07
10C	Swamps	453.59	0.71
10D	Scrub and Shrub Wetlands	91.90	0.14
9A	Sheltered Tidal Flats	27.27	0.04
7	Exposed Tidal Flats	195.24	0.31

ESI SHORELINE HABITAT TYPES

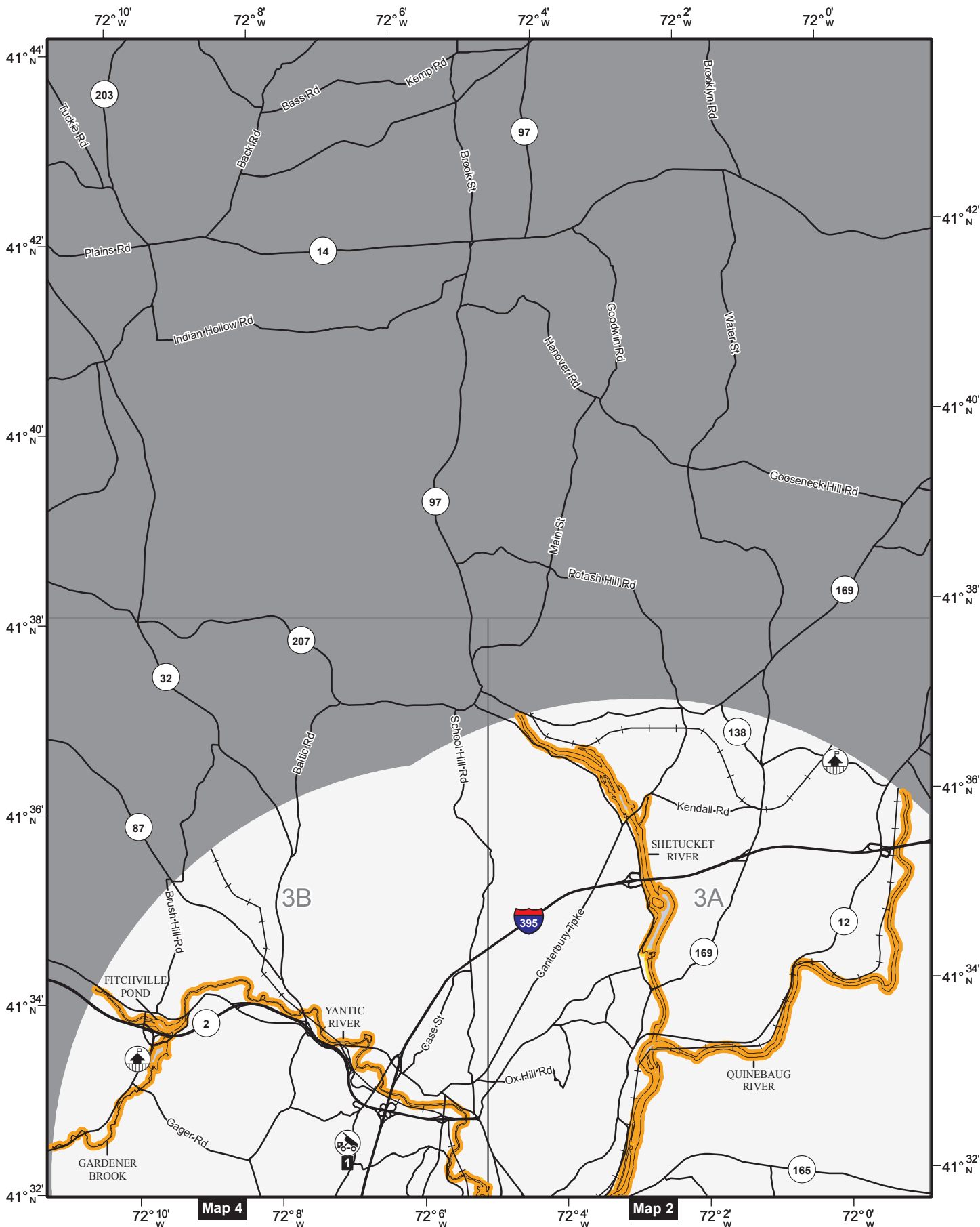
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	39,341.38	24.45	25%
10B	Freshwater Marshes	264.67	0.16	< 1%
10C	Swamps	625.95	0.39	< 1%
10D	Scrub and Shrub Wetlands	1,837.73	1.14	1%
9A	Sheltered Tidal Flats	8,453.42	5.25	5%
9B	Vegetated Low Banks	25,522.40	15.86	16%
8A	Sheltered, Impermeable, Rocky Shores	429.49	0.27	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	52.34	0.03	< 1%
8A	Sheltered, Impermeable, Rocky Shores	429.49	0.27	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	52.34	0.03	< 1%
8B	Sheltered, Solid Man-Made Structures	9,513.94	5.91	6%
8C	Sheltered Riprap	9,851.54	6.12	6%
7	Exposed Tidal Flats	10,451.35	6.49	7%
6A	Gravel Beaches	4,399.91	2.73	3%
6B	Riprap	14,519.19	9.02	9%
5	Mixed Sand and Gravel Beaches	8,842.68	5.49	6%
4	Coarse Grained Sand Beaches	1,402.24	0.87	1%
3A	Fine to Medium Grained Sand Beaches	5,658.28	3.52	4%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	3,561.06	2.21	2%
2B	Exposed Scarps and Steep Slopes (Clay)	388.63	0.24	< 1%
1A	Exposed, Rocky Shores	806.35	0.50	1%
1B	Exposed, Solid Man-Made Structures	12,756.57	7.93	8%

Total ESI Shoreline: 158,679.14 Total ESI Shoreline: 98.60
 Total Shoreline: 126,599.87 Total Shoreline: 78.67

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov





Map 3
Long Island Sound



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: September 2016

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 3
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Contact
1	LANDFILL	NORWICH TRANS STA & BW LANDFILL	CT DEPT. OF ENERGY AND ENV. PROTECTION
Phone			
ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325

JURISDICTIONS

COUNTY: NEW COUNTY
COAST GUARD: DISTRICT 1, SECTOR LONG ISLAND SOUND
USACE: NORTH ATLANTIC DIVISION, NEW ENGLAND DISTRICT

FEMA: REGION I
EPA: REGION 1

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES		Area (Acres)	Area (Sq. Miles)
ESI Rank	Habitat Classification		
ESI SHORELINE HABITAT TYPES			
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)
9B	Vegetated Low Banks	87,986.60	54.67
8B	Sheltered, Solid Man-Made Structures	2,923.24	1.82
8B	Sheltered, Permeable, Rocky Structures	129.45	0.08
8B	Sheltered, Solid Man-Made Structures	2,923.24	1.82
8B	Sheltered, Permeable, Rocky Structures	129.45	0.08
8C	Sheltered Riprap	700.69	0.44
Total ESI Shoreline:		91,739.97	57.00
Total Shoreline:		91,245.44	56.70
		Total ESI Shoreline:	
		Total Shoreline:	
		% of ESI Shoreline	
		96%	
		3%	
		< 1%	
		3%	
		< 1%	
		1%	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov



Map 3A
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
429	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
445	Diadromous	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
448	Diadromous	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
456	Diadromous	Blueback herring	Spawning Area	C/-	Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Sea lamprey	Migration		Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
	Diadromous	Striped bass	Migration		Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
457	Diadromous	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Sea lamprey	Spawning Area		Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
458	Diadromous	Alewife	Spawning Area		Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
459	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
460	Diadromous	Sea lamprey	Spawning Area		Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
461	Diadromous	Sea lamprey	Migration		Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
759	FAV	Featherfoil	Vulnerable Occurrence	C/T	Present												

FISH

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
Freshwater	Black crappie													May-Jun	May-Jun	Jan-Dec	Jan-Dec
	Bluegill													May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Brown bullhead													May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Chain pickerel													Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Channel catfish													May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Pumpkinseed													May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Redbreast sunfish													May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Rock bass													May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Smallmouth bass													May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Spottail shiner													Jun-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	White catfish													May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Yellow perch													Mar-May	Mar-Aug	Jan-Dec	Jan-Dec

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank

Habitat Classification

Area (Sq. Miles)

Area (Acres)

ESI SHORELINE HABITAT TYPES

ESI Rank

Shoreline Habitat Classification

Length (Meters)

Length (Miles)

% of ESI Shoreline

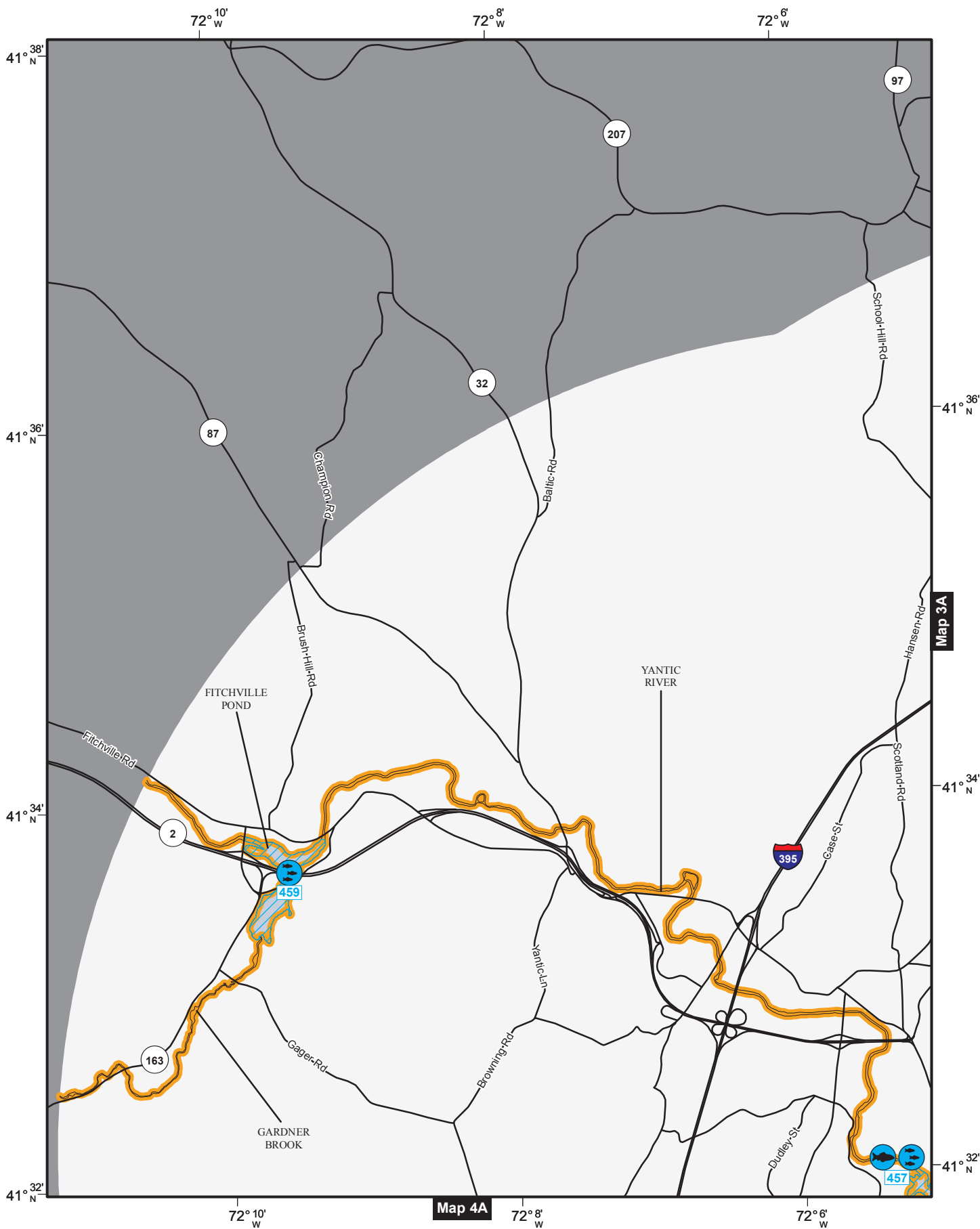
9B	Vegetated Low Banks	50,576.62	31.43	93%
8B	Sheltered, Permeable, Rocky Structures	129.45	0.08	< 1%
8B	Sheltered, Solid Man-Made Structures	2,802.83	1.74	5%
8B	Sheltered, Permeable, Rocky Structures	129.45	0.08	< 1%
8B	Sheltered, Solid Man-Made Structures	2,802.83	1.74	5%
8C	Sheltered Riprap	613.60	0.38	1%

Total ESI Shoreline: 54,122.50 Total ESI Shoreline: 33.63
Total Shoreline: 53,627.97 Total Shoreline: 33.32

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov

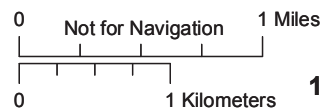




Map 3B
Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016



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Map 3B
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included



DISPLAYED ON MAP

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Larvae	Eggs	Spawn	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
457	Diadromous	Alewife	Nursery Area			Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area			Common													Apr-Aug	-	-	Jan-Dec	Sep-Nov
	Diadromous	Sea lamprey	Spawning Area			Common													Jan-Dec	May-Jun	May-Jun	Apr-Jul	Apr-Jul
	Estuarine Nursery	White perch	Nursery Area			Common													Apr-Aug	Apr-Jul	Apr-Jul	Jan-Dec	Jan-Dec
459	Estuarine Nursery	White perch	Nursery Area			Common													Apr-Aug	Apr-Jul	Apr-Jul	Jan-Dec	Jan-Dec

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Diadromous	Brown trout													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Jan-Dec
	Rainbow trout													-	-	-	Jan-Dec	Jan-Dec
 Freshwater	Black crappie													May-Jun	May-Jun	May-Jun	Jan-Dec	Jan-Dec
	Bluegill													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Chain pickerel													Mar-May	Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Channel catfish													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Redbreast sunfish													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Smallmouth bass													Jun-Jul	Jun-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Spottail shiner													Mar-May	Mar-May	Mar-Aug	Jan-Dec	Jan-Dec
	Yellow perch																Jan-Dec	Jan-Dec

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
ESI SHORELINE HABITAT TYPES			
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)
9B	Vegetated Low Banks	37,379.39	23.23
8B	Sheltered, Solid Man-Made Structures	120.40	0.07
8C	Sheltered Riprap	87.10	0.05
Total ESI Shoreline:		37,586.89	23.36
Total Shoreline:		37,586.89	23.36
		% of ESI Shoreline	
		99%	
		< 1%	
		< 1%	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov



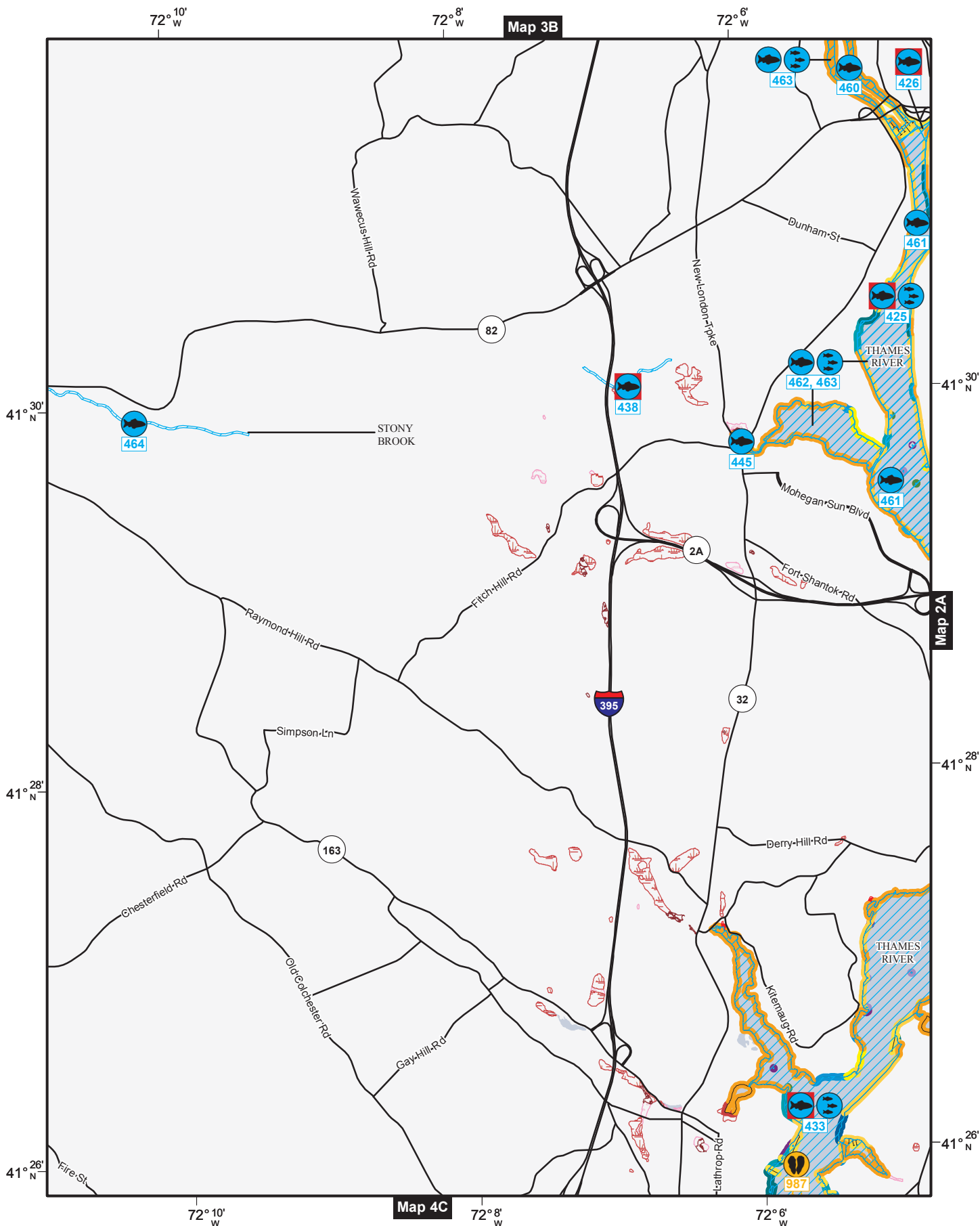
Map 4
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Contact
1	AQUACULTURE	NMFS/MILFORD LABORATORY (CT038AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE
2	BOAT RAMP	KENNETH STREETER BOAT RAMP	
3	BOAT RAMP	THAMES RIVER BOAT RAMP	
4	EPA FACILITY	ALLYN'S POINT LATEX	MARCO BARRUETA DELGADO, RESP. CARE LEADER
5	FERRY	NEW LONDON FERRY TERMINALS	
6	LANDFILL	EAST LYME BULK WASTE LANDFILL	CT DEPT. OF ENERGY AND ENV. PROTECTION
7	LANDFILL	WATERFORD BULK WASTE LANDFILL	CT DEPT. OF ENERGY AND ENV. PROTECTION
8	LANDFILL	OLD LYME BULK WASTE LANDFILL (KUS)	CT DEPT. OF ENERGY AND ENV. PROTECTION
9	MARINA	CROCKERS BOATYARD	
10	MARINA	THREE BELLES MARINA	
11	MARINA	BURRS MARINA	
12	MARINA	MARINA AT AMERICAN WHARF	
13	MARINA	GALES FERRY MARINA	
14	PORT	PORT OF NEW LONDON	DAVID W. CROCKER
15	REPEATED MEASUREMENT SITE	PORTS - NEW LONDON THAMES RIVER	HUA YANG
16	WATER INTAKE	NRG MONTVILLE POWER STATION	
17	WATER INTAKE	AES THAMES POWER PLANT	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Contact
18	MILITARY	CAMP NIANTIC	MAJOR GENERAL THADDEUS J. MARTIN
19	MILITARY	NAVAL SUBMARINE BASE NEW LONDON	CAPTAIN CARL. A. LAHTI
20	MILITARY	STONES RANCH MILITARY RESERVATION	MAJOR GENERAL THADDEUS J. MARTIN
21	NATURE CONSERVANCY	BURNHAM BROOK	TNC CONNECTICUT CHAPTER OFFICE
22	NATURE CONSERVANCY	MILO LIGHT NATURE PRESERVE SITE	TNC CONNECTICUT CHAPTER OFFICE
23	PARK	FORT TRUMBULL STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION
24	TRIBAL LANDS	MOHEGAN	U.S. CENSUS BUREAU, GEOGRAPHY DIVISION

ALSO PRESENT IN MAPPED AREA (POINTS)			
Type	Name	Contact	Phone
COAST GUARD	COAST GUARD STATION NEW LONDON	US COAST GUARD	860-442-4471
ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SUMMER FLOUNDER - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLACK SEA BASS - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFIN TUNA - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
JURISDICTIONS			
COUNTY:	NEW COUNTY	FEMA:	REGION I
COAST GUARD:	DISTRICT 1, SECTOR LONG ISLAND SOUND	EPA:	REGION 1
USACE:	NORTH ATLANTIC DIVISION, NEW ENGLAND DISTRICT		



Map 4A

Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 4A
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
425	Diadromous	Blueback herring	Nursery Area	Ci-			Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bay anchovy	Nursery Area				Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Nursery Area				Abundant													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Summer flounder	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
	Estuarine Nursery	Winter flounder	Nursery Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
426	Marine Benthic	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Marine Benthic	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Diadromous	Blueback herring	Spawning Area				Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Striped bass	Migration				Common													-	-	-	Apr-Nov	Apr-Nov
	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
433	Diadromous	American eel	Nursery Area	Ci-			Common													-	-	Apr-Aug	Apr-Nov	Apr-Nov
	Diadromous	Blueback herring	Nursery Area				Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Sea lamprey	Migration				Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bay anchovy	Nursery Area				Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Nursery Area				Abundant													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Summer flounder	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
	Estuarine Nursery	Winter flounder	Nursery Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
438	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													Apr-Aug	Apr-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
445	Marine Benthic	Tautog	Nursery Area	Ci-			Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Freshwater	Bridle shiner	Vulnerable Occurrence				Uncommon													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Sea lamprey	Spawning Area				Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
460	Diadromous	Sea lamprey	Migration				Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
461	Diadromous	Sea lamprey	Migration				Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
462	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D			
463	Estuarine Resident	Mummichog	Nursery Area		Common													May-Aug	Jan-Dec	Jan-Dec
	Diadromous	Alewife	Nursery Area		Common													Apr-Jul	Apr-Nov	Apr-Nov
464	Diadromous	American eel	Nursery Area		Common													Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Jan-Dec	Jan-Dec
	Diadromous	Brown trout	Nursery Area		Common													Oct-Nov	Jan-Dec	Jan-Dec
	Freshwater	Brook trout	Nursery Area		Common													Sep-Apr	Jan-Dec	Jan-Dec

INVERTEBRATES



Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D			
987	Bivalve	Eastern oyster	Concentration Area		Present													Jun-Oct	Jan-Dec	Jan-Dec

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig. (S)	Mig. (F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Waterfowl													Apr-May	Mar-Apr	Sep-Nov	-
	American black duck													-	Oct-Jun	-	-
	Bufflehead													Mar-Aug	Jan-Dec	-	-
	Canada goose													-	-	-	-
	Canvasback													-	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Mallard													Mar-Aug	-	-	-
	Red-breasted merganser													-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 	Diadromous													Apr-Jun	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
	Freshwater													May-Jun	May-Jun	May-Jun	Jan-Dec	Jan-Dec
	Black crappie													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Bluegill													Mar-May	Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Chain pickerel													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Channel catfish													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Pumpkinseed													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Redbreast sunfish													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Rock bass													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Smallmouth bass													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Spottail shiner													Jun-Jul	Jun-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	White catfish													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec

INVERTEBRATES

Monthly Presence

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
Crab	Blue crab	J	F	M	A	M	J	J	A	S	O	N	D	May-Sep	May-Sep	Jan-Dec	Jan-Dec

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1.57	0.00
10B	Freshwater Marshes	18.99	0.03
10C	Swamps	131.84	0.21
10D	Scrub and Shrub Wetlands	11.24	0.02
9A	Sheltered Tidal Flats	3.55	0.01

ESI SHORELINE HABITAT TYPES

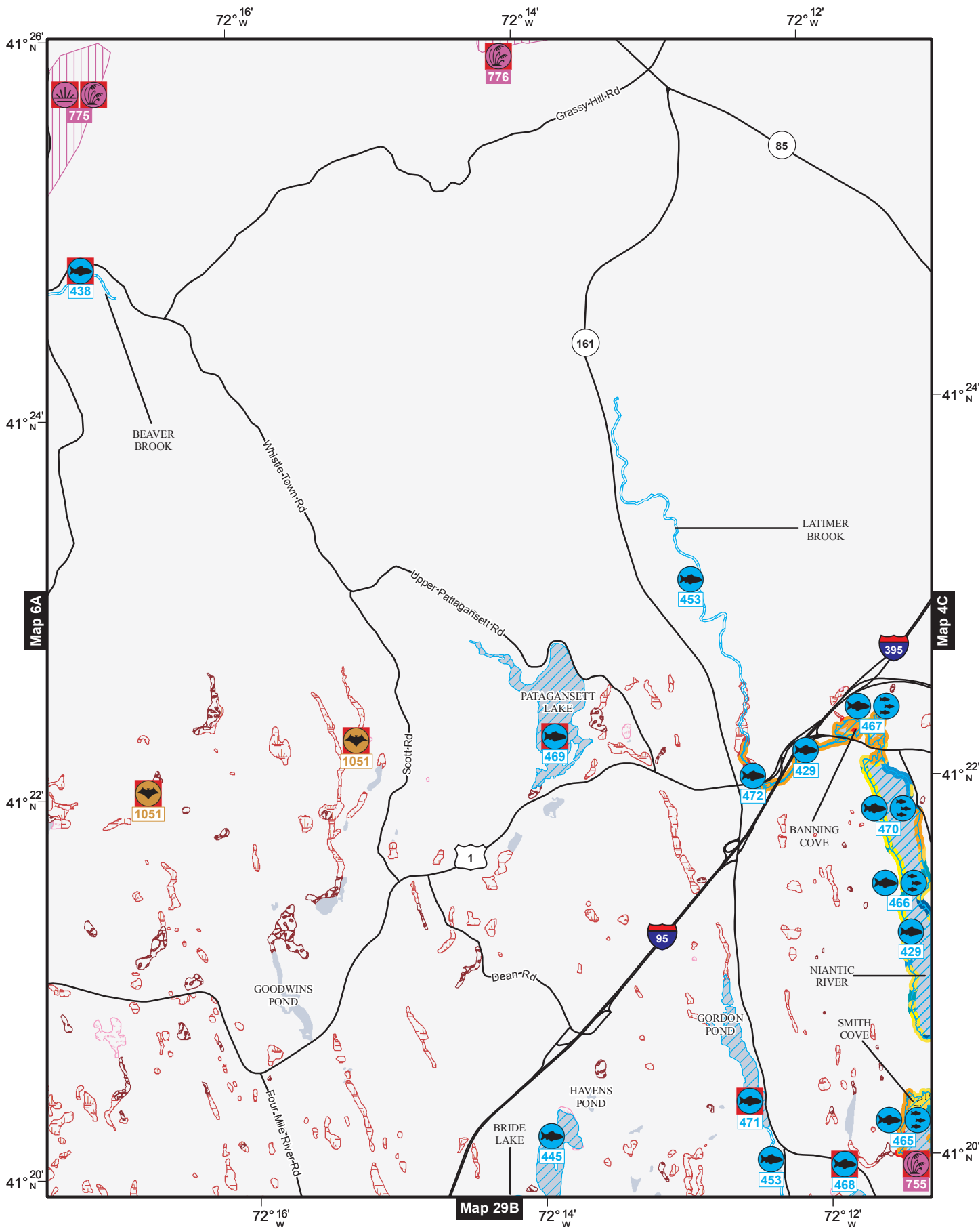
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	271.08	0.17	1%
10B	Freshwater Marshes	296.00	0.18	1%
10C	Swamps	217.98	0.14	1%
10D	Scrub and Shrub Wetlands	99.20	0.06	< 1%
9A	Sheltered Tidal Flats	600.69	0.37	2%
9B	Vegetated Low Banks	18,775.19	11.67	48%
8A	Sheltered, Impermeable, Rocky Shores	905.97	0.56	2%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	90.29	0.06	< 1%
8A	Sheltered, Impermeable, Rocky Shores	905.97	0.56	2%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	90.29	0.06	< 1%
8B	Sheltered, Solid Man-Made Structures	3,890.87	2.42	10%
8C	Sheltered Riprap	9,280.15	5.77	24%
6A	Gravel Beaches	1,521.09	0.95	4%
6B	Riprap	101.69	0.06	< 1%
5	Mixed Sand and Gravel Beaches	1,464.63	0.91	4%
4	Coarse Grained Sand Beaches	675.34	0.42	2%
3A	Fine to Medium Grained Sand Beaches	331.37	0.21	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	174.99	0.11	< 1%
1A	Exposed, Rocky Shores	159.35	0.10	< 1%
1B	Exposed, Solid Man-Made Structures	255.19	0.16	1%

Total ESI Shoreline: 39,111.06 Total ESI Shoreline: 24.30
Total Shoreline: 35,231.92 Total Shoreline: 21.89

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov





Map 4B
Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 4B Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
429	Diadromous	American eel	Nursery Area				Common													-		Apr-Aug	Jan-Dec	Sep-Nov
438	Freshwater	Bridle shiner	Vulnerable Occurrence	C/-			Uncommon													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
445	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area				Common													-		Apr-Aug	Jan-Dec	Sep-Nov
453	Diadromous	Alewife	Spawning Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
465	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area				Common													-		Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Striped bass	Migration				Common													-		-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	White perch	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
	Estuarine Nursery	Winter flounder	Nursery Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	Striped searobin	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Marine Benthic	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
466	Diadromous	Striped bass	Migration				Common													-		-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Winter flounder	Nursery Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	Striped searobin	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Marine Benthic	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
467	Diadromous	Brown trout (sea run)	Migration				Uncommon													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Sep-Jan
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Common													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Resident	Mummichog	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Freshwater	Banded killifish	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
468	Diadromous	Alewife	Spawning Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Freshwater	Swamp darter	General Distribution	-/T			Uncommon													Apr-May	Apr-May	Apr-Jun	Jan-Dec	Jan-Dec
469	Diadromous	Alewife	Spawning Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Diadromous	American eel	Nursery Area				Abundant													-		Apr-Aug	Jan-Dec	Sep-Nov
	Freshwater	Swamp darter	General Distribution	-/T			Uncommon													Apr-May	Apr-May	Apr-Jun	Jan-Dec	Jan-Dec

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
470	Diadromous Estuarine Nursery	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
		White perch	Nursery Area		Common													Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
471	Diadromous	Alewife	Spawning Area		Abundant													Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
		American eel	Nursery Area		Abundant													-	Apr-Aug	Jan-Dec	Sep-Nov
472	Freshwater Diadromous	Swamp darter	General Distribution	-/T	Uncommon													Apr-May	Apr-Jun	Jan-Dec	Jan-Dec
		Brown trout (sea run)	Spawning Area		Uncommon													Oct-Apr	Feb-May	Jan-Dec	Sep-Jan

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
755	Plant FAV	Scottish licorice-root	Vulnerable Occurrence	E/E	Low													-	-	-	-
		Featherfoil	Vulnerable Occurrence	C/T	Present													-	-	-	-
775	Plant	Clasp. water horehound	Vulnerable Occurrence	C/-	Present													-	-	-	-
		Dilleniuss' ticktrefoil	Vulnerable Occurrence	C/-	Present													-	-	-	-
776	Plant	Mfl. marshpennywort	Vulnerable Occurrence	E/-	Present													-	-	-	-
		Pilgrim grape	Vulnerable Occurrence	C/-	Present													-	-	-	-
776	Plant	Sm. yelloweyed grass	Vulnerable Occurrence	E/T	Present													-	-	-	-
		Pilgrim grape	Vulnerable Occurrence	C/-	Present													-	-	-	-
776	Plant	Slimspike threawn	Vulnerable Occurrence	C/-	Present													-	-	-	-

TERRESTRIAL MAMMALS



Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
1051	Bat	Eastern red bat	Vulnerable Occurrence	C/-	Present													-	-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)


BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
1051	Waterfowl	American black duck	Vulnerable Occurrence	C/-	Present													-	-	-	-
		Bufflehead	Vulnerable Occurrence	C/-	Present													-	-	-	-
1051	Canada goose	Canada goose	Vulnerable Occurrence	C/-	Present													-	-	-	-
		Canvasback	Vulnerable Occurrence	C/-	Present													-	-	-	-
1051	Mallard	Mallard	Vulnerable Occurrence	C/-	Present													-	-	-	-
		Red-breasted merganser	Vulnerable Occurrence	C/-	Present													-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Jan-Dec
	Rainbow trout													-	-	-	Jan-Dec	Jan-Dec
	Freshwater													May-Jun	May-Jun	May-Jun	Jan-Dec	Jan-Dec
	Black crappie													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Bluegill													May-Jul	May-Jul	May-Aug	Jan-Dec	Jan-Dec
	Brown bullhead													Mar-May	Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Chain pickerel													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Golden shiner													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Pumpkinseed													Apr-May	Apr-May	Apr-Jun	Jan-Dec	Jan-Dec
	Tessellated darter													Mar-May	Mar-May	Mar-May	Jan-Dec	Jan-Dec
	White sucker													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Yellow perch													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10A	Salt and Brackish Water Marshes	3.37	0.01
10B	Freshwater Marshes	22.46	0.04
10C	Swamps	349.91	0.55
10D	Scrub and Shrub Wetlands	106.64	0.17
9A	Sheltered Tidal Flats	2.24	0.00

ESI SHORELINE HABITAT TYPES

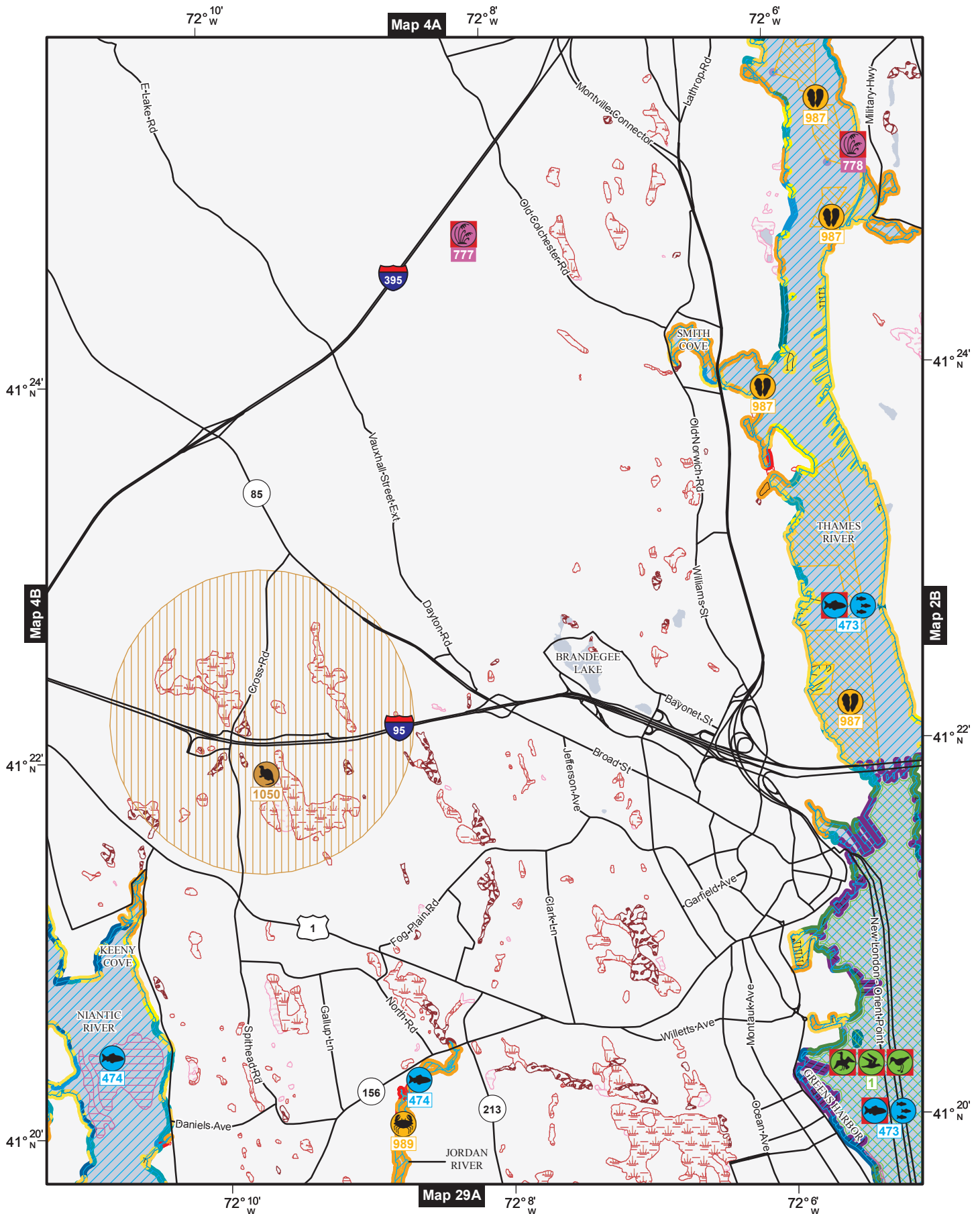
<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
10A	Salt and Brackish Water Marshes	603.09	0.37	4%
10C	Swamps	780.98	0.49	6%
9B	Vegetated Low Banks	5,398.56	3.35	40%
8A	Sheltered, Impermeable, Rocky Shores	1,653.07	1.03	12%
8B	Sheltered, Solid Man-Made Structures	2,361.79	1.47	17%
8C	Sheltered Riprap	429.64	0.27	3%
5	Mixed Sand and Gravel Beaches	959.39	0.60	7%
4	Coarse Grained Sand Beaches	633.45	0.39	5%
3A	Fine to Medium Grained Sand Beaches	767.94	0.48	6%

Total ESI Shoreline: 13,587.90 Total ESI Shoreline: 8.44
 Total Shoreline: 13,182.95 Total Shoreline: 8.19

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov

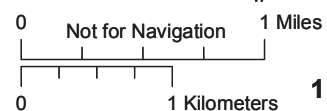




Map 4C
Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016



1:50,000

Map 4C
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence													
			S	F		Present													
						J	F	M	A	M	J	J	A	S	O	N	D		
SAV	Eelgrass	High Ecological Value																	

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence	Nest	Mig.(S)	Mig.(F)	Molt
J	F	M	A	M	J	J	A	S	O	N	D	
1	Diving	Common loon	General Distribution				10S					-
	Diving	Pied-billed grebe	General Distribution				10S					-
	Gull/Tern	Black skimmer	General Distribution				Present		Mar-Aug			-
	Gull/Tern	Common tern	General Distribution				10S		May-Aug			-
	Gull/Tern	Least tern	General Distribution				Present		Apr-Aug			-
	Gull/Tern	Roseate tern	General Distribution				Present		May-Aug			-
	Shorebird	American oystercatcher	General Distribution				Present		Mar-Aug			-
	Shorebird	Piping plover	General Distribution				Present		Mar-Aug			-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence	Spawn	Eggs	Larvae	Juveniles	Adults
J	F	M	A	M	J	J	A	S	O	N	D		
473	Diadromous	Blueback herring	Nursery Area				Common		May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Sea lamprey	Migration				Common		May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
	Diadromous	Striped bass	Nursery Area				Common		-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bay anchovy	Nursery Area				Common		May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Nursery Area				Abundant		-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Scup	Nursery Area				Common		May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Summer flounder	Nursery Area				Common		-	-	-	Mar-Nov	Mar-Nov
	Estuarine Resident	Mummichog	Nursery Area				Common		May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area				Common		Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
474	Diadromous	Striped bass	Migration				Common		-	-	-	Apr-Nov	Apr-Nov
	Estuarine Resident	Mummichog	Nursery Area				Abundant		May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area				Abundant		May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	Striped searobin	Nursery Area				Common		May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												
				S	F	J	F	M	A	M	J	J	A	S	O	N	D	
777	Plant	Slimspike threawn	Vulnerable Occurrence	C/-														-
778	Plant	Meadow zizia	Vulnerable Occurrence	E/-														-

INVERTEBRATES





Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
987	Bivalve	Eastern oyster	Concentration Area		Present													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
989	Crab	Horseshoe crab	Nursery Area		Common													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec

TERRESTRIAL MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
1050	Small Mammal	New England cottontail	Vulnerable Occurrence		Present													-	-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

FISH

Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
					J	F	M	A	M	J	J	A	S	O	N	D					
 Diadromous	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
 Estuarine Nursery	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Atlantic menhaden	Nursery Area		Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area		Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
 Estuarine Resident	Atlantic silverside	Nursery Area		Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Northern pipefish	Nursery Area		Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Sheepshead minnow	Nursery Area		Common													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
 Marine Benthic	Tautog	Nursery Area		Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov


BIRDS

Subelement	Species	Monthly Presence												Nest	Mig. (S)	Mig. (F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
Alcid	Razorbill													-	-	-	-
	D. crested cormorant													Mar-Aug	-	-	-
Diving	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
Gull/Tern	Red-throated loon													-	-	-	-
	Bonaparte's gull													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Laughing gull													Apr-Aug	-	-	-
	Ring-billed gull													-	-	-	-
Passerine	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	Black-legged kittiwake													-	-	-	-
Pelagic	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
Waterfowl	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													-	-	-	-
	Mute swan													Mar-Aug	-	-	-
	Northern pintail													Mar-Sep	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-



BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Scaup													-	Mar-Apr	Oct-Nov	-
	Scoters													-	Apr-May	Sep-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Gizzard shad													Apr-Jun	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
	Black crappie													May-Jun	May-Jun	May-Jun	Jan-Dec	Jan-Dec
	Bluegill													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Chain pickerel													Mar-May	Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Pumpkinseed													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	White catfish													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Eastern oyster													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Blue crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

ESI POLYGON HABITAT TYPES

<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10A	Salt and Brackish Water Marshes	7.98	0.01
10B	Freshwater Marshes	78.75	0.12
10C	Swamps	614.90	0.96
10D	Scrub and Shrub Wetlands	159.74	0.25
9A	Sheltered Tidal Flats	2.28	0.00

ESI SHORELINE HABITAT TYPES

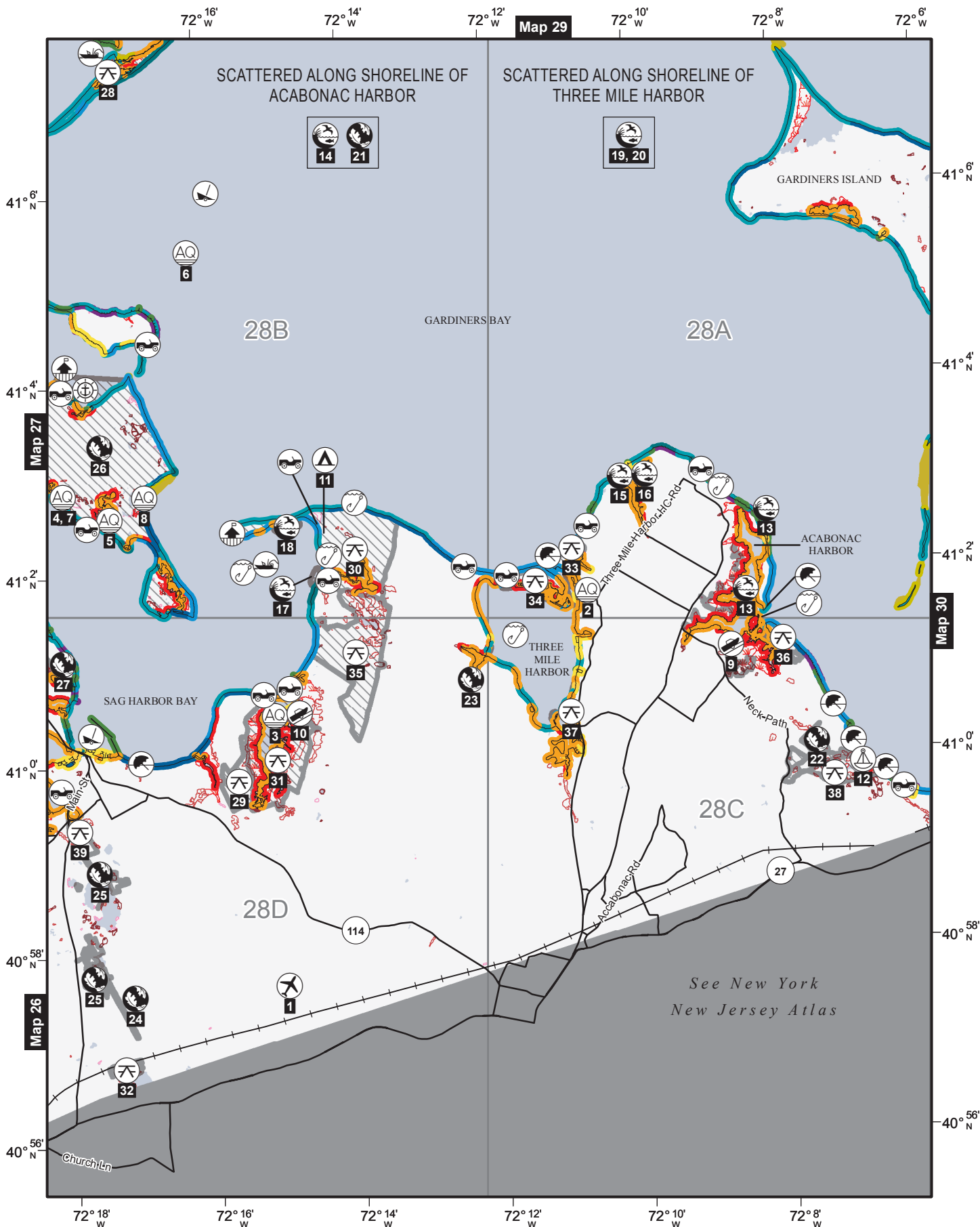
<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
10A	Salt and Brackish Water Marshes	1,574.63	0.98	2%
10C	Swamps	65.53	0.04	< 1%
10D	Scrub and Shrub Wetlands	240.63	0.15	< 1%
9A	Sheltered Tidal Flats	446.30	0.28	1%
9B	Vegetated Low Banks	14,116.28	8.77	20%
8A	Sheltered, Impermeable, Rocky Shores	2,358.74	1.47	3%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	28.18	0.02	< 1%
8A	Sheltered, Impermeable, Rocky Shores	2,358.74	1.47	3%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	28.18	0.02	< 1%
8B	Sheltered, Solid Man-Made Structures	14,680.91	9.12	21%
8C	Sheltered Riprap	12,365.49	7.68	17%
6A	Gravel Beaches	1,167.32	0.73	2%
6B	Riprap	3,664.37	2.28	5%
5	Mixed Sand and Gravel Beaches	5,021.11	3.12	7%
4	Coarse Grained Sand Beaches	2,359.11	1.47	3%
3A	Fine to Medium Grained Sand Beaches	3,122.10	1.94	4%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	422.99	0.26	1%
1B	Exposed, Solid Man-Made Structures	9,599.67	5.96	13%

Total ESI Shoreline: 71,233.35 Total ESI Shoreline: 44.26
 Total Shoreline: 66,030.72 Total Shoreline: 41.03

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov





Map 28
Long Island Sound



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: September 2016

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AIRPORT	EAST HAMPTON AIRPORT	FEDERAL AVIATION ADMINISTRATION
2	AQUACULTURE	E. HAMPTON HATCHERY NURSERY SITE (10-T)	JOHN DUNNE 631-668-4602
3	AQUACULTURE	E. HAMPTON NORTHWEST CR. OVERWINTERING	JOHN DUNNE 631-668-4603
4	AQUACULTURE	TNC LOG CABIN CR. SHELLFISH NURSERY	ADAM STARKE 631-367-3387
5	AQUACULTURE	BASS CR. HARD CLAM NURSERY AREA	ADAM STARKE 631-367-3388
6	AQUACULTURE	AEROS OYSTER CO. GARDINERS BAY (36-P)	WADE CARDEN 631-444-0481
7	AQUACULTURE	TOWN OF SHELTER ISLAND LOG CABIN CREEK (110-T)	WADE CARDEN 631-444-0481
8	AQUACULTURE	TOWN OF SHELTER ISLAND FOXIN CREEK (110-T)	WADE CARDEN 631-444-0481
9	BOAT RAMP	LANDING LANE BOAT RAMP	
10	BOAT RAMP	NORTHWEST HARBOR PARK BOAT RAMP	
11	CAMPGROUND	CEDAR POINT COUNTY PARK CAMPGROUND	SUFFOLK COUNTY
12	REPEATED MEASUREMENT SITE	MWS - LIGB	GREG PINIAK 301-713-3028

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
13	MANAGEMENT AREA	ACCABONAC HARBOR CLAM SEED PLACEMENT ARE	JOHN -BARLEY- DUNNE 631-668-4601
14	MANAGEMENT AREA	ACCABONAC HARBOR OYSTER SEED PLACEMENT A	JOHN -BARLEY- DUNNE 631-668-4601
15	MANAGEMENT AREA	HOG CREEK CLAM SEED PLACEMENT AREA	JOHN -BARLEY- DUNNE 631-668-4601
16	MANAGEMENT AREA	HOG CREEK OYSTER SEED PLACEMENT AREA	JOHN -BARLEY- DUNNE 631-668-4601
17	MANAGEMENT AREA	NORTHWEST HARBOR CLAM SEED PLACEMENT ARE	JOHN -BARLEY- DUNNE 631-668-4601
18	MANAGEMENT AREA	NORTHWEST HARBOR OYSTER SEED PLACEMENT A	JOHN -BARLEY- DUNNE 631-668-4601
19	MANAGEMENT AREA	THREE MILE HARBOR CLAM SEED PLACEMENT AR	JOHN -BARLEY- DUNNE 631-668-4601
20	MANAGEMENT AREA	THREE MILE HARBOR OYSTER SEED PLACEMENT	JOHN -BARLEY- DUNNE 631-668-4601
21	NATURE CONSERVANCY	ACCABONAC HARBOR PRESERVE (TNC)	TNC NEW YORK STATE OFFICE 518-690-7850
22	NATURE CONSERVANCY	FRESH POND PRESERVE	TNC NEW YORK STATE OFFICE 518-690-7850
23	NATURE CONSERVANCY	HANDS CREEK PRESERVE	TNC NEW YORK STATE OFFICE 518-690-7850
24	NATURE CONSERVANCY	LONG POND GREENBELT	TNC NEW YORK STATE OFFICE 518-690-7850
25	NATURE CONSERVANCY	LONG POND GREENBELT (TNC)	TNC NEW YORK STATE OFFICE 518-690-7850
26	NATURE CONSERVANCY	MASHOMACK	TNC NEW YORK STATE OFFICE 518-690-7850
26	NATURE CONSERVANCY	MASHOMACK PRESERVE	TNC NEW YORK STATE OFFICE 518-690-7850
27	NATURE CONSERVANCY	PECONIC ESTUARY FEE	TNC NEW YORK STATE OFFICE 518-690-7850
28	PARK	ORIENT BEACH	CHRISTINA CROLL 518-473-7787
29	PARK	SAG HARBOR	CHRISTINA CROLL 518-473-7787
30	PARK	CEDAR POINT COUNTY PARK	
31	PARK	NORTHWEST HARBOR COUNTY PARK (UNDEVELOPED)	
32	PARK	POXABOGUE COUNTY PARK	
33	PARK	MAIDSTONE PARK (MUNICIPAL)	
34	PARK	SAMMY'S TOWN BEACH (MUNICIPAL)	
35	PARK	GRACE ESTATE TOWN PRESERVE (MUNICIPAL)	
36	PARK	LOUSE POINT TOWN BEACH (MUNICIPAL)	

DISPLAYED ON MAP (POLYGONS) (continued)				
37	PARK	MARINA LANE WATERSIDE PARK (MUNICIPAL)		
38	PARK	DENNISTOWN BELL PARK (MUNICIPAL)		
39	PARK	MASHASHIMUET PARK (MUNICIPAL)		
ALSO PRESENT IN MAPPED AREA (POLYGONS)				
Type	Name	Contact	Phone	
ESSENTIAL HABITAT	SUMMER FLOUNDER - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	BLACK SEA BASS - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	BLACK SEA BASS - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	SCUP - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	SCUP - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	SCUP - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	SCUP - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	ATLANTIC MACKEREL - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	ATLANTIC MACKEREL - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	ATLANTIC MACKEREL - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	ATLANTIC MACKEREL - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	BLUEFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	BLUEFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	BLUEFIN TUNA - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	COMMON THRESHER SHARK - ALL LIFE STAGES	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	SANDBAR SHARK - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	SANDBAR SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	SKIPJACK TUNA - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	SKIPJACK TUNA - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	TIGER SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325	
ESSENTIAL HABITAT	ACCABONAC / HOG CREEK POINT SHALLOWS (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	ACCABONAC HARBOR (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	ALEWIFE & SCOY POND WETLANDS (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	CEDAR POINT / HEDGES BANK SHALLOWS (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	CEDAR POINT PENINSULA (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	GARDINERS ISLAND (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	LONG BEACH BAY (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	LONG POND GREENBELT (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	MASHOMACK PRESERVE-SHELTER ISLAND (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	NORTHWEST CREEK (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	ORIENT HARBOR (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	SAG HARBOR BAY & NORTHWEST HARBOR (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	SHELTER ISLAND EASTERN SHALLOWS (SH)	JEFFREY L. HERTER	518-486-7942	

ALSO PRESENT IN MAPPED AREA (POLYGONS) (continued)			
ESSENTIAL HABITAT	THREE MILE HARBOR (SH)	JEFFREY L. HERTER	518-486-7942
STATE PROTECTED AREA	ACABONACK HARBOR STATE TIDAL WETLANDS	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465
STATE PROTECTED AREA	NORTH HAVEN STATE TIDAL WETLANDS	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465
STATE PROTECTED AREA	NORTHWEST HARBOR STATE TIDAL WETLANDS	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465
STATE PROTECTED AREA	LITTLE NORTHWEST CREEK STATE TIDAL WETLANDS	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465
STATE PROTECTED AREA	LONG BEACH STATE TIDAL WETLANDS	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465

JURISDICTIONS			
COUNTY:	SUFFOLK COUNTY	FEMA:	REGION 1
COAST GUARD:	DISTRICT 1, SECTOR LONG ISLAND SOUND	EPA:	REGION 2
USACE:	NORTH ATLANTIC DIVISION, NEW YORK DISTRICT		

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	813.33	1.27
10B	Freshwater Marshes	32.28	0.05
10C	Swamps	289.29	0.45
10D	Scrub and Shrub Wetlands	124.92	0.20
9A	Sheltered Tidal Flats	113.51	0.18
7	Exposed Tidal Flats	134.44	0.21

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	61,131.20	37.99	22%
10C	Swamps	265.24	0.16	< 1%
10D	Scrub and Shrub Wetlands	585.80	0.36	< 1%
9A	Sheltered Tidal Flats	13,530.65	8.41	5%
9B	Vegetated Low Banks	82,030.68	50.97	30%
8B	Sheltered, Solid Man-Made Structures	12,014.38	7.47	4%
8C	Sheltered Riprap	506.33	0.31	< 1%
7	Exposed Tidal Flats	3,444.45	2.14	1%
6A	Gravel Beaches	3,284.97	2.04	1%
6B	Riprap	5,574.37	3.46	2%
5	Mixed Sand and Gravel Beaches	49,676.05	30.87	18%
4	Coarse Grained Sand Beaches	20,851.71	12.96	8%
3A	Fine to Medium Grained Sand Beaches	5,236.02	3.25	2%
3B	Scarps and Steep Slopes (Sand)	8,145.72	5.06	3%
1B	Exposed, Solid Man-Made Structures	6,232.35	3.87	2%
Total ESI Shoreline:		272,509.92	169.33	
Total Shoreline:		180,443.96	112.12	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov



Map 28A
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence
SAV	Eelgrass	High Ecological Value				Present	J F M A M J J A S O N D

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence	Nest	Mig.(S)	Mig.(F)	Molt
29	Raptor	Short-eared owl	General Distribution	T/E			Present		-	Oct-Apr	-	-
152	Diving	Common loon	General Distribution	C/C			Present		-	-	-	-
330	Passerine	Seaside sparrow	General Distribution	T/C			Present		May-Aug	-	-	-
	Passerine	Yellow-breasted chat	General Distribution	E/C			Present		May-Aug	-	-	-
	Raptor	Bald eagle	General Distribution	T/T			Present		Feb-Aug	-	-	-
	Raptor	Northern goshawk	General Distribution	T/C			Present		-	-	-	-
	Raptor	Peregrine falcon	General Distribution	T/E			Present		Mar-Aug	-	-	-
331	Passerine	Seaside sparrow	General Distribution	T/C			Present		May-Aug	-	-	-
	Passerine	Yellow-breasted chat	General Distribution	E/C			Present		May-Aug	-	-	-
	Raptor	Bald eagle	General Distribution	T/T			Present		Feb-Aug	-	-	-
	Raptor	Northern goshawk	General Distribution	T/C			Present		-	-	-	-
	Raptor	Peregrine falcon	General Distribution	T/E			Present		Mar-Aug	-	-	-
332	Wading	Glossy ibis	General Distribution	C/-			Present		Mar-Aug	-	-	-
	Raptor	Barn owl	General Distribution	E/-			Present		Mar-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			10S		Mar-Aug	-	-	-
	Wading	Glossy ibis	General Distribution	C/-			10S		Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			10S		Mar-Aug	-	-	-
	Wading	Little blue heron	General Distribution	C/-			Present		Apr-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			Present		Mar-Aug	-	-	-
333	Raptor	Barn owl	General Distribution	E/-			Present		Mar-Aug	-	-	-
	Wading	Little blue heron	General Distribution	C/-			Present		Apr-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			Present		Mar-Aug	-	-	-
334	Passerine	Horned lark	General Distribution	E/C			Present		Mar-May	-	-	-
	Wading	Great egret	General Distribution	T/-			Present		Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			Present		Mar-Aug	-	-	-
335	Gull/Tern	Black skimmer	Concentration Area	-C			Present		Mar-Aug	-	-	-
	Gull/Tern	Common tern	Concentration Area	E/T			Present		May-Aug	-	-	-
	Gull/Tern	Least tern	Concentration Area	T/T			Present		Apr-Aug	-	-	-
	Passerine	Horned lark	Nesting	E/C			Present		Mar-May	-	-	-
	Shorebird	Piping plover	Nesting	T/E	T		Present		Mar-Aug	-	-	-
336	Diving	Common loon	Wintering	C/C			Present		-	-	-	-
337	Gull/Tern	Least tern	General Distribution	T/T			10S		Apr-Aug	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
								J	F	M	A	M	J	J	A	S	O	N	D				
	Raptor	Osprey	General Distribution	-JC			10S													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	General Distribution	T/-			2													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E			10S													Mar-Aug	-	-	-
	Wading	Glossy ibis	General Distribution	C/-			Present													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			7													Mar-Aug	-	-	-
338	Shorebird	American oystercatcher	General Distribution	T/-			10S													Mar-Aug	-	-	-
	Wading	Glossy ibis	General Distribution	C/-			10S													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			10S													Mar-Aug	-	-	-
339	Gull/Tern	Least tern	General Distribution	T/T			100S													Apr-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E			10S													Mar-Aug	-	-	-
340	Gull/Tern	Black skimmer	General Distribution	-JC			100S													Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			1000S													May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			10S													Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E			100S													May-Aug	-	-	-
341	Shorebird	Piping plover	General Distribution	T/E			4													Mar-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			10S													Apr-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E			8													Mar-Aug	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
716	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Weakfish	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Nursery Area				Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	American sand lance	Nursery Area				Common													Nov-Mar	Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec
717	Estuarine Nursery	Bluefish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Nursery Area				Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
718	Estuarine Nursery	Bluefish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Nursery Area				Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
719	Diadromous	Alewife	Migration				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Estuarine Nursery	Atlantic herring	Nursery Area				Abundant													-	-	Mar-May	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Weakfish	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Nursery Area				Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Marine Benthic	Red hake	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
	Marine Benthic	Silver hake	Nursery Area				Common													-	-	May-Oct	Mar-Nov	Mar-Nov

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Eggs	Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N				
	Marine Benthic	Striped searobin	Nursery Area			Common											May-Sep	May-Sep	Apr-Nov	Apr-Nov	
	Marine Pelagic	Butterfish	Nursery Area			Abundant											May-Aug	May-Oct	May-Dec	May-Dec	
	Marine Pelagic	Spiny dogfish	Nursery Area			Common											-	-	May-Nov	May-Nov	

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
					C/T	E/E	-T	J	F	M	A	M	J	J	A	S	O	N	D	May-Sep	May-Oct	May-Dec	May-Nov
760	FAV	Featherfoil	Vulnerable Occurrence				Present													-	-	-	-
808	Plant	Field paspalum	Vulnerable Occurrence				Present													-	-	-	-
839	Wetland	Northern gamma grass	Vulnerable Occurrence				Present													-	-	-	-
865	Upland	Seaside knotweed	Vulnerable Occurrence				Present													-	-	-	-
884	Plant	Clustered mountainmint	Vulnerable Occurrence				Present													-	-	-	-
885	Plant	Dwarf saltwort	Vulnerable Occurrence				20													-	-	-	-
	Plant	New Eng. blazing star	Vulnerable Occurrence				Present													-	-	-	-
	Plant	Sm. false foxglove	Vulnerable Occurrence				100S													-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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963	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-		Present																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											








INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D	Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
1023	Bivalve	Eastern oyster	Harvest Area				Moderate													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area				Moderate													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Gastropod	Channeled whelk	Harvest Area				Low													Sep-Nov	Sep-Nov	-	Jan-Dec	Jan-Dec








MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Mating	Calving	Pupping	Molt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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BIRDS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Diving	Common loon	General Distribution	C/C	10S													-	-	-	-
		D. crested cormorant	Nesting		Present													Mar-Aug	-	-	-
		Pied-billed grebe	General Distribution	E/T	5													-	-	-	-
		Pied-billed grebe	General Distribution	E/T	10S													-	-	-	-
		Black skimmer	General Distribution	-C	Present													Mar-Aug	-	-	-
	Gull/Tern	Black skimmer	Nesting	-C	Present													Mar-Aug	-	-	-
		Common tern	General Distribution	E/T	10S													Mar-Aug	-	-	-
		Common tern	General Distribution	E/T	Present													May-Aug	-	-	-
		Common tern	Nesting	E/T	Present													May-Aug	-	-	-
		G. black-backed gull	Nesting		Present													Mar-Aug	-	-	-
		Herring gull	Nesting		Present													Mar-Aug	-	-	-
		Least tern	General Distribution	T/T	Present													Apr-Aug	-	-	-
		Least tern	Nesting	T/T	Present													Apr-Aug	-	-	-
		Roseate tern	General Distribution	E/E	E													May-Aug	-	-	-
		Roseate tern	Nesting	E/E	E													May-Aug	-	-	-
	Passerine	Bank swallow	Nesting		Present													Apr-Aug	-	-	-
		Yellow-breasted chat	Nesting	E/C	Present													May-Aug	-	-	-
		Bald eagle	Wintering	T/T	Present													Feb-Aug	-	-	-
		Northern harrier	General Distribution	E/T	Present													Mar-Aug	-	-	-
		Northern harrier	Nesting	E/T	Present													Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-C	Present													Mar-Aug	Mar-Jun	Jul-Nov	-
		Osprey	Nesting	-C	Present													Mar-Aug	Mar-Jun	Jul-Nov	-
		Red-tailed hawk	Nesting		Present													Mar-Aug	-	-	-
		Snowy owl	Wintering		Present													-	Mar-Apr	Nov-Dec	-
		American oystercatcher	General Distribution	T/-	Present													Mar-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	T/-	Present													Mar-Aug	-	-	-
		Piping plover	General Distribution	T/E	T													Mar-Aug	-	-	-
		BC night-heron	Nesting		Present													Mar-Aug	-	-	-
		Great egret	Nesting	T/-	Present													Mar-Aug	-	-	-
		Snowy egret	Nesting	T/-	Present													Mar-Aug	-	-	-
	Waterfowl	American black duck	Wintering		Present													Apr-May	Mar-Apr	Sep-Nov	-
		Brant	Wintering		Present													-	Mar-May	Oct-Nov	-
		Bufflehead	Wintering		Present													-	Oct-Jun	-	-
		Canada goose	Nesting		Present													Mar-Aug	Jan-Dec	-	-
		Gadwall	Nesting		Present													Jan-Dec	-	-	-
		Greater scaup	Wintering		Present													-	-	-	-
		Lesser scaup	Wintering		Present													-	-	-	-
		Long-tailed duck	Wintering		Present													-	-	-	-
		Red-breasted merganser	Wintering		Present													-	-	-	-
		Ruddy duck	Wintering		Present													-	-	-	-
	Waterfowl	Waterfowl	Wintering		Present													-	Jan-Dec	-	-
		White-winged scoter	Wintering		Present													-	Sep-May	-	-



FISH

Subelement	Species	Mapping Qualifier	CT/NT		Monthly Presence												CT/NT				
			S	F	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Diadromous	Alewife	Nursery Area														Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
		American eel	Migration														-	-	Apr-Aug	Jan-Dec	Sep-Nov
		American shad															May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
		Blueback herring	Migration														May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Estuarine Nursery	Striped bass	Nursery Area														-	-	-	Jan-Dec	Jan-Dec
		Atlantic herring	Nursery Area														-	-	Mar-May	Jan-Dec	Jan-Dec
		Atlantic menhaden	Nursery Area														May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
		Bay anchovy	Nursery Area														May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
		Black sea bass	Nursery Area														-	-	-	Apr-Nov	Apr-Nov
		Bluefish	Nursery Area														Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
		Northern kingfish	Nursery Area														Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
		Scup	Nursery Area														May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
		Summer flounder	Nursery Area														-	-	-	Mar-Nov	Mar-Nov
		Weakfish	Nursery Area														May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
		Windowpane	Nursery Area														Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
		Winter flounder	Nursery Area														Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Northern pipefish	Nursery Area														Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
		Oyster toadfish	Nursery Area														Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
		Atlantic tomcod	Nursery Area														Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
	Marine Benthic	Little skate	Nursery Area														Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
		Northern searobin	Nursery Area														May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Tautog	Nursery Area														Apr-Sep	Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
		Atlantic mackerel	Nursery Area														Apr-Jun	Apr-Jun	Apr-Jun	Apr-Nov	Apr-Nov
	Marine Pelagic	Butterfish	Nursery Area														May-Aug	May-Aug	May-Oct	May-Dec	May-Dec


REPTILES & AMPHIBIANS

[illegible]

INVERTEBRATES








	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Larvae	Juveniles	Adults					
				S	F	J	F	M	A	M	J	J	A	S	O	N	D								
	Bivalve	Bay scallop	Harvest Area	Low														Jun-Sep	Jun-Sep	Jun-Oct	Jun-Oct	Jun-Oct	Jun-Dec	Jan-Dec	Jan-Dec
		Eastern oyster	Harvest Area																	Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec	Jan-Dec
		Northern quahog	Harvest Area																	Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec	Jan-Dec
	Crab	Softshell clam	Harvest Area	Low															Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec	Jan-Dec
Horseshoe crab		Nursery Area	Common															May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	
	Lobster	American lobster	Nursery Area	Common														Jun-Nov	Jan-Dec	May-Aug	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Mating	Calving	Pupping	Molt
			S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N				
 Dolphin	Harbor porpoise	General Distribution	C/C		Present												-	-	-	-
 Whale	N.A. right whale	General Distribution	-/E	E	Present												-	-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Alcid	Razorbill													-	-	-	-
 Diving	D. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
 Gull/Tern	Bonaparte's gull													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Laughing gull													Apr-Aug	-	-	-
 Passerine	Ring-billed gull													-	-	-	-
	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	American crow													Mar-Aug	-	-	-
	American goldfinch													Mar-Aug	-	-	-
	American robin													Mar-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Carolina wren													Apr-Jul	-	-	-
	Cedar waxwing													Mar-Aug	-	-	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Eastern kingbird													Apr-Aug	-	-	-
	Mourning dove													Mar-Aug	-	-	-
	N. r.-winged swallow													Apr-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Prairie warbler													Apr-Aug	-	-	-
 Pelagic	Red-winged blackbird													Mar-Aug	-	-	-
	Saltmarsh sparrow													May-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-
	Yellow warbler													Apr-Aug	-	-	-
 Raptor	Black-legged kittiwake													-	-	-	-
	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Red-tailed hawk													Mar-Aug	-	-	-
 Shorebird	Black-bellied plover													-	Aug-May	-	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-

BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Lesser yellowlegs													-	Apr-Jun	Aug-Oct	-
	Ruddy turnstone													-	Mar-May	Aug-Nov	-
	Spotted sandpiper													-	Apr-Jun	Jul-Oct	-
	Willet													Apr-Aug	-	-	-
Wading	BC night-heron													Mar-Aug	-	-	-
	Great blue heron													Mar-Aug	-	-	-
	Green heron													Apr-Aug	-	-	-
Waterfowl	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	-	-	-
	Scoters													-	Mar-Apr	Oct-Nov	-
	Surf scoter													-	Apr-May	Sep-Nov	-
	White-winged scoter													-	-	-	-
	Wood duck													-	Sep-May	-	-
														Mar-Aug	-	-	-





FISH

Monthly Presence

Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Marine Benthic													Nov-Mar	Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec
	American sand lance													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Cunner													Jun-Jan	Jun-Jan	-	Jan-Dec	Jan-Dec
	Winter skate																	


INVERTEBRATES

Monthly Presence

Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Bivalve													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Cephalopod													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Softshell clam													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Longfin squid													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Blue crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Fiddler crab													May-Jun	May-Jun	-	Jan-Dec	Jan-Dec
	Horseshoe crab													Nov-Jun	Nov-Jun	Jun-Oct	Jan-Dec	Jan-Dec
	Jonah crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Shrimp													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Lady crab													May-Oct	May-Oct	May-Oct	May-Oct	Jan-Dec
	Spider crabs													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Grass shrimp													May-Oct	May-Oct	May-Oct	May-Oct	Jan-Dec

MARINE MAMMALS

Monthly Presence

Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molt
	Dolphin													-	-	-	-
	Bottlenose dolphin													-	-	-	-
	Pinniped													-	-	-	-
	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

ESI POLYGON HABITAT TYPES

<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10A	Salt and Brackish Water Marshes	206.74	0.32
10B	Freshwater Marshes	0.90	0.00
10C	Swamps	4.73	0.01
10D	Scrub and Shrub Wetlands	7.27	0.01
9A	Sheltered Tidal Flats	61.18	0.10
7	Exposed Tidal Flats	92.47	0.14

ESI SHORELINE HABITAT TYPES

<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
10A	Salt and Brackish Water Marshes	14,077.62	8.75	18%
9A	Sheltered Tidal Flats	6,476.61	4.02	8%
9B	Vegetated Low Banks	19,157.86	11.90	25%
8B	Sheltered, Solid Man-Made Structures	2,315.92	1.44	3%
8C	Sheltered Riprap	183.62	0.11	< 1%
7	Exposed Tidal Flats	1,869.59	1.16	2%
6A	Gravel Beaches	487.95	0.30	1%
6B	Riprap	1,283.69	0.80	2%
5	Mixed Sand and Gravel Beaches	22,050.17	13.70	28%
4	Coarse Grained Sand Beaches	4,476.64	2.78	6%
3B	Scarps and Steep Slopes (Sand)	3,394.66	2.11	4%
1B	Exposed, Solid Man-Made Structures	1,888.97	1.17	2%
Total ESI Shoreline:		77,663.30	48.26	
Total Shoreline:		52,246.14	32.46	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov



Map 28B
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence
SAV	Eelgrass	High Ecological Value					J F M A M J J A S O N D
						Present	

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence	Nest	Mig.(S)	Mig.(F)	Molt
					-/C	T/E		J F M A M J J A S O N D	Mar-Aug	Mar-Jun	Jul-Nov	
173	Raptor	Osprey	General Distribution				Present		Mar-Aug			-
211	Shorebird	Piping plover	General Distribution				2		Mar-Aug			-
248	Waterfowl	Waterfowl	Wintering				Present			Jan-Dec		-
271	Gull/Tern	Least tern	General Distribution		T/T		10S		Apr-Aug			-
	Shorebird	Piping plover	General Distribution		T/E	T	2		Mar-Aug			-
305	Diving	Common loon	General Distribution		C/C		6					-
313	Diving	Common loon	General Distribution		C/C		Present					-
	Raptor	Osprey	General Distribution		-/C		Present		Mar-Aug	Mar-Jun	Jul-Nov	-
314	Diving	Common loon	General Distribution		C/C		Present					-
	Raptor	Osprey	General Distribution		-/C		Present		Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Least bittern	General Distribution		T/T		Present		Apr-Aug	Apr	Aug-Sep	-
318	Landfowl	Wild turkey	Nesting				Present		Mar-Nov			-
342	Gull/Tern	Common tern	General Distribution		E/T		10S		May-Aug			-
	Gull/Tern	Common tern	Nesting		E/T		Present		May-Aug			-
	Gull/Tern	Least tern	General Distribution		T/T		100S		Apr-Aug			-
	Gull/Tern	Roseate tern	Nesting		E/E	E	Present		May-Aug			-
	Shorebird	Piping plover	General Distribution		T/E	T	10S		Mar-Aug			-
	Shorebird	Shorebirds	Concentration Area				Present			Jan-Dec		-
343	Shorebird	Shorebirds	Concentration Area				Present			Jan-Dec		-
	Wading	Egrets	Nesting				Present		Jan-Dec			-
	Wading	Herons	Concentration Area				Present		Jan-Dec			-
	Wading	Ibises	Concentration Area				Present		May-Jul	Apr-May	Sep-Oct	-
	Waterfowl	Greater scaup	Wintering				Present					-
	Waterfowl	Red-breasted merganser	Wintering				Present					-
	Waterfowl	Surf scoter	Wintering				Present					-
	Waterfowl	White-winged scoter	Wintering				Present			Sep-May		-
344	Waterfowl	Bufflehead	Wintering				Present			Oct-Jun		-
	Waterfowl	Canada goose	Wintering				Present		Mar-Aug	Jan-Dec		-
	Waterfowl	Canvasback	Wintering				Present					-
	Waterfowl	Common goldeneye	Wintering				Present					-
	Waterfowl	Red-breasted merganser	Wintering				Present			Nov-Apr		-
	Waterfowl	Scaup	Wintering				Present			Mar-Apr	Oct-Nov	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt	
				S	F		J	F	M	A	M	J	J	A	S	O	N	D					
345	Waterfowl	Waterfowl	Wintering			Present															Jan-Dec	-	-
	Raptor	Osprey	Nesting	-/C		Present														Mar-Aug	Mar-Jun	Jul-Nov	-
	Waterfowl	Scaup	Wintering			Present														-	Mar-Apr	Oct-Nov	-
346	Waterfowl	Waterfowl	Wintering			Present															Jan-Dec	-	-
	Gull/Tern	Least tern	General Distribution	T/T		100S														Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E	Present														May-Aug	-	-	-
347	Shorebird	Piping plover	General Distribution	T/E	T	10S														Mar-Aug	-	-	-
	Gull/Tern	Black skimmer	Concentration Area	-/C		Present														Mar-Aug	-	-	-
	Gull/Tern	Common tern	Concentration Area	E/T		Present														May-Aug	-	-	-
348	Gull/Tern	Least tern	Concentration Area	T/T		Present														Apr-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		100S														Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E	Present														May-Aug	-	-	-
349	Passerine	Horned lark	Nesting	E/C		Present														Mar-May	-	-	-
	Raptor	Osprey	Nesting	-/C		Present														Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	General Distribution	T/E	T	10S														Mar-Aug	-	-	-
350	Gull/Tern	Roseate tern	General Distribution	E/E	E	Present														May-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		10S														May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		10S														Apr-Aug	-	-	-
351	Gull/Tern	Roseate tern	General Distribution	E/E	E	10S														May-Aug	-	-	-
	Passerine	Seaside sparrow	General Distribution	T/C		Present														May-Aug	-	-	-
	Raptor	Northern harrier	General Distribution	E/T		Present														May-Aug	-	-	-
352	Shorebird	American oystercatcher	General Distribution	T/-		5														Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	7														Mar-Aug	-	-	-
	Passerine	Horned lark	General Distribution	E/C		Present														Mar-May	-	-	-
353	Raptor	Osprey	General Distribution	-/C		Present														Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-		Present														Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		Present														Mar-Aug	-	-	-
354	Passerine	Acadian flycatcher	Nesting			Present														Jun-Jul	May-Jun	Aug-Sep	-
	Passerine	Belted kingfisher	Nesting			Present														Mar-Aug	-	-	-
	Passerine	Cerulean warbler	General Distribution	C/C		Present														Mar-Aug	-	-	-
355	Passerine	Scarlet tanager	Nesting			Present														-	May	-	-
	Raptor	Broad-winged hawk	Nesting			Present														Jun-Jul	May	Sep-Oct	-
	Raptor	Northern harrier	General Distribution	E/T		Present														Jan-Dec	Mar-May	Aug-Oct	-
356	Raptor	Northern harrier	Nesting	E/T		Present														Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C		Present														Mar-Aug	-	-	-
	Raptor	Red-tailed hawk	Nesting			Present														Mar-Aug	Mar-Jun	Jul-Nov	-
357	Wading	BC night-heron	Nesting			Present														Mar-Aug	-	-	-
	Wading	Great egret	Nesting	T/-		Present														Mar-Aug	-	-	-
	Wading	Green heron	Nesting			Present														Apr-Aug	-	-	-
358	Wading	Snowy egret	Nesting	T/-		Present														Mar-Aug	-	-	-
	Wading	Snowy egret	Nesting			Present														Mar-Aug	-	-	-
	Wading	Snowy egret	Nesting			Present														Mar-Aug	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Waterfowl	Bufflehead	Wintering			Present													-	Oct-Jun	-	-
	Waterfowl	Canada goose	Nesting			Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Hooded merganser	Wintering			Present													-	-	-	-
	Waterfowl	Mallard	Nesting			Present													Mar-Aug	-	-	-
	Waterfowl	Mute swan	Nesting			Present													Mar-Sep	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			Present													-	-	-	-
	Waterfowl	Wood duck	Nesting			Present													Mar-Aug	-	-	-
353	Waterfowl	Bufflehead	Wintering			Present													-	Oct-Jun	-	-
	Waterfowl	Canada goose	Wintering			Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Canvasback	Wintering			Present													-	-	-	-
	Waterfowl	Common goldeneye	Wintering			Present													-	Nov-Apr	-	-
	Waterfowl	Red-breasted merganser	Wintering			Present													-	-	-	-
	Waterfowl	Scaup	Wintering			Present													-	Mar-Apr	Oct-Nov	-
354	Waterfowl	Bufflehead	Wintering			Present													-	Oct-Jun	-	-
	Waterfowl	Canada goose	Wintering			Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Common goldeneye	Wintering			Present													-	Nov-Apr	-	-
	Waterfowl	Long-tailed duck	Wintering			Present													-	-	-	-
355	Gull/Tern	Black skimmer	Concentration Area	-/C		Present													Mar-Aug	-	-	-
	Gull/Tern	Common tern	Concentration Area	E/T		Present													May-Aug	-	-	-
	Gull/Tern	Least tern	Concentration Area	T/T		Present													Apr-Aug	-	-	-
	Passerine	Horned lark	Nesting	E/C		Present													Mar-May	-	-	-
	Raptor	Osprey	Nesting	-/C		Present													Mar-Aug	Jul-Nov	-	-
356	Diving	Common loon	Wintering	C/C		Present													-	-	-	-
	Raptor	Great horned owl	Nesting			Present													Jan-Apr	-	-	-
	Raptor	Osprey	Nesting	-/C		Present													Mar-Aug	Jul-Nov	-	-
	Raptor	Red-tailed hawk	Nesting			Present													Mar-Aug	-	-	-
357	Passerine	Cerulean warbler	General Distribution	C/C		Present													-	May	-	-
	Raptor	Northern harrier	General Distribution	E/T		Present													Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C		Present													Mar-Aug	Jul-Nov	-	-
358	Passerine	Cerulean warbler	General Distribution	C/C		Present													-	May	-	-
	Raptor	Northern harrier	General Distribution	E/T		Present													Mar-Aug	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
				S	F		J	F	M	A	M	J	J	A	S	O	N	D					
501	Diadromous	Alewife	Spawning Area			Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
711	Estuarine Nursery	Scup	Spawning Area			Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Weakfish	Spawning Area			Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Spawning Area			Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
714	Estuarine Resident	Atlantic silverside	Vulnerable Occurrence			Uncommon													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
720	Diadromous	Striped bass	Nursery Area			Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area			Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Scup	Nursery Area			Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Weakfish	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Eggs	Larvae	Juveniles	Adults
				J	F	M	A	M	J	J	A	S	O	N	D									
	Estuarine Nursery	Winter flounder	Nursery Area														Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec			
	Estuarine Resident	Striped killifish	Nursery Area														May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec			
	Marine Benthic	American sand lance	Nursery Area														Nov-Mar	Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec			
721	Diadromous	Alewife	Nursery Area														Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct			
	Diadromous	American eel	Nursery Area														-	-	Apr-Aug	Jan-Dec	Sep-Nov			
	Estuarine Nursery	Atlantic menhaden	Nursery Area														May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov			
	Estuarine Nursery	Bluefish	Nursery Area														Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov			
	Estuarine Nursery	Hogchoker	Nursery Area														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec			
	Estuarine Nursery	Northern puffer	Nursery Area														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec			
	Estuarine Nursery	Summer flounder	Nursery Area														-	-	-	Mar-Nov	Mar-Nov			
	Estuarine Nursery	Winter flounder	Spawning Area														Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec			
	Estuarine Resident	Fourspine stickleback	Nursery Area														Apr-Jul	Apr-Jul	May-Aug	May-Dec	Jan-Dec			
	Marine Benthic	Cunner	Nursery Area														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec			
	Marine Benthic	Smooth dogfish	Nursery Area														-	-	-	May-Oct	May-Oct			
	Marine Benthic	Striped searobin	Nursery Area														May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov			
	Marine Benthic	Tautog	Nursery Area														Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov			
722	Estuarine Nursery	Scup	Nursery Area														May-Aug	May-Aug	May-Aug	May-Nov	May-Nov			
	Estuarine Nursery	Weakfish	Nursery Area														May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov			
	Estuarine Nursery	Winter flounder	Nursery Area														Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec			
723	Estuarine Resident	Atlantic silverside	Vulnerable Occurrence														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec			
	Estuarine Resident	Inland silverside	Vulnerable Occurrence														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec			
724	Estuarine Resident	Inland silverside	Vulnerable Occurrence														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec			
	Estuarine Resident	Inland silverside	Vulnerable Occurrence														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec			

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Mapping Qualifier	E/E	C/C	-T	-T	-T	E/T	-T	-T	-T	-E	C/C	E/E
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D															
756	Plant	Scottish licorice-root	Vulnerable Occurrence			Low																											
865	Upland	Seaside knotweed	Vulnerable Occurrence			Present																											
866	Plant	Goose tongue	Vulnerable Occurrence			Present																											
886	Plant	Fibrous bladderwort	Vulnerable Occurrence			Present																											
	Plant	Long-tubercled spikerush	Vulnerable Occurrence			Present																											
	Plant	Pennsylvania catchfly	Vulnerable Occurrence			7																											
	Plant	Sm. yelloweyed grass	Vulnerable Occurrence			100S																											
887	Plant	Dwarf saltwort	Vulnerable Occurrence			Present																											
	Plant	Goose tongue	Vulnerable Occurrence			25																											
	Plant	Pennsylvania catchfly	Vulnerable Occurrence			100 - 200																											
	Plant	Slender seapurslane	Vulnerable Occurrence			25																											
888	Upland	Seaside knotweed	Vulnerable Occurrence			300																											
	Plant	Whip nutrush	Vulnerable Occurrence			Present																											

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
963	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-	E	E	Present													Jun-Jul	Aug-Oct	-	Jun-Nov	Jan-Dec
970	Turtle	K. ridley sea turtle	Vulnerable Occurrence	T/T	T	T	Present													-	-	-	Jun-Nov	-
972	Turtle	Green sea turtle	Vulnerable Occurrence	E/E	E	E	Present													-	-	-	Jun-Nov	-
	Turtle	K. ridley sea turtle	Vulnerable Occurrence	E/E	E	E	Present													-	-	-	Jun-Nov	-
	Turtle	Loggerhead sea turtle	Vulnerable Occurrence	T/T	E	E	Present													-	-	-	Jun-Nov	-
976	Turtle	K. ridley sea turtle	Vulnerable Occurrence	E/E	E	E	Present													-	-	-	Jun-Nov	-
	Turtle	Loggerhead sea turtle	Vulnerable Occurrence	T/T	E	E	Present													-	-	-	Jun-Nov	-
977	Turtle	Green sea turtle	Vulnerable Occurrence	T/T	T	T	Present													-	-	-	Jun-Nov	-
979	Amphibian	Eastern spadefoot	Vulnerable Occurrence	E/C			Present													Apr-Jun	Apr-Jun	-	Jan-Dec	Jan-Dec
	Amphibian	Marbled salamander	Vulnerable Occurrence	-/C			Present													Sep-Oct	Sep-Oct	-	Jan-Dec	Jan-Dec
	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-			Present													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec
	Turtle	Spotted turtle	Vulnerable Occurrence	C/C			Present													May-Jun	Aug-Sep	-	Jan-Dec	Jan-Dec







INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
999	Bivalve	Bay scallop	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
1021	Bivalve	Bay scallop	Harvest Area				Moderate													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area				Moderate													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Gastropod	Channeled whelk	Harvest Area				Low													Sep-Nov	Sep-Nov	-	Jan-Dec	Jan-Dec
1024	Insect	Scarlet bluet	Vulnerable Occurrence	-/T			Present													Jun-Jul	-	-	-	Jun-Jul

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
								J	F	M	A	M	J	J	A	S	O	N	D				
	Diving	Common loon	General Distribution	C/C			10S													-	-	-	-
		Pied-billed grebe	General Distribution	E/T			5													-	-	-	-
	Gull/Tern	Black skimmer	General Distribution	-/C			Present													Mar-Aug	-	-	-
		Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
		Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
		Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		Present													Mar-Aug	-	-	-
		Piping plover	Nesting	T/E	T		Present													Mar-Aug	-	-	-
	Waterfowl	American black duck	Wintering				Present													Apr-May	Mar-Apr	Sep-Nov	-
		Mallard	Wintering				Present													Mar-Aug	-	-	-

Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Larvae	Juveniles	Adults
					J	F	M	A	M	J	J	A	S	O	N	D						
	Diadromous	Alwife	Nursery Area	Common													Apr-Jul	Apr-Jul	Apr-Nov			
	American eel	Migration		Common													-	Apr-Aug	Jan-Dec			
	American shad	Nursery Area		Common													May-Jul	May-Aug	Jun-Nov			
	Blueback herring	Migration		Common													May-Sep	May-Oct	Apr-Nov			
	Estuarine Nursery	Striped bass	Nursery Area	Common													-	-	Jan-Dec			
	Atlantic herring	Nursery Area		Common													-	Mar-May	Jan-Dec			
	Atlantic menhaden	Nursery Area		Common													May-Oct	May-Nov	Apr-Nov			
	Bay anchovy	Nursery Area		Abundant													May-Sep	May-Nov	Jan-Dec			
	Black sea bass	Nursery Area		Common													-	-	Apr-Nov			
	Bluefish	Nursery Area		Abundant													Jun-Sep	Jun-Sep	Apr-Nov			
	Northern kingfish	Nursery Area		Common													Jun-Sep	Jun-Sep	Apr-Nov			
	Scup	Nursery Area		Abundant													May-Aug	May-Aug	May-Nov			
	Summer flounder	Nursery Area		Common													-	-	Mar-Nov			
	Weakfish	Nursery Area		Abundant													May-Sep	May-Sep	May-Nov			
	Windowpane	Nursery Area		Common													Apr-Oct	May-Nov	Jan-Dec			
	Winter flounder	Nursery Area		Abundant													Feb-May	Mar-Jun	Jan-Dec			
	Estuarine Resident	Nursery Area		Common													May-Aug	May-Aug	Jan-Dec			
	Atlantic silverside	Nursery Area		Abundant													May-Aug	May-Aug	Jan-Dec			
	Mummichog	Nursery Area		Common													May-Aug	May-Sep	Jan-Dec			
	Northern pipefish	Nursery Area		Common													Apr-Aug	May-Sep	Jan-Dec			
	Oyster toadfish	Nursery Area		Common													Jun-Sep	Jun-Sep	Jan-Dec			
	Atlantic tomcod	Nursery Area		Common													Nov-Mar	Dec-May	Jan-Dec			
	Little skate	Nursery Area		Common													Jan-Dec	-	Jan-Dec			
	Northern searobin	Nursery Area		Common													May-Sep	May-Sep	Apr-Nov			
	Marine Benthic	Tautog	Nursery Area	Common													Apr-Sep	Apr-Sep	Jan-Dec			
	Atlantic mackerel	Nursery Area		Common													Apr-Jun	Apr-Jun	Apr-Nov			
	Butterfish	Nursery Area		Common													May-Aug	May-Oct	May-Dec			

REPTILES & AMPHIBIANS



Subelement	Species	Mapping Qualifier	CT/NY			Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
			S	F	T	J	F	M	A	M	J	J	A	S	O	N	D					
Turtle	Green sea turtle	General Distribution	T/T			Present											-					
	K. ridley sea turtle	General Distribution	E/E			Present											-					
	Loggerhead sea turtle	General Distribution	T/T			Present											-					

INVERTEBRATES

	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Larvae	Juveniles	Adults	
				S	F	J	F	M	A	M	J	J	A	S	O	N	D				
🐚	Bivalve	Bay scallop	Harvest Area														Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
		Eastern oyster	Harvest Area														Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
		Northern quahog	Harvest Area														Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
		Softshell clam	Harvest Area														Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
🦀	Crab	Horseshoe crab	Nursery Area														May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
	Lobster	American lobster	Nursery Area														Jun-Nov	Jan-Dec	May-Aug	Jan-Dec	Jan-Dec








Long Island Sound: Map 28B

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Dolphin	Harbor porpoise	C/C		Present														-	-	-
	Whale	N.A. right whale	-E	E	Present														-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)



BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Diving	D. crested cormorant													Mar-Aug	-	-	-
	Horned grebe													-	-	-	-
 Gull/Tern	Red-throated loon													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Ring-billed gull													-	-	-	-
 Passerine	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
 Pelagic	Northern gannet													-	-	-	-
 Shorebird	Black-bellied plover													-	Aug-May	-	-
	Dunlin													-	Apr-May	Oct-Nov	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Killdeer													Mar-Aug	-	-	-
	Lesser yellowlegs													-	Apr-Jun	Aug-Oct	-
	Ruddy turnstone													-	Mar-May	Aug-Nov	-
	Sanderling													-	Sep-Jun	-	-
	Semipalmated plover													-	Apr-Jun	Sep-Nov	-
	Semipalmated sandpiper													-	-	Jul-Oct	-
	Spotted sandpiper													-	Apr-Jun	Jul-Oct	-
 Wading	Willet													Apr-Aug	-	-	-
	Green heron													Apr-Aug	-	-	-
 Waterfowl	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Greater scaup													-	-	-	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-





BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scoters													-	-	-	-
	Surf scoter													-	Apr-May	Sep-Nov	-
	White-winged scoter													-	-	-	-
	Wood duck													-	Sep-May	-	-
														Mar-Aug	-	-	-



FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Freshwater													Mar-May	Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Marine Benthic													Nov-Mar	Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec
	Cunner													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Ribbed mussel													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Cephalopod													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Fiddler crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Green crab													Mar-Sep	Mar-Sep	May-Oct	Jan-Dec	Jan-Dec
	Lady crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Spider crabs													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Shrimp													May-Oct	May-Oct	May-Oct	May-Oct	Jan-Dec
	Grass shrimp													Feb-May	Feb-May	Feb-May	Jan-Dec	Jan-Dec
	Mantis shrimp													May-Oct	May-Oct	May-Oct	May-Oct	Jan-Dec

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Dolphin													-	-	-	-
	Pinniped													-	-	-	-
	Bottlenose dolphin													-	-	-	-
	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	147.27	0.23
10B	Freshwater Marshes	23.43	0.04
10C	Swamps	45.27	0.07
10D	Scrub and Shrub Wetlands	30.04	0.05
9A	Sheltered Tidal Flats	50.34	0.08
7	Exposed Tidal Flats	42.03	0.07

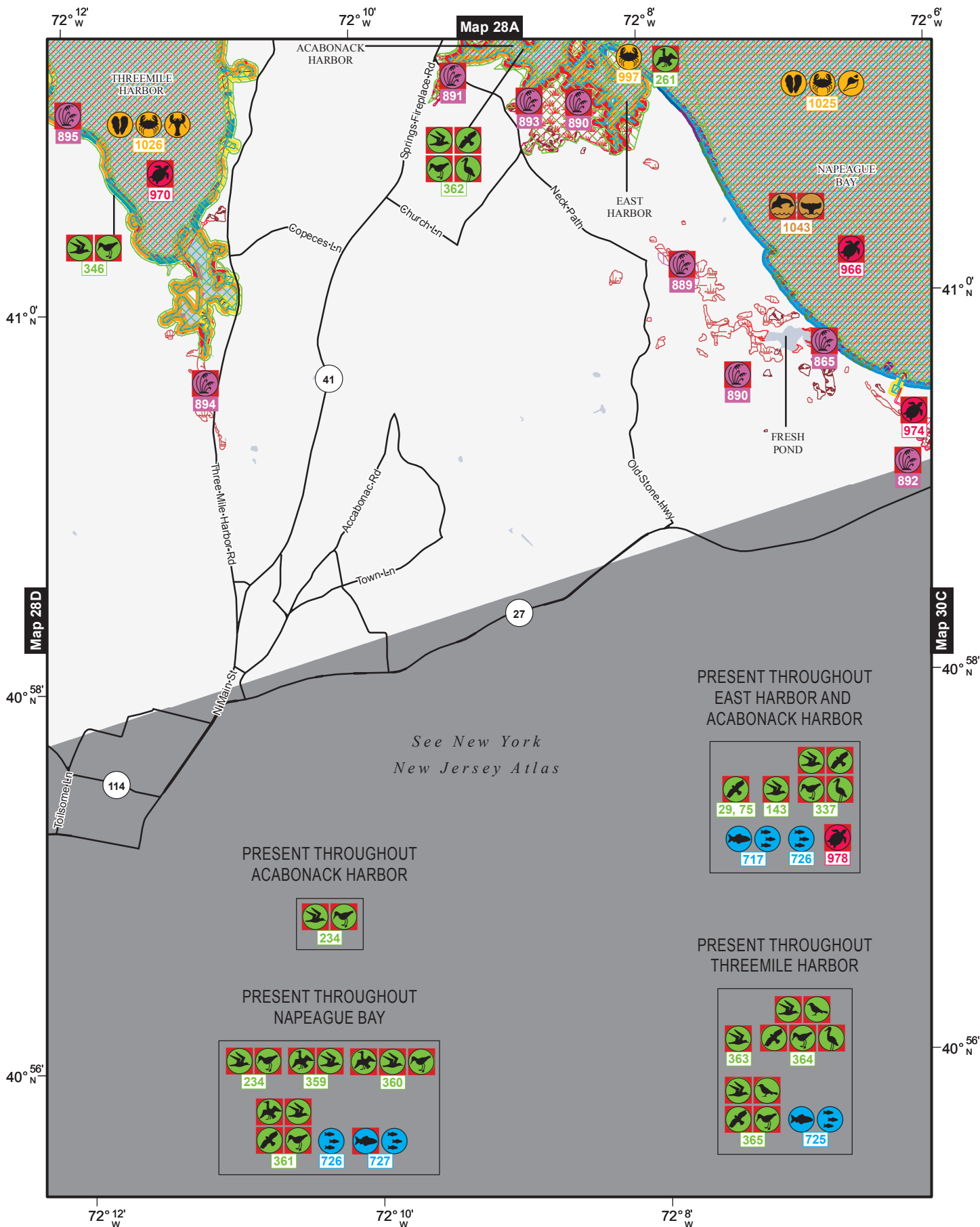
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	18,835.80	11.70	20%
9A	Sheltered Tidal Flats	6,433.70	4.00	7%
9B	Vegetated Low Banks	23,036.64	14.31	25%
8B	Sheltered, Solid Man-Made Structures	1,687.60	1.05	2%
7	Exposed Tidal Flats	1,574.87	0.98	2%
6A	Gravel Beaches	2,463.17	1.53	3%
6B	Riprap	1,007.65	0.63	1%
5	Mixed Sand and Gravel Beaches	21,005.43	13.05	23%
4	Coarse Grained Sand Beaches	8,850.31	5.50	10%
3A	Fine to Medium Grained Sand Beaches	2,076.62	1.29	2%
3B	Scarps and Steep Slopes (Sand)	3,596.95	2.24	4%
1B	Exposed, Solid Man-Made Structures	2,489.38	1.55	3%
Total ESI Shoreline:		93,058.13	57.82	
Total Shoreline:		59,474.68	36.96	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov





Map 28C
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence
SAV	Eelgrass	High Ecological Value				Present	J F M A M J J A S O N D

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence	Nest	Mig.(S)	Mig.(F)	Molt
29	Raptor	Short-eared owl	General Distribution	T/E			Present		-	Oct-Apr	-	-
75	Raptor	Northern harrier	General Distribution	E/T			Present		Mar-Aug	-	-	-
143	Gull/Tern	Common tern	General Distribution	E/T			Present		May-Aug	-	-	-
234	Gull/Tern	Least tern	General Distribution	T/T			Present		Apr-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		Present		Mar-Aug	-	-	-
261	Diving	Pied-billed grebe	General Distribution	E/T			5		-	-	-	-
337	Gull/Tern	Least tern	General Distribution	T/T			10S		Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			10S		Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	General Distribution	T/-			2		Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		10S		Mar-Aug	-	-	-
	Wading	Glossy ibis	General Distribution	C/-			Present		Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			7		Mar-Aug	-	-	-
346	Gull/Tern	Least tern	General Distribution	T/T			100S		Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E		Present		May-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		10S		Mar-Aug	-	-	-
359	Diving	Common loon	General Distribution	C/C			10S		-	-	-	-
	Gull/Tern	Black skimmer	General Distribution	-/C			Present		Mar-Aug	-	-	-
360	Diving	Pied-billed grebe	General Distribution	E/T			10S		-	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			10S		May-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E		Present		May-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			Present		Mar-Aug	-	-	-
361	Diving	Common loon	General Distribution	C/C			Present		-	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			Present		Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			Present		Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	General Distribution	T/E	T		Present		Mar-Aug	-	-	-
362	Gull/Tern	Common tern	General Distribution	E/T			Present		May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			10S		Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			10S		Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	General Distribution	T/-			2		Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		10S		Mar-Aug	-	-	-
	Wading	Glossy ibis	General Distribution	C/-			Present		Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			7		Mar-Aug	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Molt					
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N		D	Nest	Mig.(S)	Mig.(F)	
363	Gull/Tern	Black skimmer	General Distribution	-/C		Present														Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		Present														May-Aug	-	-	-
364	Gull/Tern	Least tern	General Distribution	T/T		Present														Apr-Aug	-	-	-
	Passerine	Horned lark	General Distribution	E/C		Present														Mar-May	-	-	-
	Raptor	Osprey	General Distribution	-/C		Present														Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	General Distribution	T/E	T	Present														Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		Present														Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		Present														Mar-Aug	-	-	-
365	Gull/Tern	Black skimmer	Concentration Area	-/C		Present														Mar-Aug	-	-	-
	Gull/Tern	Common tern	Concentration Area	E/T		Present														May-Aug	-	-	-
	Gull/Tern	Least tern	Concentration Area	T/T		Present														Apr-Aug	-	-	-
	Passerine	Horned lark	Nesting	E/C		Present														Mar-May	-	-	-
	Raptor	Osprey	Nesting	-/C		Present														Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	Nesting	T/E	T	Present														Mar-Aug	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Eggs	Larvae	Juveniles	Adults
				J	F	M	A	M	J	J	A	S	O	N	D	Spawn								
717	Estuarine Nursery	Bluefish	Nursery Area															Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov		
	Estuarine Nursery	Scup	Nursery Area															May-Aug	May-Aug	May-Aug	May-Nov	May-Nov		
	Estuarine Nursery	Winter flounder	Nursery Area															Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec		
	Estuarine Resident	Mummichog	Nursery Area															May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec		
725	Diadromous	Striped bass	Nursery Area															-	-	-	Apr-Nov	Apr-Nov		
	Estuarine Nursery	Bluefish	Nursery Area															Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov		
	Estuarine Nursery	Scup	Nursery Area															May-Aug	May-Aug	May-Aug	May-Nov	Apr-Nov		
	Estuarine Nursery	Summer flounder	Nursery Area															-	-	-	Mar-Nov	Mar-Nov		
	Estuarine Nursery	Weakfish	Nursery Area															May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov		
	Estuarine Nursery	Winter flounder	Nursery Area															Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec		
	Estuarine Resident	Atlantic silverside	Nursery Area															May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec		
	Estuarine Resident	Mummichog	Nursery Area															May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec		
	Estuarine Resident	Striped killifish	Nursery Area															May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec		
	Marine Benthic	American sand lance	Nursery Area															May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec		
	Estuarine Nursery	Summer flounder	Nursery Area															Nov-Mar	Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec		
	726	Diadromous	Alewife	Nursery Area														-	-	-	Mar-Nov	Mar-Nov		
727	Diadromous	American eel	Nursery Area															Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov		
	Diadromous	American shad	Migration															-	-	Apr-Aug	Jan-Dec	Sep-Nov		
	Diadromous	Blueback herring	Nursery Area															May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul		
	Diadromous	Striped bass	Nursery Area															May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov		
	Estuarine Nursery	Atlantic herring	Nursery Area															-	-	Mar-May	Jan-Dec	Jan-Dec		
	Estuarine Nursery	Atlantic menhaden	Nursery Area															May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov		
	Estuarine Nursery	Bay anchovy	Nursery Area															May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec		
	Estuarine Nursery	Black sea bass	Nursery Area															-	-	-	Apr-Nov	Apr-Nov		
	Estuarine Nursery	Bluefish	Nursery Area															Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov		
	Estuarine Nursery	Northern kingfish	Nursery Area															Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov		

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Eggs	Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D			
	Estuarine Nursery	Scup	Nursery Area			Abundant												May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Weakfish	Nursery Area			Abundant												May-Sep	May-Sep	Jul-Nov	May-Nov
	Estuarine Nursery	Windowpane	Nursery Area			Common												Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Winter flounder	Nursery Area			Abundant												Feb-May	Jan-Dec	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area			Abundant												May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area			Common												Apr-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Oyster toadfish	Nursery Area			Common												Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area			Common												Nov-Feb	Dec-May	Jan-Dec	Jan-Dec
	Marine Benthic	Little skate	Nursery Area			Common												Jan-Dec	-	Jan-Dec	Jan-Dec
	Marine Benthic	Northern searobin	Nursery Area			Common												May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Marine Benthic	Tautog	Nursery Area			Common												Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
	Marine Pelagic	Atlantic mackerel	Nursery Area			Common												Apr-Jun	Apr-Jun	Apr-Nov	Apr-Nov
	Marine Pelagic	Butterfish	Nursery Area			Common												May-Aug	May-Oct	May-Dec	May-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Hatch	Interneest	Juveniles	Adults
				S	F		J	F	M	A	M	J	J	A	S	O	N	D					
865	Upland	Seaside knotweed	Vulnerable Occurrence	C/C		Present													-	-	-	-	-
889	Plant	Clustered mountainmint	Vulnerable Occurrence	-/T		Present													-	-	-	-	-
	Plant	Fernald's sedge	Vulnerable Occurrence	-/T		Present													-	-	-	-	-
	Plant	Rare plant	Vulnerable Occurrence	-/E		Present													-	-	-	-	-
	Plant	White edge sedge	Vulnerable Occurrence	-/T		Present													-	-	-	-	-
890	Upland	Bushy rockrose	Vulnerable Occurrence	-/T		Present													-	-	-	-	-
891	Plant	Silverweed cinquefoil	Vulnerable Occurrence	-/T		Present													-	-	-	-	-
892	Plant	New Eng. blazing star	Vulnerable Occurrence	C/T		7													-	-	-	-	-
893	Plant	Marsh straw sedge	Vulnerable Occurrence	-/T		Abundant													-	-	-	-	-
	Plant	Silverweed cinquefoil	Vulnerable Occurrence	-/T		Low													-	-	-	-	-
	Plant	Slender blue flag	Vulnerable Occurrence	-/T		5													-	-	-	-	-
	Plant	Sm. false foxglove	Vulnerable Occurrence	-/T		100S													-	-	-	-	-
894	Plant	Sweetbay	Vulnerable Occurrence	-/E		Low													-	-	-	-	-
895	Plant	Eastern grasswort	Vulnerable Occurrence	C/T		100 - 200													-	-	-	-	-
	Plant	Goose tongue	Vulnerable Occurrence	-/T		8 - 20													-	-	-	-	-
	Plant	Silverweed cinquefoil	Vulnerable Occurrence	-/T		1000													-	-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Hatch	Interneest	Juveniles	Adults
				S	F		J	F	M	A	M	J	J	A	S	O	N	D					
966	Turtle	Green sea turtle	General Distribution	T/T		Present													-	-	-	-	-
	Turtle	K. ridley sea turtle	General Distribution	E/E		Present													-	-	-	-	-
	Turtle	Loggerhead sea turtle	General Distribution	T/T		Present													-	-	-	-	-
970	Turtle	K. ridley sea turtle	Vulnerable Occurrence	E/E		Present													-	-	-	-	-
974	Turtle	Spotted turtle	Vulnerable Occurrence	C/C		Present													May-Jun	Aug-Sep	-	Jan-Dec	Jan-Dec
978	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-		Present													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec
	Turtle	Spotted turtle	Vulnerable Occurrence	C/C		Present													May-Jun	Aug-Sep	-	Jan-Dec	Jan-Dec

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Eggs	Larvae	Juveniles	Adults	
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N					D
997	Crab	Horseshoe crab	Spawning Area			Present													May-Jun	-	Jan-Dec	Jan-Dec
	Bivalve	Bay scallop	Harvest Area			Low													Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
1025	Bivalve	Eastern oyster	Harvest Area			Moderate													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area			Moderate													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Crab	Horseshoe crab	Nursery Area			Common													May-Jun	-	Jan-Dec	Jan-Dec
	Gastropod	Channeled whelk	Harvest Area			Low													Sep-Nov	-	Jan-Dec	Jan-Dec
1026	Bivalve	Bay scallop	Harvest Area			Low													Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Bivalve	Eastern oyster	Harvest Area			Low													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area			High													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Softshell clam	Harvest Area			Low													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Crab	Horseshoe crab	Nursery Area			Common													May-Jun	-	Jan-Dec	Jan-Dec
	Lobster	American lobster	Nursery Area			Common													Jun-Nov	May-Aug	Jan-Dec	Jan-Dec

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Mating	Calving	Pupping	Molt
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N				
1043	Dolphin	Harbor porpoise	General Distribution			Present													-	-	-
	Whale	N.A. right whale	General Distribution			Present													-	-	-






ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
Alcid	Razorbill													-	-	-	-
	D. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
Gull/Tern	Red-throated loon													-	-	-	-
	Bonaparte's gull													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
Passerine	Laughing gull													Apr-Aug	-	-	-
	Ring-billed gull													-	-	-	-
	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	American crow													Mar-Aug	-	-	-
Barn Swallow	American goldfinch													Mar-Aug	-	-	-
	American robin													Mar-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Carolina wren													Apr-Jul	-	-	-
Common yellowthroat	Cedar waxwing													Mar-Aug	-	-	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Eastern kingbird													Apr-Aug	-	-	-

Long Island Sound: Map 28C

BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Mourning dove													Mar-Aug	-	-	-
	N. r.-winged swallow													Apr-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Prairie warbler													Apr-Aug	-	-	-
	Red-winged blackbird													Mar-Aug	-	-	-
	Saltmarsh sparrow													May-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-
	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Red-tailed hawk													Mar-Aug	-	-	-
	Black-bellied plover													-	Aug-May	-	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Lesser yellowlegs													-	Apr-Jun	Aug-Oct	-
	Ruddy turnstone													-	Mar-May	Aug-Nov	-
	Spotted sandpiper													-	Apr-Jun	Jul-Oct	-
	Willet													Apr-Aug	-	-	-
	Great blue heron													Mar-Aug	-	-	-
	Green heron													Apr-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-





BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-Nov	-
	Scoters													-	Apr-May	Sep-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-
	Wood duck													Mar-Aug	-	-	-



FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Marine Benthic													Nov-Mar	Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec
	American sand lance													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Cunner																	

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Ribbed mussel													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Softshell clam													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Cephalopod													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Blue crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Fiddler crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Lady crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Spider crabs													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Shrimp													May-Oct	May-Oct	May-Oct	May-Oct	Jan-Dec
	Grass shrimp																	

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Dolphin													-	-	-	-
	Bottlenose dolphin													-	-	-	-
	Pinniped													-	-	-	-
	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	155.38	0.24
10C	Swamps	92.69	0.14
10D	Scrub and Shrub Wetlands	42.61	0.07



ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	10,445.91	6.49	25%
10C	Swamps	62.23	0.04	< 1%
10D	Scrub and Shrub Wetlands	25.58	0.02	< 1%
9B	Vegetated Low Banks	17,053.64	10.60	41%
8B	Sheltered, Solid Man-Made Structures	3,944.65	2.45	9%
8C	Sheltered Riprap	25.61	0.02	< 1%
6B	Riprap	925.19	0.57	2%
5	Mixed Sand and Gravel Beaches	2,633.95	1.64	6%
4	Coarse Grained Sand Beaches	5,287.15	3.29	13%
3B	Scarps and Steep Slopes (Sand)	321.50	0.20	1%
1B	Exposed, Solid Man-Made Structures	864.46	0.54	2%

Total ESI Shoreline: 41,589.87 Total ESI Shoreline: 25.84
Total Shoreline: 29,472.06 Total Shoreline: 18.31

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov



Map 28D
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
								J	F	M	A	M	J	J	A	S	O	N	D				
10	Shorebird	Piping plover	General Distribution	T/E	T		Present													Mar-Aug	-	-	-
103	Gull/Tern	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
152	Diving	Common loon	General Distribution	C/C			Present													-	-	-	-
180	Raptor	Osprey	General Distribution	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
189	Shorebird	Piping plover	General Distribution	T/E	T		2													Mar-Aug	-	-	-
194	Gull/Tern	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
233	Gull/Tern	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		Present													Mar-Aug	-	-	-
261	Gull/Tern	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	General Distribution	T/E	T		Present													Mar-Aug	-	-	-
345	Gull/Tern	Least tern	General Distribution	T/T			100S													Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E		Present													May-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		10S													Mar-Aug	-	-	-
362	Gull/Tern	Black skimmer	General Distribution	-/C			Present													Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
363	Gull/Tern	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
	Passerine	Horned lark	General Distribution	E/C			Present													Mar-May	-	-	-
	Raptor	Osprey	General Distribution	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	General Distribution	T/E	T		Present													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			Present													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			Present													Mar-Aug	-	-	-
364	Gull/Tern	Black skimmer	Concentration Area	-/C			Present													Mar-Aug	-	-	-
	Gull/Tern	Common tern	Concentration Area	E/T			Present													May-Aug	-	-	-
	Gull/Tern	Least tern	Concentration Area	T/T			Present													Apr-Aug	-	-	-
	Passerine	Horned lark	Nesting	E/C			Present													Mar-May	-	-	-
	Raptor	Osprey	Nesting	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	Nesting	T/E	T		Present													Mar-Aug	-	-	-
365	Diving	Common loon	General Distribution	C/C			10S													-	-	-	-
	Diving	Pied-billed grebe	General Distribution	E/T			5													-	-	-	-
366	Diving	Common loon	Wintering	C/C			Present													-	-	-	-
	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Landfowl	Wild turkey	Nesting				Present													Mar-Nov	-	-	-
	Raptor	Great horned owl	Nesting				Present													Jan-Apr	-	-	-
	Raptor	Osprey	Nesting	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Raptor	Red-tailed hawk	Nesting				Present													Mar-Aug	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F	J	F	M	A	M	J	J	A	S	O	N	D				
	Shorebird	Piping plover	Nesting	T/E	T													Mar-Aug	-	-	-
	Waterfowl	American black duck	Wintering															Apr-May	Mar-Apr	Sep-Nov	-
367	Waterfowl	Mallard	Wintering															Mar-Aug	-	-	-
	Passerine	Belted kingfisher	Concentration Area															Mar-Aug	-	-	-
	Passerine	Red-winged blackbird	Nesting															Mar-Aug	-	-	-
	Raptor	Northern harrier	Concentration Area	E/T														Mar-Aug	-	-	-
	Wading	Egrets	Concentration Area															Jan-Dec	-	-	-
	Wading	Green heron	Concentration Area															Apr-Aug	-	-	-
	Wading	Herons	Concentration Area															Jan-Dec	Jan-Dec	-	-
	Wading	Snowy egret	Concentration Area	T/-														Mar-Aug	-	-	-
	Waterfowl	American black duck	Concentration Area															Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Bufflehead	Concentration Area															-	Oct-Jun	-	-
	Waterfowl	Canada goose	Concentration Area															Mar-Aug	Jan-Dec	-	-
	Waterfowl	Canvasback	Concentration Area															-	-	-	-
	Waterfowl	Mallard	Concentration Area															Mar-Aug	-	-	-
368	Waterfowl	Canada goose	Wintering															Mar-Aug	Jan-Dec	-	-
	Waterfowl	Canvasback	Wintering															-	-	-	-
	Waterfowl	Common goldeneye	Wintering															-	Nov-Apr	-	-
	Waterfowl	Scaup	Wintering															-	Mar-Apr	Oct-Nov	-
	Waterfowl	Waterfowl	Wintering															-	Jan-Dec	-	-
369	Gull/Tern	Black skimmer	Concentration Area	-/C														Mar-Aug	-	-	-
	Gull/Tern	Black skimmer	General Distribution	-/C														Mar-Aug	-	-	-
	Gull/Tern	Common tern	Concentration Area	E/T														May-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T														May-Aug	-	-	-
	Gull/Tern	Least tern	Concentration Area	T/T														Apr-Aug	-	-	-
	Passerine	Horned lark	Nesting	E/C														Mar-May	-	-	-
	Raptor	Osprey	Nesting	-/C														Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	Nesting	T/E	T													Mar-Aug	-	-	-
370	Gull/Tern	Least tern	General Distribution	T/T														Apr-Aug	-	-	-
	Passerine	Horned lark	General Distribution	E/C														Mar-May	-	-	-
	Raptor	Northern harrier	General Distribution	E/T														Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C														Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	General Distribution	T/E	T													Mar-Aug	-	-	-
371	Passerine	Horned lark	General Distribution	E/C														Mar-May	-	-	-
	Raptor	Northern harrier	General Distribution	E/T														Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C														Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	General Distribution	T/E	T													Mar-Aug	-	-	-
	Raptor	Northern harrier	General Distribution	E/T														Mar-Aug	-	-	-
372	Shorebird	Piping plover	General Distribution	T/E	T													Mar-Aug	-	-	-
	Raptor	Northern harrier	General Distribution	E/T														Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C														Mar-Aug	Mar-Jun	Jul-Nov	-
	Raptor	Red-tailed hawk	Nesting															Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T													Mar-Aug	-	-	-
	Waterfowl	American black duck	Wintering															Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Bufflehead	Wintering															-	Oct-Jun	-	-
	Waterfowl	Red-breasted merganser	Wintering															-	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
								J	F	M	A	M	J	J	A	S	O	N	D				
373	Passerine	Acadian flycatcher	Nesting				Present													Jun-Jul	May-Jun	Aug-Sep	-
	Passerine	Belted kingfisher	Nesting				Present													Mar-Aug	-	-	-
	Passerine	Cerulean warbler	General Distribution				Present													-	May	-	-
	Passerine	Scarlet tanager	Nesting				Present													Jun-Jul	May	Sep-Oct	-
	Raptor	Broad-winged hawk	Nesting				Present													Jan-Dec	Mar-May	Aug-Oct	-
	Raptor	Northern harrier	Nesting				Present													Mar-Aug	-	-	-
	Wading	BC night-heron	Nesting				Present													Mar-Aug	-	-	-
	Wading	Great egret	Nesting				Present													Mar-Aug	-	-	-
	Wading	Green heron	Nesting				Present													Apr-Aug	-	-	-
	Wading	Snowy egret	Nesting				Present													Mar-Aug	-	-	-
	Waterfowl	Canada goose	Nesting				Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Hooded merganser	Wintering				Present													-	-	-	-
	Waterfowl	Mallard	Nesting				Present													Mar-Aug	-	-	-
	Waterfowl	Mute swan	Nesting				Present													Mar-Sep	-	-	-
	Waterfowl	Wood duck	Nesting				Present													Mar-Aug	-	-	-
374	Waterfowl	American black duck	Wintering				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Bufflehead	Wintering				Present													-	Oct-Jun	-	-
	Waterfowl	Mallard	Wintering				Present													Mar-Aug	-	-	-
	Waterfowl	Red-breasted merganser	Wintering				Present													-	-	-	-
375	Raptor	Osprey	Nesting				Present													Mar-Aug	Mar-Jun	Jul-Nov	-
376	Gull/Tern	Common tern	General Distribution				4													May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution				10S													Apr-Aug	-	-	-
	Shorebird	Piping plover	General Distribution				6													Mar-Aug	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
500	Diadromous	Alewife	Spawning Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
700	Estuarine Resident	Mummichog	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
704	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Weakfish	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Nursery Area				Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
705	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Nursery Area				Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
727	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Summer flounder	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
	Estuarine Nursery	Weakfish	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Nursery Area				Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	American sand lance	Nursery Area				Common													Nov-Mar	Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec
728	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Spawn	Eggs	Larvae	Juveniles	Adults
				J	F	M	A	M	J	J	A	S	O	N	D										
	Estuarine Nursery	Bay anchovy	Nursery Area														May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec				
	Estuarine Nursery	Black sea bass	Nursery Area														-	-	-	Apr-Nov	Apr-Nov				
	Estuarine Nursery	Hogchoker	Nursery Area														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec				
	Estuarine Nursery	Northern kingfish	Nursery Area														Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov				
	Estuarine Nursery	Northern puffer	Nursery Area														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec				
	Estuarine Nursery	Scup	Nursery Area														May-Aug	May-Aug	May-Aug	May-Nov	May-Nov				
	Estuarine Nursery	Summer flounder	Nursery Area														-	-	-	Mar-Nov	Mar-Nov				
	Estuarine Nursery	Weakfish	Nursery Area														May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov				
	Estuarine Nursery	Windowpane	Nursery Area														Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec				
	Estuarine Nursery	Winter flounder	Spawning Area														Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec				
	Estuarine Resident	Fourspine stickleback	Nursery Area														Apr-Jul	Apr-Jul	May-Aug	May-Dec	Jan-Dec				
	Estuarine Resident	Northern pipefish	Nursery Area														Apr-Aug	May-Sep	May-Sep	Jan-Dec	Jan-Dec				
	Estuarine Resident	Oyster toadfish	Nursery Area														Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec				
	Marine Benthic	Cunner	Nursery Area														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec				
	Marine Benthic	Smooth dogfish	Nursery Area														-	-	-	May-Oct	May-Oct				
	Marine Benthic	Striped searobin	Nursery Area														May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov				
	Marine Benthic	Tautog	Nursery Area														Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov				
	Marine Pelagic	Butterfish	Nursery Area														May-Aug	May-Aug	May-Oct	May-Dec	May-Dec				
729	Estuarine Nursery	Atlantic menhaden	Nursery Area														May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov				
	Estuarine Nursery	Scup	Nursery Area														May-Aug	May-Aug	May-Aug	May-Nov	May-Nov				
	Estuarine Nursery	Winter flounder	Nursery Area														Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec				
	Estuarine Resident	Mummichog	Nursery Area														May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec				

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence											
				S	F		J	F	M	A	M	J	J	A	S	O	N	D
864	Upland	Seaside knotweed	Vulnerable Occurrence	C/C		Present												
865	Plant	Goose tongue	Vulnerable Occurrence	-/T		Present												
885	Plant	Fibrous bladderwort	Vulnerable Occurrence	-/T		Present												
	Plant	Long-tubercled spikerush	Vulnerable Occurrence	-/T		Present												
	Plant	Pennsylvania catchfly	Vulnerable Occurrence	-/T		7												
	Plant	Sm. yelloweyed grass	Vulnerable Occurrence	E/T		100S												
889	Upland	Bushy rockrose	Vulnerable Occurrence	-/T		Present												
894	Plant	Eastern grasswort	Vulnerable Occurrence	C/T		100 - 200												
	Plant	Goose tongue	Vulnerable Occurrence	-/T		8 - 20												
	Plant	Silverweed cinquefoil	Vulnerable Occurrence	-/T		1000												
895	Plant	Clustered bluets	Vulnerable Occurrence	-/E		10 - 20												
	Plant	Coastal goldenrod	Vulnerable Occurrence	-/E		Present												
	Plant	Eastern grasswort	Vulnerable Occurrence	C/T		Present												
	Plant	Marsh fimbry	Vulnerable Occurrence	-/T		Present												
	Plant	Marsh straw sedge	Vulnerable Occurrence	-/T		Present												
	Plant	Slender blue flag	Vulnerable Occurrence	-/T		Present												
	Plant	Slender marsh-pink	Vulnerable Occurrence	-/E		1000												
	Plant	Sm. false foxglove	Vulnerable Occurrence	-/T		300												

HABITATS & RARE PLANTS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												
				S	F		J	F	M	A	M	J	J	A	S	O	N	D	
896	Plant	Coastal goldenrod	Vulnerable Occurrence	-/E		Present											-	-	-
	Plant	Large grass-leaved rush	Vulnerable Occurrence	-/E		Present											-	-	-
	Plant	Long-tubercled spikerush	Vulnerable Occurrence	-/T		Present											-	-	-
	Plant	Marsh straw sedge	Vulnerable Occurrence	-/T		Present											-	-	-
	Plant	Saltmarsh aster	Vulnerable Occurrence	-/T		Present											-	-	-
	Plant	Seaside goldenrod	Vulnerable Occurrence	-/E		100S											-	-	-
	Plant	Silverweed cinquefoil	Vulnerable Occurrence	-/T		Present											-	-	-
	Plant	Slender blue flag	Vulnerable Occurrence	-/T		50											-	-	-
	Plant	Slender spikegrass	Vulnerable Occurrence	-/E		Present											-	-	-
	Plant	Sm. false foxglove	Vulnerable Occurrence	-/T		100S											-	-	-
897	Wetland	Scirpus-like rush	Vulnerable Occurrence	-/E		Present											-	-	-
	Plant	Pennsylvania catchfly	Vulnerable Occurrence	-/T		Present											-	-	-
	Plant	Slender blue flag	Vulnerable Occurrence	-/T		Abundant											-	-	-
	Plant	Justiceweed	Vulnerable Occurrence	-/C		100 - 200											-	-	-
	Plant	Long-tubercled spikerush	Vulnerable Occurrence	-/T		Present											-	-	-
	Plant	Longbeak beaksedge	Vulnerable Occurrence	-/C		Present											-	-	-
	Plant	Pennsylvania catchfly	Vulnerable Occurrence	-/T		25											-	-	-
	Plant	Peruvian dodder	Vulnerable Occurrence	-/E		Present											-	-	-
	Plant	Tapered rosette grass	Vulnerable Occurrence	-/E		Present											-	-	-
	Plant	Velvety bush-clover	Vulnerable Occurrence	-/T		20 - 30											-	-	-
900	Wetland	Bart.'s St. John's-wort	Vulnerable Occurrence	-/T		Present											-	-	-
	Wetland	Spikerushes	Vulnerable Occurrence	E/E		Present											-	-	-
	Plant	White boneset	Vulnerable Occurrence	-/T		Present											-	-	-
	Plant	White milkweed	Vulnerable Occurrence	-/E		Present											-	-	-
	Plant	Goose tongue	Vulnerable Occurrence	-/T		10											-	-	-
	Plant	Sm. false foxglove	Vulnerable Occurrence	-/T		300											-	-	-
	Plant	Sm. false foxglove	Vulnerable Occurrence	-/T		300											-	-	-
	Plant	White edge sedge	Vulnerable Occurrence	-/T		120											-	-	-
	Plant	Justiceweed	Vulnerable Occurrence	-/C		Present											-	-	-
	Plant	Longbeak beaksedge	Vulnerable Occurrence	-/C		Present											-	-	-
905	Plant	Tapered rosette grass	Vulnerable Occurrence	-/E		Present											-	-	-
	Plant	Clustered bluets	Vulnerable Occurrence	-/E		30 - 100											-	-	-
	Plant	Longbeak beaksedge	Vulnerable Occurrence	-/C		50 - 100											-	-	-
	Wetland	Bart.'s St. John's-wort	Vulnerable Occurrence	-/T		120											-	-	-
	Wetland	Bart.'s St. John's-wort	Vulnerable Occurrence	-/T		1000											-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
962	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-			Present													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec
965	Turtle	Green sea turtle	General Distribution	T/T		T	Present													-	-	-	Jun-Nov	-
	Turtle	K. ridley sea turtle	General Distribution	E/E		E	Present													-	-	-	Jun-Nov	-
	Turtle	Loggerhead sea turtle	General Distribution	T/T		E	Present													-	-	-	Jun-Nov	-
966	Amphibian	Rare amphibian	Vulnerable Occurrence	-/E			Present													Mar-Apr	May	-	Jan-Dec	Jan-Dec
967	Turtle	K. ridley sea turtle	Vulnerable Occurrence	E/E		E	Present													-	-	-	Jun-Nov	-
973	Turtle	Spotted turtle	Vulnerable Occurrence	C/C			Present													May-Jun	Aug-Sep	-	Jan-Dec	Jan-Dec
	Amphibian	Eastern spadefoot	Vulnerable Occurrence	E/C			Present													Apr-Jun	Apr-Jun	-	Jan-Dec	Jan-Dec
	Amphibian	Marbled salamander	Vulnerable Occurrence	-/C			Present													Sep-Oct	Sep-Oct	-	Jan-Dec	Jan-Dec
978	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-			Present													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec
	Turtle	Spotted turtle	Vulnerable Occurrence	C/C			Present													May-Jun	Aug-Sep	-	Jan-Dec	Jan-Dec

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
997	Lobster	American lobster	Nursery Area				Common													Jun-Nov	Jan-Dec	May-Aug	Jan-Dec	Jan-Dec
998	Bivalve	Bay scallop	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
1023	Insect	Scarlet bluet	Vulnerable Occurrence	-/T			Present													Jun-Jul	-	-	-	Jun-Jul
1026	Insect	Frosted elfin	Vulnerable Occurrence	-/T			Present													Apr-May	Apr-May	Jun	Jul-Mar	Apr-Jun
1027	Insect	Pine Barrens bluet	Vulnerable Occurrence	-/T			Present													Apr-Jul	-	-	-	May-Jul
	Insect	Scarlet bluet	Vulnerable Occurrence	-/T			Present													Jun-Jul	-	-	-	Jun-Jul

MARINE MAMMALS



Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
								J	F	M	A	M	J	J	A	S	O	N	D				
1035	Dolphin	Harbor porpoise	General Distribution	C/C			Present													-	-	-	-
1043	Pinniped	Harbor seal	Haul Out				Present													-	-	-	-
	Whale	N.A. right whale	General Distribution	-/E		E	Present													-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

FISH

















Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
1044	Diadromous	Alewife	Nursery Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Estuarine Nursery	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
1045	Estuarine Resident	Bluefish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Resident	Atlantic silverside	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
1046	Estuarine Resident	Mummichog	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Eggs	Larvae	Juveniles	Adults
			S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D			
	Bay scallop	Harvest Area			Low												Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Eastern oyster	Harvest Area			Low												Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			High												Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Softshell clam	Harvest Area			Low												Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab	Nursery Area			Common												May-Jun	-	Jan-Dec	Jan-Dec

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS


Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	D. crested cormorant													Mar-Aug	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Ring-billed gull													-	-	-	-
	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	Belted kingfisher													Mar-Aug	-	-	-
	Northern gannet													-	-	-	-
	Lesser yellowlegs													-	-	-	-
	Willet													-	Apr-Jun	Aug-Oct	-
	Green heron													Apr-Aug	-	-	-
	American black duck													Apr-Aug	-	-	-
	American coot													Apr-May	Mar-Apr	Sep-Nov	-
	American wigeon													-	-	-	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Greater scaup													-	-	-	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Ring-necked duck													-	-	-	-

Long Island Sound: Map 28D


BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Ruddy duck													-	-	-	-
	Scoters													-	Apr-May	Sep-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-
	Wood duck													Mar-Aug	-	-	-



FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bluegill													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Pumpkinseed													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Eastern oyster													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Ribbed mussel													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Longfin squid													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Blue crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Fiddler crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
	Lady crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Spider crabs													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Grass shrimp													May-Oct	May-Oct	May-Oct	May-Oct	Jan-Dec
	Mantis shrimp													Feb-May	Feb-May	Feb-May	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Bottlenose dolphin													-	-	-	-
	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10A	Salt and Brackish Water Marshes	304.03	0.48
10B	Freshwater Marshes	7.95	0.01
10C	Swamps	146.62	0.23
10D	Scrub and Shrub Wetlands	44.99	0.07
9A	Sheltered Tidal Flats	1.98	0.00

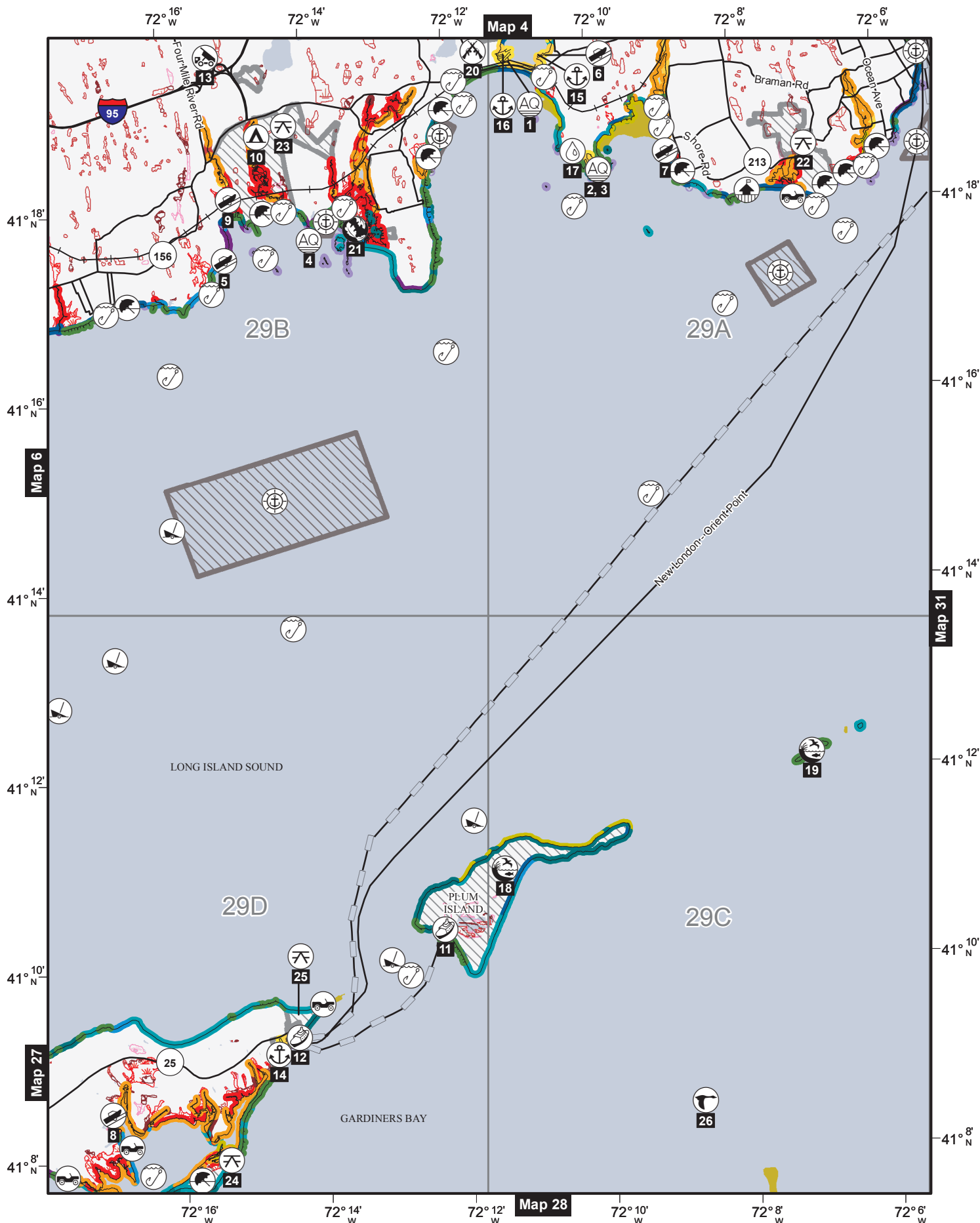
ESI SHORELINE HABITAT TYPES

<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
10A	Salt and Brackish Water Marshes	17,782.67	11.05	30%
10C	Swamps	203.01	0.13	< 1%
10D	Scrub and Shrub Wetlands	560.22	0.35	1%
9A	Sheltered Tidal Flats	620.34	0.39	1%
9B	Vegetated Low Banks	22,794.23	14.16	38%
8B	Sheltered, Solid Man-Made Structures	4,066.20	2.53	7%
8C	Sheltered Riprap	297.85	0.19	< 1%
6A	Gravel Beaches	336.04	0.21	1%
6B	Riprap	2,359.04	1.47	4%
5	Mixed Sand and Gravel Beaches	3,990.98	2.48	7%
4	Coarse Grained Sand Beaches	2,236.93	1.39	4%
3A	Fine to Medium Grained Sand Beaches	3,159.39	1.96	5%
3B	Scarps and Steep Slopes (Sand)	832.40	0.52	1%
1B	Exposed, Solid Man-Made Structures	989.53	0.61	2%
Total ESI Shoreline:		60,228.84	37.42	
Total Shoreline:		39,271.79	24.40	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov

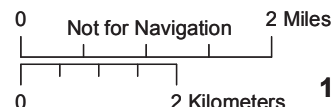




Map 29
Long Island Sound



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: September 2016



1:100,000



Map 29
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	AQUACULTURE	BRIARPATCH ENTERPRISES, INC. (CT079AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
2	AQUACULTURE	MILLSTONE NUCLEAR (CT079AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
3	AQUACULTURE	MILLSTONE NUCLEAR (CT079AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
4	AQUACULTURE	MILLSTONE NUCLEAR (CT079AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
5	BOAT RAMP	THREEMILE RIVER BOAT RAMP		
6	BOAT RAMP	MAGO POINT BOAT RAMP		
7	BOAT RAMP	DOCK ROAD STATE BOAT RAMP		
8	BOAT RAMP	NARROW RIVER ROAD BOAT RAMP		
9	BOAT RAMP	FOUR MILE RIVER BOAT RAMP		
10	CAMPGROUND	ROCKY NECK STATE PARK CAMPGROUND	CT DEPT. OF ENERGY AND ENV. PROTECTION	
11	FERRY	PLUM ISLAND FERRY TERMINAL		
12	FERRY	ORIENT POINT FERRY TERMINAL		
13	LANDFILL	OLD LYME BULK WASTE LANDFILL	CT DEPT. OF ENERGY AND ENV. PROTECTION	
14	MARINA	ORIENT BY THE SEA MARINA		
15	MARINA	MAGO POINT MARINA		
16	MARINA	HARBOR HILL MARINA		
17	WATER INTAKE	DOMINION MILLSTONE POWER STATION WATER INTAKE		

DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
18	MANAGEMENT AREA	PLUM ISLAND ANIMAL DISEASE CENTER (USDA)	LUIS RODRIGUES	631-323-3200
19	MANAGEMENT AREA	GREAT GULL ISLAND (AMNH)	HELEN HAYS	212-769-5794
20	MILITARY	CAMP NIANTIC	MAJOR GENERAL THADDEUS J. MARTIN	860-691-4315
21	NATURE CONSERVANCY	PATTAGANSETT MARSHES	TNC CONNECTICUT CHAPTER OFFICE	203-568-6270
22	PARK	HARKNESS MEMORIAL STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION	860-424-3016
23	PARK	ROCKY NECK STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION	860-424-3016
24	PARK	ORIENT BEACH	CHRISTINA CROLL	518-473-7787
25	PARK	ORIENT POINT COUNTY PARK		
26	WILDLIFE REFUGE	LONG ISLAND NWR COMPLEX - GARDINERS POINT NWR	MICHELLE POTTER	631-286-0485

ALSO PRESENT IN MAPPED AREA (POLYGONS)

Type	Name	Contact	Phone
ESSENTIAL HABITAT	SUMMER FLOUNDER - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLACK SEA BASS - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLACK SEA BASS - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFIN TUNA - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	COMMON THRESHER SHARK - ALL LIFE STAGES	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SANDBAR SHARK - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SANDBAR SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SKIPJACK TUNA - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	GARDINERS ISLAND (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	GREAT GULL ISLAND (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	LONG BEACH BAY (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	ORIENT HARBOR (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	PLUM GUT (SH)	JEFFREY L. HERTER	518-486-7942
STATE PROTECTED AREA	LONG BEACH STATE TIDAL WETLANDS	NNY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465

JURISDICTIONS

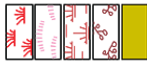
COUNTY: NEW COUNTY, SUFFOLK COUNTY
COAST GUARD: DISTRICT 1, SECTOR LONG ISLAND SOUND
USACE: NORTH ATLANTIC DIVISION, NEW ENGLAND DISTRICT, NEW YORK DISTRICT

FEMA: REGION I, REGION II
EPA: REGION 1, REGION 2

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank Habitat Classification



10A	Salt and Brackish Water Marshes
10B	Freshwater Marshes
10C	Swamps
10D	Scrub and Shrub Wetlands
7	Exposed Tidal Flats

Area (Acres)	Area (Sq. Miles)
746.64	1.17
74.01	0.12
476.55	0.74
118.04	0.18
264.73	0.41

ESI SHORELINE HABITAT TYPES

ESI Rank Shoreline Habitat Classification



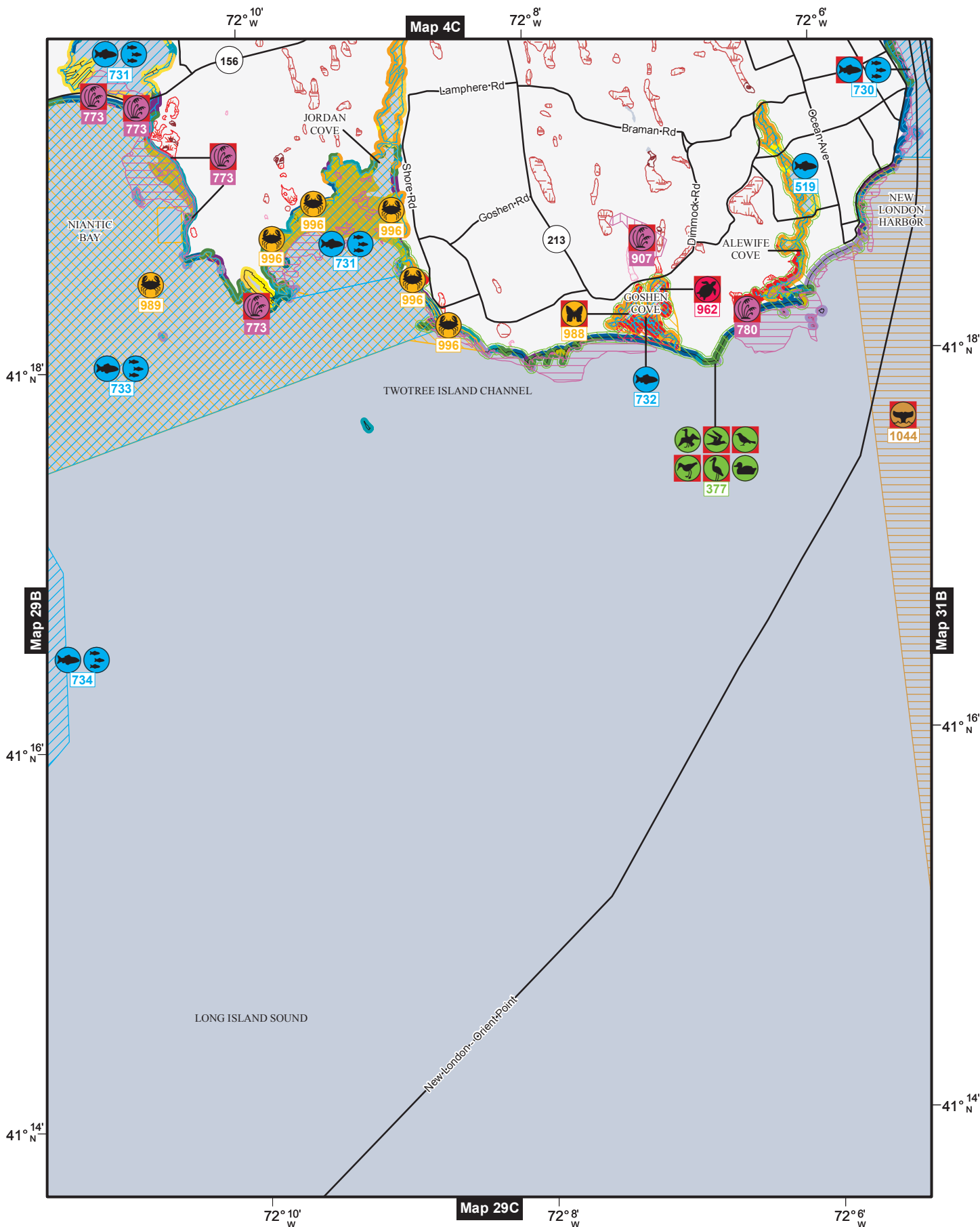
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	70,610.88	43.88	30%
10B	Freshwater Marshes	391.94	0.24	< 1%
10C	Swamps	487.58	0.30	< 1%
10D	Scrub and Shrub Wetlands	1,792.06	1.11	1%
9B	Vegetated Low Banks	47,802.85	29.70	20%
8A	Sheltered, Impermeable, Rocky Shores	972.29	0.60	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	180.54	0.11	< 1%
8A	Sheltered, Impermeable, Rocky Shores	972.29	0.60	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	180.54	0.11	< 1%
8B	Sheltered, Solid Man-Made Structures	5,983.61	3.72	3%
8C	Sheltered Riprap	3,372.39	2.10	1%
7	Exposed Tidal Flats	16,016.65	9.95	7%
6A	Gravel Beaches	11,634.12	7.23	5%
6B	Riprap	17,762.98	11.04	8%
5	Mixed Sand and Gravel Beaches	19,166.08	11.91	8%
4	Coarse Grained Sand Beaches	5,911.65	3.67	3%
3A	Fine to Medium Grained Sand Beaches	10,945.61	6.80	5%
3B	Scarps and Steep Slopes (Sand)	2,307.52	1.43	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	10,822.09	6.72	5%
1A	Exposed, Rocky Shores	1,407.79	0.87	1%
1B	Exposed, Solid Man-Made Structures	8,427.86	5.24	4%

Total ESI Shoreline:	235,996.49	Total ESI Shoreline:	146.64
Total Shoreline:	179,052.58	Total Shoreline:	111.26

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov





Map 29A Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 29A
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D
SAV	Eelgrass	High Ecological Value				Present												

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
377	Diving	Diving birds	Wintering				Abundant													-	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			2													May-Aug	-	-	-
	Passerine	Brown thrasher	General Distribution	C/-			Present													Mar-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			2													Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E	T		Present													Mar-Aug	-	-	-
	Shorebird	Purple sandpiper	Wintering				Present													-	Apr-May	Oct-Nov	-
	Shorebird	Shorebirds	Migration				Present													-	Jan-Dec	-	-
	Wading	Great egret	General Distribution	T/-			3													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			2													Mar-Aug	-	-	-
	Waterfowl	Common eider	Concentration Area				Present													Sep-May	-	-	-
	Waterfowl	Diving ducks	Wintering				Present													-	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
519	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Resident	Striped killifish	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
730	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Blueback herring	Nursery Area	C/-			Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Sea lamprey	Migration				Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area				Abundant													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	Jan-Dec
	Estuarine Nursery	White perch	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Marine Benthic	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N			
731	Diadromous	Alewife	Nursery Area			Common												Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area			Common												Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Striped bass	Migration			Common												-	Apr-Nov	Apr-Nov
	Estuarine Nursery	White perch	Nursery Area			Common												Apr-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area			Abundant												May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area			Abundant												May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area			Common												May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area			Common												Jun-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area			Abundant												May-Aug	Jan-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area			Common												Apr-Sep	Apr-Nov	Apr-Nov
732	Diadromous	American eel	Nursery Area			Common												-	Jan-Dec	Sep-Nov
	Estuarine Resident	Mummichog	Nursery Area			Abundant												May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area			Abundant												May-Sep	Jan-Dec	Jan-Dec
733	Diadromous	Hickory shad	Concentration Area			Common												May-Aug	Jan-Dec	Jan-Dec
	Diadromous	Striped bass	Concentration Area			Common												Jun-Aug	Jul-Nov	Jan-Dec
	Estuarine Nursery	Black sea bass	Concentration Area			Common												-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Concentration Area			Common												-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Scup	Concentration Area			Abundant												Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Summer flounder	Concentration Area			Abundant												May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Concentration Area			Abundant												May-Aug	Jan-Dec	Jan-Dec
734	Diadromous	Striped bass	Concentration Area			Common												Feb-May	Jan-Dec	Jan-Dec
	Estuarine Nursery	Scup	Concentration Area			Abundant												May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Weakfish	Concentration Area			Abundant												May-Sep	Jul-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Concentration Area			Abundant												Feb-May	Jan-Dec	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N			
773	Plant	Seaside sandplant	Vulnerable Occurrence	C/-		Present												-	-	-
780	Plant	Devil's-tongue	Vulnerable Occurrence	C/-		Present												-	-	-
907	Plant	Field paspalum	Vulnerable Occurrence	E/E		Present												-	-	-
	Plant	Sand blackberry	Vulnerable Occurrence	C/E		Present												-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N			
962	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-		Present												Jun-Jul	Jan-Dec	Jan-Dec

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N			
988	Insect	Rare insect	Vulnerable Occurrence			Present												-	-	Jan-Dec
	Insect	Threatened insect	Vulnerable Occurrence	E/-	T	Present												-	-	Jan-Dec
989	Crab	Horseshoe crab	Nursery Area			Common												May-Jun	Jan-Dec	Jan-Dec
996	Crab	Horseshoe crab	Spawning Area			Dracant												May-Jun	Jan-Dec	Jan-Dec




Long Island Sound: Map 29A

MARINE MAMMALS





Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
1044	Whale	Humpback whale	General Distribution	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D				
					-/E	E	Present													-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BIRDS

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D				
	Diving	Common loon	General Distribution	C/C		10S													-	-	-	-
		Pied-billed grebe	General Distribution	E/T		10S													-	-	-	-
	Gull/Tern	Black skimmer	General Distribution	-/C		Present													Mar-Aug	-	-	-
		Common tern	General Distribution	E/T		10S													May-Aug	-	-	-
		Least tern	General Distribution	T/T		Present													Apr-Aug	-	-	-
		Roseate tern	General Distribution	E/E	E	Present													May-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-		Present													Mar-Aug	-	-	-
		Piping plover	General Distribution	T/E	T	Present													Mar-Aug	-	-	-

FISH


Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous	Alewife	Nursery Area			Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
		American eel	Migration			Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
		American shad	Nursery Area			Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
		Blueback herring	Migration	C/-		Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Estuarine Nursery	Striped bass	Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
		Atlantic herring	Nursery Area			Common													-	-	Mar-May	Jan-Dec	Jan-Dec
		Atlantic menhaden	Nursery Area			Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
		Bay anchovy	Nursery Area			Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
		Black sea bass	Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
		Bluefish	Nursery Area			Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
		Scup	Nursery Area			Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
		Summer flounder	Nursery Area			Common													-	-	-	Mar-Nov	Mar-Nov
		Weakfish	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
		Windowpane	Nursery Area			Common													Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Resident	Winter flounder	Nursery Area			Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic silverside	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Atlantic tomcod	Nursery Area			Common													Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
		Little skate	Nursery Area			Abundant													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
		Northern searobin	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Red hake	Nursery Area			Common													-	-	-	Mar-Nov	Mar-Nov
		Silver hake	Nursery Area			Common													-	-	May-Oct	Mar-Nov	Mar-Nov
		Smooth dogfish	Nursery Area			Common													-	-	-	May-Oct	May-Oct
		Spotted hake	Nursery Area			Common													-	-	-	Mar-Nov	Mar-Nov
		Striped searobin	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Tautog	Nursery Area			Common													Apr-Sep	Apr-Sep	May-Sep	Jan-Dec	Jan-Dec

Long Island Sound: Map 29A

FISH (continued)

	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Eggs	Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N				
	Marine Pelagic	Atlantic mackerel	Nursery Area			Common												Apr-Jun	Apr-Jun	Apr-Nov	Apr-Nov
		Butterfish	Nursery Area			Abundant												May-Aug	May-Oct	May-Dec	May-Dec

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
	Turtle	General Distribution	T/T	T	Present													-	-	-	Jun-Nov	-
	K. ridley sea turtle	General Distribution	E/E	E	Present													-	-	-	Jun-Nov	-
	Loggerhead sea turtle	General Distribution	T/T	E	Present													-	-	-	Jun-Nov	-

INVERTEBRATES






Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
	Lobster	Nursery Area			Common													Jun-Nov	Jan-Dec	May-Aug	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Dolphin	General Distribution			Present													-	-	-	-
	Whale	General Distribution	-/E	E	Present													-	-	-	-





ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Alcid													-	-	-	-
	Diving													Mar-Aug	-	-	-
	Razorbill													-	-	-	-
	D. crested cormorant													-	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
	Bonaparte's gull													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Laughing gull													Apr-Aug	-	-	-
	Ring-billed gull													-	-	-	-
	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	American crow													Mar-Aug	-	-	-
	American goldfinch													Mar-Aug	-	-	-
	American robin													Mar-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Black-capped chickadee													Mar-Aug	-	-	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	European starling													Mar-Aug	-	-	-

Long Island Sound: Map 29A

BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Mourning dove													Mar-Aug	-	-	-
	Northern cardinal													Mar-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Red-winged blackbird													Mar-Aug	-	-	-
	Saltmarsh sparrow													May-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-
	Willow flycatcher													May-Aug	-	-	-
	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Least sandpiper													-	Apr-Jun	Aug-Oct	-
	Semipalmated plover													-	Apr-Jun	Sep-Nov	-
	Green heron													Apr-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	-	-	-
	Bufflehead													-	Mar-May	Sep-Nov	-
	Canada goose													-	Oct-Jun	-	-
	Canvasback													Mar-Aug	Jan-Dec	-	-
	Common eider													-	-	-	-
	Common goldeneye													Sep-May	-	-	-
	Common merganser													-	Nov-Apr	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													-	-	-	-
	Greater scaup													Jan-Dec	-	-	-
	Green-winged teal													-	-	-	-
	Hooded merganser													-	Mar-Apr	Sep-Oct	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													-	-	-	-
	Mute swan													Mar-Aug	-	-	-
	Northern pintail													Mar-Sep	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	-	-	-
	Scoters													-	Mar-Apr	Oct-Nov	-
														-	Apr-May	Sep-Nov	-

Long Island Sound: Map 29A

BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Gizzard shad													Apr-Jun	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
	White catfish													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Eastern oyster													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Longfin squid													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Blue crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
	Spider crabs													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Bottlenose dolphin													-	-	-	-
	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10A	Salt and Brackish Water Marshes	67.37	0.11
10B	Freshwater Marshes	3.84	0.01
10C	Swamps	138.32	0.22
10D	Scrub and Shrub Wetlands	7.15	0.01
7	Exposed Tidal Flats	178.93	0.28

ESI SHORELINE HABITAT TYPES

<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
10A	Salt and Brackish Water Marshes	6,504.23	4.04	12%
9B	Vegetated Low Banks	7,790.62	4.84	14%
8A	Sheltered, Impermeable, Rocky Shores	972.29	0.60	2%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	180.54	0.11	< 1%
8A	Sheltered, Impermeable, Rocky Shores	972.29	0.60	2%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	180.54	0.11	< 1%
8B	Sheltered, Solid Man-Made Structures	3,761.71	2.34	7%
8C	Sheltered Riprap	2,747.92	1.71	5%
7	Exposed Tidal Flats	8,219.54	5.11	15%
6A	Gravel Beaches	1,004.08	0.62	2%
6B	Riprap	5,522.03	3.43	10%
5	Mixed Sand and Gravel Beaches	3,422.78	2.13	6%
4	Coarse Grained Sand Beaches	475.18	0.30	1%
3A	Fine to Medium Grained Sand Beaches	7,203.87	4.48	13%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	4,617.21	2.87	8%
1B	Exposed, Solid Man-Made Structures	3,158.05	1.96	6%

Total ESI Shoreline: 55,580.04
Total Shoreline: 44,384.90
Total ESI Shoreline: 34.54
Total Shoreline: 27.58

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov



Map 29B
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
SAV	Eelgrass	High Ecological Value				Present												

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
378	Diving Shorebird	D. crested cormorant American oystercatcher	Nesting Nesting				Present Present													Mar-Aug Mar-Aug	- -	- -	- -
379	Gull/Tern	Common tern	General Distribution				2													May-Aug	-	-	-
	Passerine	Purple martin	General Distribution				3													May-Aug	-	-	-
	Passerine	Saltmarsh sparrow	Nesting				Present													May-Aug	-	-	-
	Raptor	Osprey	General Distribution				10S													Mar-Aug	Mar-Jun Jan-Dec	Jul-Nov	- -
	Shorebird	Shorebirds	Migration				Abundant													-	-	-	-
	Wading	Great egret	General Distribution				10S													Mar-Aug	-	-	-
380	Wading	Snowy egret	General Distribution				9													Mar-Aug	-	-	-
	Passerine	Purple martin	General Distribution				2													Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution				7													Mar-Aug	Mar-Jun Jul-Nov	Jul-Nov	- -

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
429	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
445	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
448	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
453	Diadromous	Alewife	Spawning Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
468	Diadromous	Alewife	Spawning Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Freshwater	Swamp darter	General Distribution				Uncommon													Apr-May	Apr-May	Apr-Jun	Jan-Dec	Jan-Dec
514	Estuarine Nursery	Atlantic menhaden	Nursery Area				Common													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
652	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Resident	Mummichog	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
700	Estuarine Resident	Mummichog	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
735	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Common													Jun-Sep	Jun-Sep	May-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
736	Diadromous	Alewife	Nursery Area				Abundant													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
737	Estuarine Nursery	Atlantic menhaden	Nursery Area		Common													May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Diadromous	Hickory shad	Concentration Area		Common													Jun-Aug	Jun-Aug	Jul-Nov	Jun-Nov
	Estuarine Nursery	Black sea bass	Concentration Area		Common													-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Concentration Area		Abundant													Jun-Sep	Jun-Sep	Jan-Nov	Apr-Nov
738	Estuarine Nursery	Summer flounder	Concentration Area		Abundant													-	-	Mar-Nov	Mar-Nov
	Diadromous	Striped bass	Concentration Area		Common													-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Scup	Concentration Area		Abundant													May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Concentration Area		Abundant													Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
739	Estuarine Nursery	Weakfish	Concentration Area		Abundant													May-Sep	May-Sep	Jul-Nov	May-Nov

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
773	Plant	Seaside sandplant	Vulnerable Occurrence	C/-	Present													-	-	-	-
797	Plant	New Eng. blazing star	Vulnerable Occurrence	C/T	Present													-	-	-	-

INVERTEBRATES






Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
988	Insect	Rare insect	Vulnerable Occurrence		Present													-	-	-	Jan-Dec
989	Insect	Threatened insect	Vulnerable Occurrence	E/-	Present													-	-	-	Jan-Dec
	Crab	Horseshoe crab	Nursery Area		Common													May-Jun	-	Jan-Dec	Jan-Dec

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
737	Diving	Common loon	General Distribution	C/C	10S													-	-	-	-
		Common loon	General Distribution	C/C	6													-	-	-	-
		Pied-billed grebe	General Distribution	E/T	10S													-	-	-	-
		Black skimmer	General Distribution	-/C	Present													Mar-Aug	-	-	-
738	Gull/Tern	Common tern	General Distribution	E/T	Present													May-Aug	-	-	-
		Common tern	General Distribution	E/T	10S													May-Aug	-	-	-
		Least tern	General Distribution	T/T	Present													Apr-Aug	-	-	-
		Roseate tern	General Distribution	E/E	Present													May-Aug	-	-	-
739	Passerine	Seaside sparrow	General Distribution	T/C	Present													May-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-	Present													Mar-Aug	-	-	-
		Piping plover	General Distribution	T/E	Present													Mar-Aug	-	-	-
		Little blue heron	General Distribution	C/-	Present													Apr-Aug	-	-	-
740	Wading	Snowy egret	General Distribution	T/-	Present													Mar-Aug	-	-	-

FISH

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous	Alewife	Nursery Area			Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
		American eel	Migration			Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
		American shad	Nursery Area			Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
		Blueback herring	Migration		C/-	Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
		Striped bass	Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Atlantic herring	Nursery Area			Common													-	-	Mar-May	Jan-Dec	Jan-Dec
		Atlantic menhaden	Nursery Area			Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
		Bay anchovy	Nursery Area			Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
		Black sea bass	Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
		Bluefish	Nursery Area			Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
		Scup	Nursery Area			Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
		Summer flounder	Nursery Area			Common													-	-	-	Mar-Nov	Mar-Nov
		Weakfish	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
		Windowpane	Nursery Area			Common													Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
		Winter flounder	Nursery Area			Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
 	Estuarine Resident	Atlantic silverside	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area			Common													Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
		Little skate	Nursery Area			Abundant													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
		Northern searobin	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Red hake	Nursery Area			Common													-	-	-	Mar-Nov	Mar-Nov
		Silver hake	Nursery Area			Common													-	-	May-Oct	Mar-Nov	Mar-Nov
		Smooth dogfish	Nursery Area			Common													-	-	-	May-Oct	May-Oct
		Spotted hake	Nursery Area			Common													-	-	-	Mar-Nov	Mar-Nov
		Striped searobin	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Tautog	Nursery Area			Common													Apr-Sep	Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
Marine Pelagic		Atlantic mackerel	Nursery Area			Common													Apr-Jun	Apr-Jun	Apr-Jun	Apr-Nov	Apr-Nov
		Butterfish	Nursery Area			Abundant													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec



REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
	Turtle	Green sea turtle	General Distribution	T/T	T	Present													-	-	-	Jun-Nov	-
		K. ridley sea turtle	General Distribution	E/E	E	Present													-	-	-	Jun-Nov	-
		Loggerhead sea turtle	General Distribution	T/T	E	Present													-	-	-	Jun-Nov	-

INVERTEBRATES





Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
	Lobster	American lobster	Nursery Area			Common													Jun-Nov	Jan-Dec	May-Aug	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
 Dolphin	Harbor porpoise	General Distribution	C/C		Present													-	-	-	-
 Whale	N.A. right whale	General Distribution	-/E	E	Present													-	-	-	-




ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS



Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Alcid	Razorbill													-	-	-	-
 Diving	D. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
 Gull/Tern	Bonaparte's gull													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Laughing gull													Apr-Aug	-	-	-
 Passerine	Ring-billed gull													-	-	-	-
	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	American crow													Mar-Aug	-	-	-
	American goldfinch													Mar-Aug	-	-	-
	American robin													Mar-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Belted kingfisher													Mar-Aug	-	-	-
	Black-capped chickadee													Mar-Aug	-	-	-
	Brown-headed cowbird													Mar-Aug	-	-	-
	Carolina wren													Apr-Jul	-	-	-
	Chimney swift													Jun-Jul	Apr-May	Aug-Sep	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	European starling													Mar-Aug	-	-	-
	Fish crow													Mar-Aug	-	-	-
	Gray catbird													Mar-Aug	-	-	-
	House finch													Mar-Aug	-	-	-
	House sparrow													Mar-Aug	-	-	-
	Marsh wren													Apr-Aug	-	-	-
	Mourning dove													Mar-Aug	-	-	-
	Northern cardinal													Mar-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Red-bellied woodpecker													Jun-Jul	Apr-May	Aug-Nov	-
	Red-winged blackbird													Mar-Aug	-	-	-
	Saltmarsh sparrow													May-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-

BIRDS (continued)




Monthly Presence

Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Least sandpiper													-	Apr-Jun	Aug-Oct	-
	Willet													Apr-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													-	-	-	-
	Mute swan													Mar-Aug	-	-	-
	Northern pintail													Mar-Sep	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	-	-	-
	Scoters													-	Mar-Apr	Oct-Nov	-
	Surf scoter													-	Apr-May	Sep-Nov	-
	White-winged scoter													-	Sep-May	-	-



FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Jan-Dec
	Rainbow trout													-	-	-	Jan-Dec	Jan-Dec
	Bluegill													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Freshwater													Mar-May	Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Chain pickerel													May-Jun	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jun	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Pumpkinseed													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Yellow perch													Mar-May	Mar-May	Mar-Aug	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Eastern oyster													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Cephalopod													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Longfin squid													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Crab													May-Jun	May-Jul	-	Jan-Dec	Jan-Dec
	Blue crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Spider crabs													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Dolphin													-	-	-	-
	Bottlenose dolphin													-	-	-	-
	Pinniped													-	-	-	-
	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-
														-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

ESI POLYGON HABITAT TYPES

<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10A	Salt and Brackish Water Marshes	335.38	0.52
10B	Freshwater Marshes	27.32	0.04
10C	Swamps	314.27	0.49
10D	Scrub and Shrub Wetlands	57.55	0.09

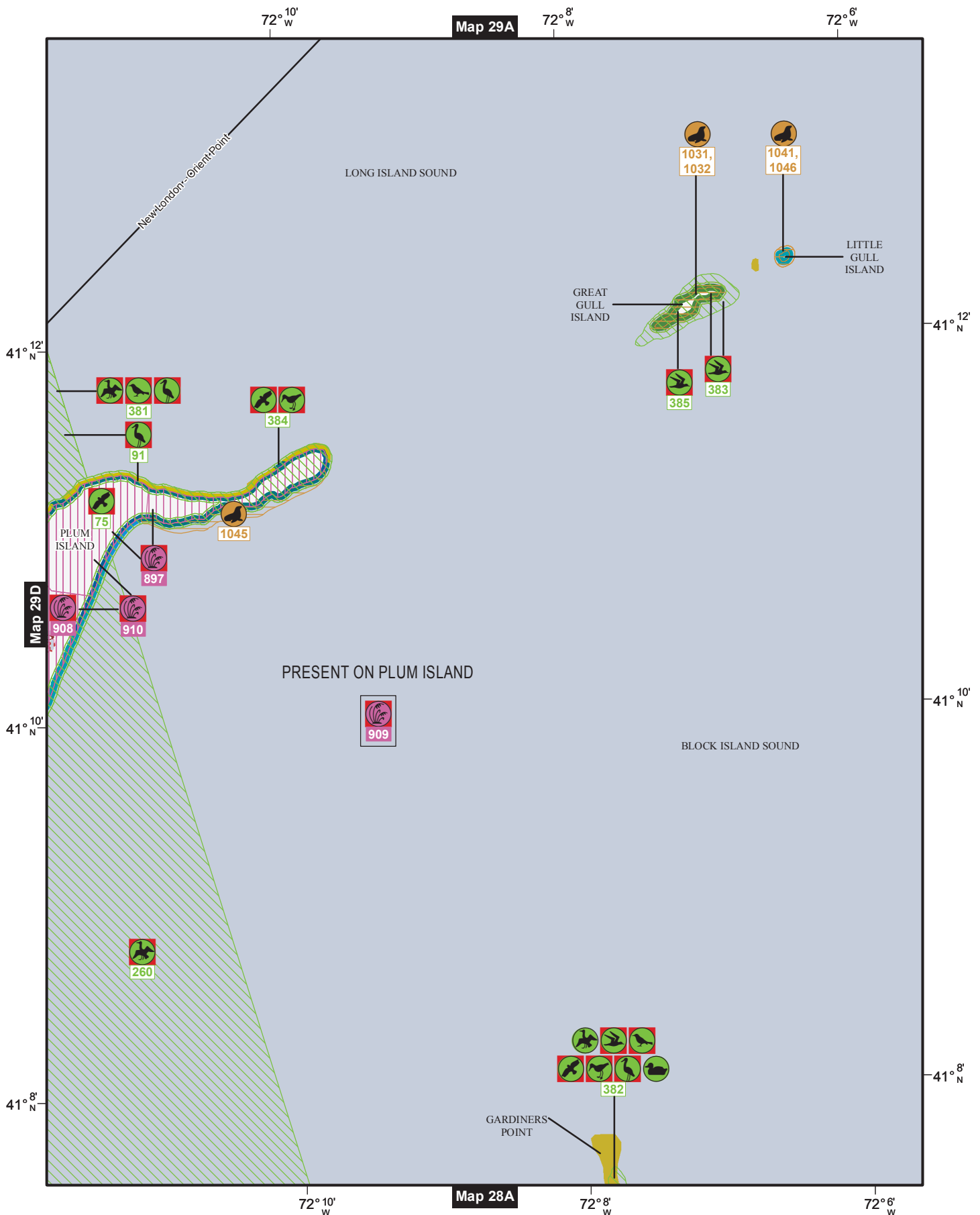
ESI SHORELINE HABITAT TYPES

<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
10A	Salt and Brackish Water Marshes	37,614.08	23.37	48%
10B	Freshwater Marshes	391.94	0.24	1%
10C	Swamps	487.58	0.30	1%
10D	Scrub and Shrub Wetlands	443.00	0.28	1%
9B	Vegetated Low Banks	7,779.51	4.83	10%
8B	Sheltered, Solid Man-Made Structures	636.37	0.40	1%
8C	Sheltered Riprap	464.36	0.29	1%
6A	Gravel Beaches	1,332.59	0.83	2%
6B	Riprap	7,048.09	4.38	9%
5	Mixed Sand and Gravel Beaches	2,522.19	1.57	3%
4	Coarse Grained Sand Beaches	3,453.71	2.15	4%
3A	Fine to Medium Grained Sand Beaches	3,742.48	2.33	5%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	6,204.88	3.86	8%
1A	Exposed, Rocky Shores	1,407.79	0.87	2%
1B	Exposed, Solid Man-Made Structures	4,650.94	2.89	6%
Total ESI Shoreline:		78,179.51	48.58	
Total Shoreline:		71,273.80	44.29	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov





Map 29C

Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 29C
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
								J	F	M	A	M	J	J	A	S	O	N	D				
75	Raptor	Northern harrier	General Distribution	E/T			Present													Mar-Aug	-	-	-
91	Wading	Snowy egret	General Distribution	T/-			Present													Mar-Aug	-	-	-
260	Diving	Pied-billed grebe	General Distribution	E/T			5													-	-	-	-
381	Diving	Common loon	General Distribution	C/C			6													-	-	-	-
	Passerine	Seaside sparrow	General Distribution	T/C			Present													May-Aug	-	-	-
	Wading	Little blue heron	General Distribution	C/-			Present													Apr-Aug	-	-	-
382	Diving	D. crested cormorant	Nesting				Present													Mar-Aug	-	-	-
	Gull/Tern	Black skimmer	Nesting	-/C			Present													Mar-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	E/T			Present													May-Aug	-	-	-
	Gull/Tern	G. black-backed gull	Nesting				Present													Mar-Aug	-	-	-
	Gull/Tern	Herring gull	Nesting				Present													Mar-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	Nesting	E/E			Present													May-Aug	-	-	-
	Passerine	Bank swallow	Nesting				Present													Apr-Aug	-	-	-
	Passerine	Seaside sparrow	General Distribution	T/C			Present													May-Aug	-	-	-
	Passerine	Yellow-breasted chat	General Distribution	E/C			Present													May-Aug	-	-	-
	Passerine	Yellow-breasted chat	Nesting	E/C			Present													May-Aug	-	-	-
	Raptor	Bald eagle	General Distribution	T/T			Present													Feb-Aug	-	-	-
	Raptor	Bald eagle	Wintering	T/T			Present													Feb-Aug	-	-	-
	Raptor	Northern goshawk	General Distribution	T/C			Present													-	-	-	-
	Raptor	Northern harrier	General Distribution	E/T			Present													Mar-Aug	-	-	-
	Raptor	Northern harrier	Nesting	E/T			Present													Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Raptor	Osprey	Nesting	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Raptor	Peregrine falcon	General Distribution	T/E			Present													Mar-Aug	-	-	-
	Raptor	Red-tailed hawk	Nesting				Present													Mar-Aug	-	-	-
	Raptor	Snowy owl	Wintering				Present													-	Mar-Apr	Nov-Dec	-
	Shorebird	American oystercatcher	Nesting	T/-			Present													Mar-Aug	-	-	-
	Wading	BC night-heron	Nesting				Present													Mar-Aug	-	-	-
	Wading	Great egret	Nesting	T/-			Present													Mar-Aug	-	-	-
	Wading	Snowy egret	Nesting	T/-			Present													Mar-Aug	-	-	-
	Waterfowl	American black duck	Wintering				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Brant	Wintering				Present													-	Mar-May	Oct-Nov	-
	Waterfowl	Bufflehead	Wintering				Present													-	Oct-Jun	-	-
	Waterfowl	Canada goose	Nesting				Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Gadwall	Nesting				Present													Jan-Dec	-	-	-
	Waterfowl	Greater scaup	Wintering				Present													-	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D			
	Waterfowl	Lesser scaup	Wintering			Present													-	-	-
	Waterfowl	Long-tailed duck	Wintering			Present													-	-	-
	Waterfowl	Red-breasted merganser	Wintering			Present													-	-	-
	Waterfowl	Ruddy duck	Wintering			Present													-	-	-
	Waterfowl	Waterfowl	Wintering			Present													-	-	-
	Waterfowl	White-winged scoter	Wintering			Present													-	-	-
383	Gull/Tern	Common tern	Nesting	E/T		Present												May-Aug	-	-	-
	Gull/Tern	Roseate tern	Nesting	E/E	E	Present												May-Aug	-	-	-
384	Raptor	Northern harrier	General Distribution	E/T		Present												Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	4												Mar-Aug	-	-	-
385	Gull/Tern	Common tern	General Distribution	E/T		20000												May-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E	1000S												May-Aug	-	-	-

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D			
897	Plant	Pennsylvania catchfly	Vulnerable Occurrence	-T		Present													-	-	-
908	Plant	Pine barren flatsedge	Vulnerable Occurrence	-E		Present													-	-	-
	Plant	Texan flatsedge	Vulnerable Occurrence	-E		Present													-	-	-
	Upland	Seaside knotweed	Vulnerable Occurrence	C/C		Present													-	-	-
909	Plant	American burnweed	Vulnerable Occurrence	-E		Present													-	-	-
	Plant	Fernald's sedge	Vulnerable Occurrence	-T		Present													-	-	-
910	Plant	Great Plains flatsedge	Vulnerable Occurrence	-T		Present													-	-	-
	Plant	Rare plant	Vulnerable Occurrence	-E		Abundant													-	-	-

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Mating	Calving	Pupping	Molt
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D			
1031	Pinniped	Gray seal	Haul Out			Present													-	-	-
1032	Pinniped	Harbor seal	Haul Out			Varies (3 - 100)													-	-	-
1041	Pinniped	Harbor seal	Haul Out			Present													-	-	-
1045	Pinniped	Harbor seal	Haul Out			100S													-	-	-
1046	Pinniped	Gray seal	Haul Out			100S													-	-	-



BIRDS

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
Diving	Common loon	General Distribution	C/C			10S													-	-	-	-
	Pied-billed grebe	General Distribution	E/T			10S													-	-	-	-
Gull/Tern	Black skimmer	General Distribution	-/C			Present													Mar-Aug	-	-	-
	Common tern	General Distribution	E/T			10S													May-Aug	-	-	-
	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
	Roseate tern	General Distribution	E/E			Present													May-Aug	-	-	-
Shorebird	American oystercatcher	General Distribution	T/-			Present													Mar-Aug	-	-	-
	Piping plover	General Distribution	T/E			Present													Mar-Aug	-	-	-


FISH

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
Diadromous	Alewife	Migration				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Alewife	Nursery Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
Estuarine Nursery	American eel	Migration				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American shad	Nursery Area				Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
	Blueback herring	Migration	C/-			Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Striped bass	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Atlantic herring	Nursery Area				Common													-	-	Mar-May	Jan-Dec	Jan-Dec
	Atlantic herring	Nursery Area				Abundant													-	-	Mar-May	Jan-Dec	Jan-Dec
	Atlantic menhaden	Nursery Area				Common													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Bay anchovy	Nursery Area				Abundant													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Bay anchovy	Nursery Area				Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
Estuarine Resident	Black sea bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Black sea bass	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Bluefish	Nursery Area				Abundant													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Bluefish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Northern kingfish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
	Scup	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Summer flounder	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
	Weakfish	Nursery Area				Abundant													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Weakfish	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Windowpane	Nursery Area				Common													Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area				Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
Estuarine Resident	Northern pipefish	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Oyster toadfish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec


FISH (continued)

Subelement	Species	Mapping Qualifier	CT/INY	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
	Marine Benthic	Atlantic tomcod				Common													Nov-Feb	Dec-May	Jan-Dec	Jan-Dec
		Little skate				Common													Jan-Dec	-	Jan-Dec	Jan-Dec
		Little skate				Abundant													Jan-Dec	-	Jan-Dec	Jan-Dec
		Northern searobin				Common													May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Red hake				Common													-	-	Mar-Nov	Mar-Nov
		Silver hake				Common													-	May-Oct	Mar-Nov	Mar-Nov
		Smooth dogfish				Common													-	-	May-Oct	May-Oct
		Spotted hake				Common													-	-	Mar-Nov	Mar-Nov
		Striped searobin				Common													May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Tautog				Common													Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
	Marine Pelagic	Atlantic mackerel				Common													Apr-Jun	Apr-Jun	Apr-Nov	Apr-Nov
		Butterfish				Common													May-Aug	May-Oct	May-Dec	May-Dec
		Butterfish				Abundant													May-Aug	May-Oct	May-Dec	May-Dec
		Spiny dogfish				Common													-	-	May-Nov	May-Nov



REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/INY	S	F	Concentration	Monthly Presence												Hatch	Interest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
	Turtle	Green sea turtle				Present													-	-	Jun-Nov	-
		K. ridley sea turtle				Present													-	-	Jun-Nov	-
		Loggerhead sea turtle				Present													-	-	Jun-Nov	-

INVERTEBRATES

Subelement	Species	Mapping Qualifier	CT/INY	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
	Bivalve	Bay scallop				Low													Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
		Eastern oyster				Low													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
		Northern quahog				High													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
		Softshell clam				Low													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Crab	Horseshoe crab				Common													Jun-Jul	-	Jan-Dec	Jan-Dec
	Lobster	American lobster				Common													Jan-Dec	May-Aug	Jan-Dec	Jan-Dec

MARINE MAMMALS

	Subelement	Species	Mapping Qualifier	CT/INY		Concentration	Monthly Presence												Calving	Pupping	Molt
				S	F		J	F	M	A	M	J	J	A	S	O	N	D			
	Dolphin	Harbor porpoise	General Distribution	C/C		Present												-	-	-	
	Whale	N.A. right whale	General Distribution	-/E	E	Present												-	-	-	

BIRDS

Monthly Presence

Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
Alcid	Razorbill													-	-	-	-
Diving	D. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
Gull/Tern	Bonaparte's gull													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Laughing gull													Apr-Aug	-	-	-
	Ring-billed gull													-	-	-	-
Passerine	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
Pelagic	Black-legged kittiwake													-	-	-	-
	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
Waterfowl	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-



BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Scaup													-	Mar-Apr	Oct-Nov	-
	Scoters													-	Apr-May	Sep-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-
	Wood duck													Mar-Aug	-	-	-



FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	American sand lance													Nov-Mar	Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec
	Cunner													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Winter skate													Jun-Jan	Jun-Jan	-	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Longfin squid													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Blue crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
	Jonah crab													Nov-Jun	May-Nov	Jun-Oct	Jan-Dec	Jan-Dec
	Lady crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Spider crabs													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Bottlenose dolphin													-	-	-	-
	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

ESI POLYGON HABITAT TYPES

<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10B	Freshwater Marshes	1.11	0.00
10C	Swamps	0.94	0.00
10D	Scrub and Shrub Wetlands	0.73	0.00
7	Exposed Tidal Flats	56.73	0.09

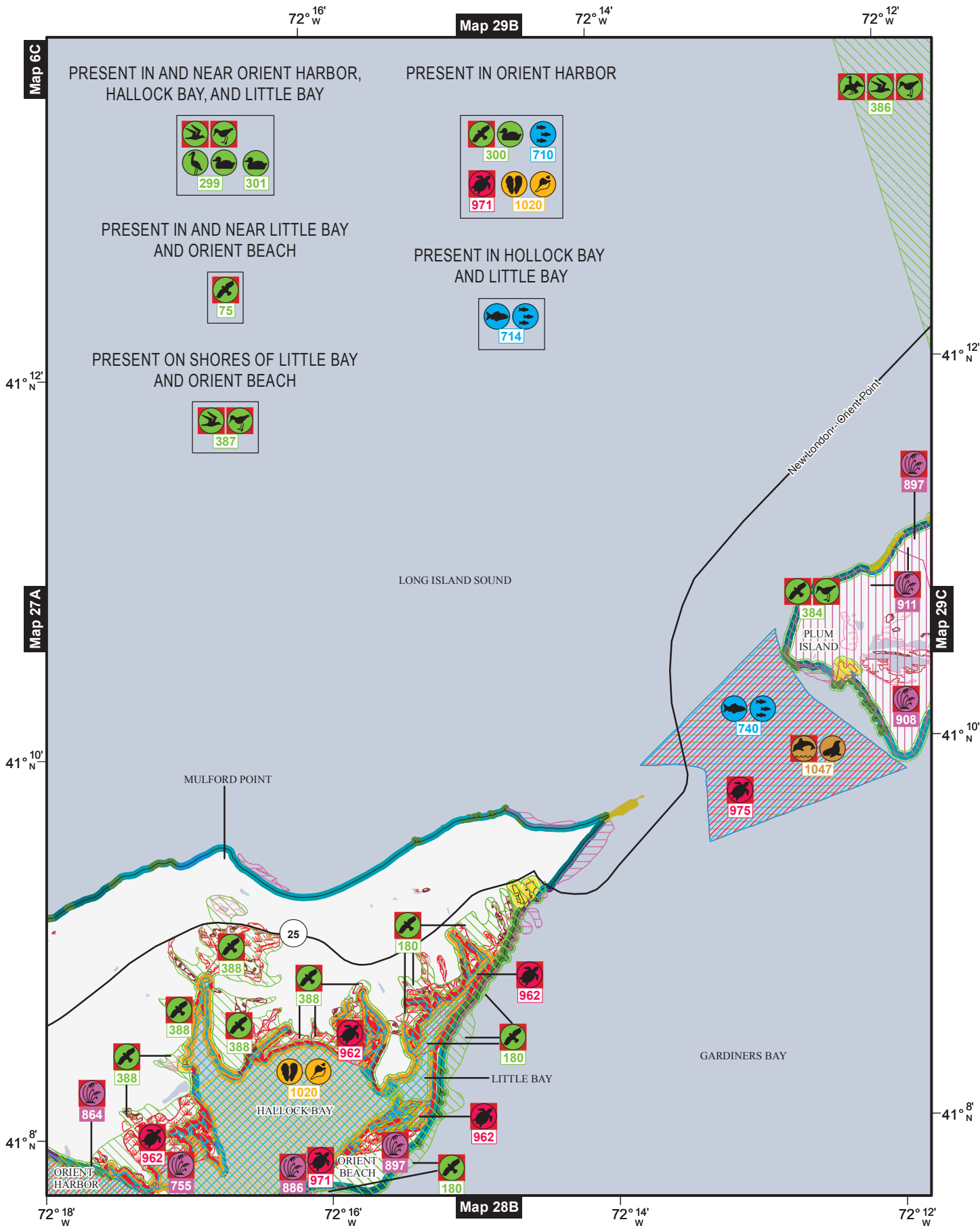
ESI SHORELINE HABITAT TYPES

<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
7	Exposed Tidal Flats	3,013.90	1.87	21%
6A	Gravel Beaches	5,322.46	3.31	38%
6B	Riprap	1,661.74	1.03	12%
5	Mixed Sand and Gravel Beaches	1,915.38	1.19	14%
4	Coarse Grained Sand Beaches	528.94	0.33	4%
3B	Scarps and Steep Slopes (Sand)	1,631.44	1.01	12%
Total ESI Shoreline:		14,073.86	Total ESI Shoreline: 8.75	
		Total Shoreline:	Total Shoreline: 5.86	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov



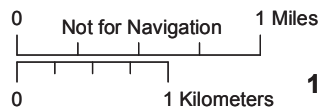


Map 29D

Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016



1:50,000



Map 29D
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence
SAV	Eelgrass	High Ecological Value				Present	J F M A M J J A S O N D

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence	Nest	Mig.(S)	Mig.(F)	Molt
75	Raptor	Northern harrier	General Distribution	E/I			Present		Mar-Aug	-	-	-
180	Raptor	Osprey	General Distribution	-/C			Present		Mar-Aug	Mar-Jun	Jul-Nov	-
299	Gull/Tern	Least tern	Nesting	T/T			Present		Apr-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E	T		Present		Mar-Aug	-	-	-
	Shorebird	Shorebirds	Concentration Area				Present		-	Jan-Dec	-	-
	Wading	Egrets	Nesting				Present		Jan-Dec	-	-	-
	Wading	Herons	Concentration Area				Present		Jan-Dec	-	-	-
	Wading	Ibises	Concentration Area				Present		May-Jul	Apr-May	Sep-Oct	-
	Waterfowl	Greater scaup	Wintering				Present		-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering				Present		-	-	-	-
	Waterfowl	Surf scoter	Wintering				Present		-	-	-	-
	Waterfowl	White-winged scoter	Wintering				Present		-	Sep-May	-	-
300	Raptor	Osprey	Nesting	-/C			Present		Mar-Aug	Mar-Jun	Jul-Nov	-
	Waterfowl	Mallard	Wintering				Present		Mar-Aug	-	-	-
	Waterfowl	Scaup	Wintering				Present		-	Mar-Apr	Oct-Nov	-
	Waterfowl	Waterfowl	Wintering				Present		-	Jan-Dec	-	-
301	Waterfowl	American black duck	Wintering				Present		Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Bufflehead	Wintering				Present		-	Oct-Jun	-	-
	Waterfowl	Canada goose	Wintering				Present		Mar-Aug	Jan-Dec	-	-
	Waterfowl	Common goldeneye	Wintering				Present		-	Nov-Apr	-	-
	Waterfowl	Long-tailed duck	Wintering				Present		-	-	-	-
384	Raptor	Northern harrier	General Distribution	E/I			Present		Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		4		Mar-Aug	-	-	-
386	Diving	Pied-billed grebe	General Distribution	E/I			10S		-	-	-	-
	Gull/Tern	Common tern	General Distribution	E/I			10S		May-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			Present		Mar-Aug	-	-	-
387	Gull/Tern	Common tern	General Distribution	E/I			10S		May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			10S		Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E		10S		May-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			5		Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		7		Mar-Aug	-	-	-
388	Raptor	Northern harrier	General Distribution	E/I			Present		Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			Present		Mar-Aug	Mar-Jun	Jul-Nov	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
710	Estuarine Nursery	Scup	Spawning Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Weakfish	Spawning Area				Common													May-Sep	May-Sep	May-Sep	May-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Spawning Area				Common													Feb-May	Mar-Jun	Mar-Jun	Jan-Dec	Jan-Dec
714	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Winter flounder	Nursery Area				Common													Feb-May	Mar-Jun	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
740	Diadromous	Striped bass	Migration				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Migration				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Scup	Migration				Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Summer flounder	Migration				Common													-	-	-	Mar-Nov	Mar-Nov

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
755	Plant	Scottish licorice-root	Vulnerable Occurrence		E/E		Low													-	-	-	-	-
864	Upland	Seaside knotweed	Vulnerable Occurrence		C/C		Present													-	-	-	-	-
886	Plant	Dwarf saltwort	Vulnerable Occurrence		-/T		Present													-	-	-	-	-
	Plant	Goose tongue	Vulnerable Occurrence		-/T		25													-	-	-	-	-
	Plant	Pennsylvania catchfly	Vulnerable Occurrence		-/T		100 - 200													-	-	-	-	-
	Plant	Slender seapurslane	Vulnerable Occurrence		-/E		25													-	-	-	-	-
	Upland	Seaside knotweed	Vulnerable Occurrence		C/C		300													-	-	-	-	-
897	Plant	Pennsylvania catchfly	Vulnerable Occurrence		-/T		Present													-	-	-	-	-
908	Plant	Pine barren flatsedge	Vulnerable Occurrence		-/E		Present													-	-	-	-	-
	Plant	Texan flatsedge	Vulnerable Occurrence		-/E		Present													-	-	-	-	-
	Upland	Seaside knotweed	Vulnerable Occurrence		C/C		Present													-	-	-	-	-
911	Plant	American burnweed	Vulnerable Occurrence		-/E		Present													-	-	-	-	-
	Plant	Fernald's sedge	Vulnerable Occurrence		-/T		Present													-	-	-	-	-
	Plant	Great Plains flatsedge	Vulnerable Occurrence		-/T		Present													-	-	-	-	-
	Plant	Rare plant	Vulnerable Occurrence		-/E		Abundant													-	-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
962	Turtle	Diamondback terrapin	Vulnerable Occurrence		C/-		Present													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec
971	Turtle	Green sea turtle	Vulnerable Occurrence		T/T		Present													-	-	-	Jun-Nov	-
	Turtle	K. ridley sea turtle	Vulnerable Occurrence		E/E		Present													-	-	-	Jun-Nov	-
	Turtle	Loggerhead sea turtle	Vulnerable Occurrence		T/T		Present													-	-	-	Jun-Nov	-
975	Turtle	K. ridley sea turtle	Vulnerable Occurrence		E/E		Present													-	-	-	Jun-Nov	-
	Turtle	Loggerhead sea turtle	Vulnerable Occurrence		T/T		Present													-	-	-	Jun-Nov	-

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D				
1020	Bivalve	Bay scallop	Harvest Area				Moderate													Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area				Moderate													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Gastropod	Channeled whelk	Harvest Area				Low													Sep-Nov	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
								J	F	M	A	M	J	J	A	S	O	N	D				
1047	Dolphin	Bottlenose dolphin	Concentration Area				Varies													-	-	-	-
	Dolphin	Harbor porpoise	Concentration Area		C/C		Present													-	-	-	-
	Pinniped	Harbor seal	Concentration Area				Varies													-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)




BIRDS

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
Diving	Common loon	General Distribution		C/C		10S													-	-	-	-
	Common loon	General Distribution		C/C		6													-	-	-	-
Gull/Tern	Pied-billed grebe	General Distribution		E/T		5													-	-	-	-
	Black skimmer	General Distribution		-C		Present													Mar-Aug	-	-	-
	Common tern	General Distribution		E/T		Present													May-Aug	-	-	-
	Least tern	General Distribution		T/T		Present													Apr-Aug	-	-	-
Passerine	Roseate tern	General Distribution		E/E	E	Present													May-Aug	-	-	-
	Seaside sparrow	General Distribution		T/C		Present													May-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	Present													Mar-Aug	-	-	-
	Wading	Little blue heron	General Distribution	C/-		Present													Apr-Aug	-	-	-
		Snowy egret	General Distribution	T/-		Present													Mar-Aug	-	-	-


FISH

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Alewife	Nursery Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	American eel	Migration				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
Estuarine Nursery	American shad	Nursery Area				Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
	Striped bass	Migration		C/-		Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Atlantic herring	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Atlantic menhaden	Nursery Area				Common													May-Oct	May-Oct	May-Nov	Jan-Dec	Jan-Dec
	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Bay anchovy	Nursery Area				Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Bay anchovy	Nursery Area				Abundant													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Black sea bass	Nursery Area				Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Black sea bass	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Bluefish	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov




FISH (continued)

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults			
			S	F		J	F	M	A	M	J	J	A	S	O	N	D							
	Bluefish	Nursery Area			Abundant														Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov	Apr-Nov
	Northern kingfish	Nursery Area			Common														Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov	Apr-Nov
	Scup	Nursery Area			Abundant														May-Aug	May-Aug	May-Aug	May-Nov	May-Nov	May-Nov
	Summer flounder	Nursery Area			Common														-	-	-	Mar-Nov	Mar-Nov	Mar-Nov
	Weakfish	Nursery Area			Common														May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov	May-Nov
	Weakfish	Nursery Area			Abundant														May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov	May-Nov
	Windowpane	Nursery Area			Common														Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area			Abundant														Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec	Jan-Dec
	Atlantic silverside	Nursery Area			Common														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec	Jan-Dec
	Atlantic silverside	Nursery Area			Abundant														May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec	Jan-Dec
	Northern pipefish	Nursery Area			Common														Apr-Aug	Apr-Aug	May-Sep	Jan-Dec	Jan-Dec	Jan-Dec
	Oyster toadfish	Nursery Area			Common														Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec	Jan-Dec
	Atlantic tomcod	Nursery Area			Common														Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec	Jan-Dec
	Little skate	Nursery Area			Abundant														Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec	Jan-Dec
	Little skate	Nursery Area			Common														Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec	Jan-Dec
	Northern searobin	Nursery Area			Common														May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov	Apr-Nov
	Red hake	Nursery Area			Common														-	-	-	Mar-Nov	Mar-Nov	Mar-Nov
	Silver hake	Nursery Area			Common														-	-	May-Oct	Mar-Nov	Mar-Nov	Mar-Nov
	Smooth dogfish	Nursery Area			Common														-	-	-	May-Oct	May-Oct	May-Oct
	Spotted hake	Nursery Area			Common														-	-	-	Mar-Nov	Mar-Nov	Mar-Nov
	Striped searobin	Nursery Area			Common														May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov	Apr-Nov
	Tautog	Nursery Area			Common														Apr-Sep	Apr-Sep	May-Sep	Jan-Dec	Jan-Dec	Jan-Dec
	Atlantic mackerel	Nursery Area			Common														Apr-Jun	Apr-Jun	Apr-Jun	Apr-Nov	Apr-Nov	Apr-Nov
	Butterfish	Nursery Area			Abundant														May-Aug	May-Aug	May-Oct	May-Dec	May-Dec	May-Dec
	Butterfish	Nursery Area			Common														May-Aug	May-Aug	May-Oct	May-Dec	May-Dec	May-Dec

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Hatch	Internest	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Green sea turtle	General Distribution	T/T		Present													-	-	Jun-Nov	-
	K. ridley sea turtle	General Distribution	E/E		Present													-	-	Jun-Nov	-
	Loggerhead sea turtle	General Distribution	T/T		Present													-	-	Jun-Nov	-

INVERTEBRATES

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Bay scallop	Harvest Area			Low													Jun-Sep	Jun-Oct	Jun-Dec	Jan-Dec
	Eastern oyster	Harvest Area			Low													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			High													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Softshell clam	Harvest Area			Low													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
Crab 	Horseshoe crab	Nursery Area			Common													May-Jun	-	Jan-Dec	Jan-Dec
Lobster 	American lobster	Nursery Area			Common													Jun-Nov	May-Aug	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
Dolphin	Harbor porpoise	General Distribution	C/C		Present													-	-	-	-
Whale	N.A. right whale	General Distribution	-/E	E	Present													-	-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS


Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
Alcid	Razorbill													-	-	-	-
	D. crested cormorant													Mar-Aug	-	-	-
Diving	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
Gull/Tern	Red-throated loon													-	-	-	-
	Bonaparte's gull													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Laughing gull													Apr-Aug	-	-	-
	Ring-billed gull													-	-	-	-
Passerine	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	Black-legged kittiwake													-	-	-	-
Pelagic	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Black-bellied plover													-	Aug-May	-	-
Shorebird	Dunlin													-	Apr-May	Oct-Nov	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Killdeer													Mar-Aug	-	-	-
	Lesser yellowlegs													-	Apr-Jun	Aug-Oct	-
	Ruddy turnstone													-	Mar-May	Aug-Nov	-
	Sanderling													-	Sep-Jun	-	-
	Semipalmated plover													-	Apr-Jun	Sep-Nov	-
	Semipalmated sandpiper													-	-	Jul-Oct	-
	Spotted sandpiper													-	Apr-Jun	Jul-Oct	-
	Willet													Apr-Aug	-	-	-
Waterfowl	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-

Long Island Sound: Map 29D





BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec			
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug			-
	Mute swan													Mar-Sep			-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar		-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-Nov	-
	Scoters													-	Apr-May	Sep-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-
	Wood duck													Mar-Aug		-	-



FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Marine Benthic													Nov-Mar	Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec
	Cunner													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Cephalopod													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Fiddler crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
	Jonah crab													Nov-Jun	May-Nov	Jun-Oct	Jan-Dec	Jan-Dec
	Lady crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Spider crabs													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Shrimp													May-Oct	May-Oct	May-Oct	May-Oct	Jan-Dec

MARINE MAMMALS

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
 Dolphin	Bottlenose dolphin												
 Pinniped	Gray seal												
	Harbor seal												

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES		
ESI Rank	Habitat Classification	Area (Acres)
10A	Salt and Brackish Water Marshes	343.89
10B	Freshwater Marshes	41.76
10C	Swamps	23.67
10D	Scrub and Shrub Wetlands	52.60
7	Exposed Tidal Flats	28.99

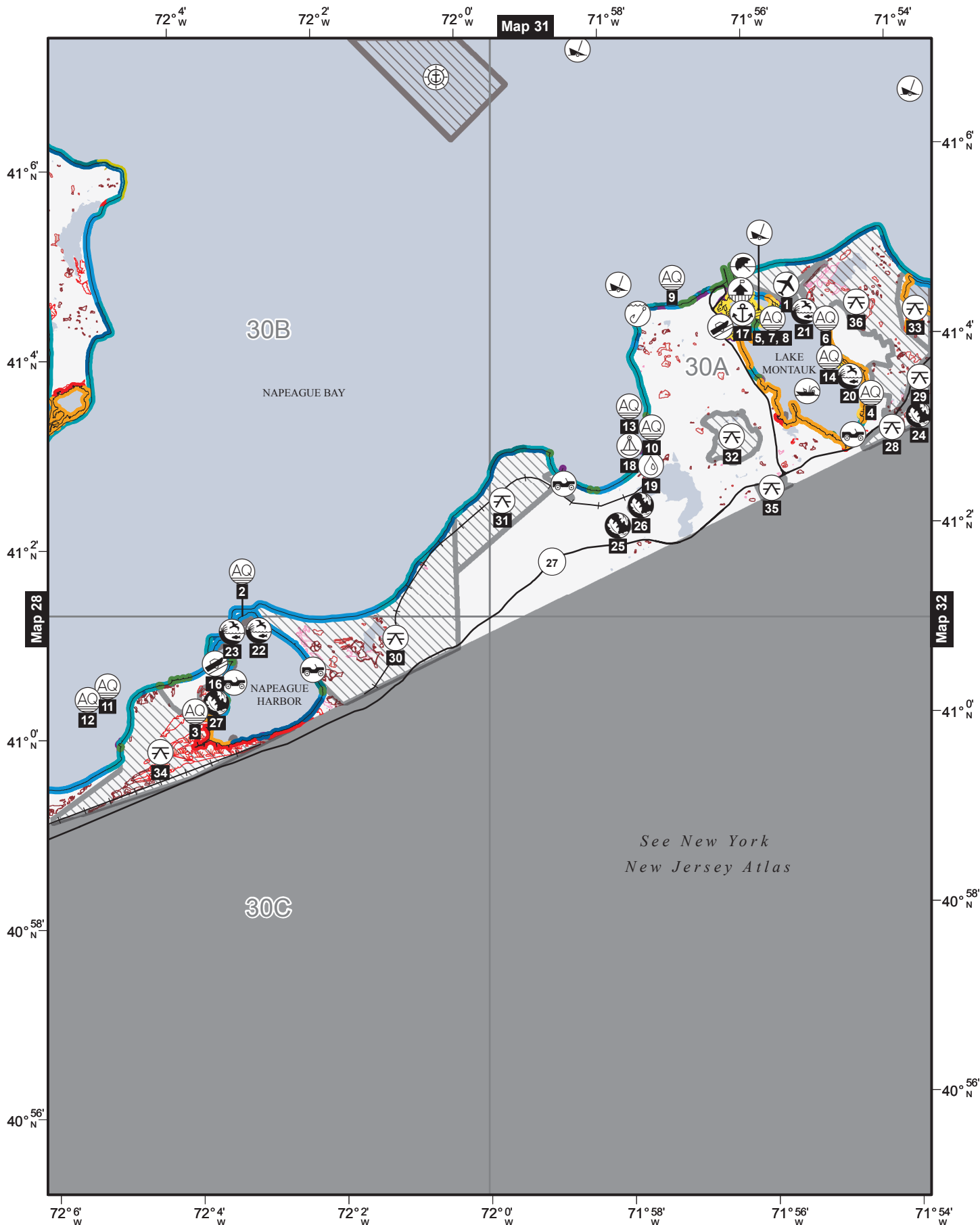
ESI SHORELINE HABITAT TYPES		
ESI Rank	Shoreline Habitat Classification	Length (Meters)
10A	Salt and Brackish Water Marshes	26,492.57
10D	Scrub and Shrub Wetlands	1,349.06
9B	Vegetated Low Banks	32,238.49
8B	Sheltered, Solid Man-Made Structures	1,591.19
8C	Sheltered Riprap	165.77
7	Exposed Tidal Flats	4,783.22
6A	Gravel Beaches	3,972.80
6B	Riprap	3,530.63
5	Mixed Sand and Gravel Beaches	11,316.30
4	Coarse Grained Sand Beaches	1,453.81
3B	Scarps and Steep Slopes (Sand)	676.08
1B	Exposed, Solid Man-Made Structures	618.92

Total ESI Shoreline: 88,188.82
Total Shoreline: 53,985.45

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov





Map 30
Long Island Sound



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: September 2016

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 30
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	AIRPORT	MONTAUK AIRPORT	FEDERAL AVIATION ADMINISTRATION	
2	AQUACULTURE	E. HAMPTON HATCHERY GROW-OUT SITE (10-T)	JOHN DUNNE	631-668-4601
3	AQUACULTURE	TOWN OF E. HAMPTON NAPEAGUE HRBR (10-T)	WADE CARDEN	631-444-0481
4	AQUACULTURE	LAKE MONTAUK (85-P)	WADE CARDEN	631-444-0481
5	AQUACULTURE	LAKE MONTAUK (88-P)	WADE CARDEN	631-444-0481
6	AQUACULTURE	LAKE MONTAUK (111-P)	WADE CARDEN	631-444-0481
7	AQUACULTURE	MONTAUK SHELLFISH CO. CULTIVATION AREA (128-PA)	WADE CARDEN	631-444-0481
8	AQUACULTURE	MONTAUK SHELLFISH CO. OVERWINTERING (128-PA)	WADE CARDEN	631-444-0481
9	AQUACULTURE	MONTAUK SHELLFISH CO. BLOCK ISLAND SOUND (128-PA)	WADE CARDEN	631-444-0481
10	AQUACULTURE	MONTAUK SHELLFISH CO. FORT POND BAY (128-PA)	WADE CARDEN	631-444-0481
11	AQUACULTURE	MONTAUK SHELLFISH CO. NAPEAGUE BAY (128-PA)	WADE CARDEN	631-444-0481
12	AQUACULTURE	MULTI AQUACULTURE SYSTEMS (131-P (B))	WADE CARDEN	631-444-0481
13	AQUACULTURE	FORT POND BAY (132-PA)	WADE CARDEN	631-444-0481
14	AQUACULTURE	LAKE MONTAUK (132-PA)	WADE CARDEN	631-444-0481
15	BOAT RAMP	WEST LAKE BOAT RAMP	WADE CARDEN	631-444-0481
16	BOAT RAMP	LAZY POINT BOAT RAMP		
17	MARINA	LAKE MONTAUK MARINAS		
18	REPEATED MEASUREMENT SITE	NWLON - MONTAUK FORT POND BAY	HUA YANG	301-713-2890
19	WATER INTAKE	E. HAMPTON HATCHERY WATER INTAKE	JOHN DUNNE	631-668-4601

DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
20	MANAGEMENT AREA	LAKE MONTAUK CLAM SEED PLACEMENT AREA	JOHN -BARLEY- DUNNE	631-668-4601
21	MANAGEMENT AREA	LAKE MONTAUK OYSTER SEED PLACEMENT AREA	JOHN -BARLEY- DUNNE	631-668-4601
22	MANAGEMENT AREA	NAPEAGUE HARBOR CLAM SEED PLACEMENT AREA	JOHN -BARLEY- DUNNE	631-668-4601
23	MANAGEMENT AREA	NAPEAGUE HARBOR OYSTER SEED PLACEMENT AR	JOHN -BARLEY- DUNNE	631-668-4601
24	NATURE CONSERVANCY	CASWELL CLIFFS	TNC NEW YORK STATE OFFICE	518-690-7850
25	NATURE CONSERVANCY	FITE PRESERVE	TNC NEW YORK STATE OFFICE	518-690-7850
26	NATURE CONSERVANCY	MONTAUK MOUNTAIN PRESERVE	TNC NEW YORK STATE OFFICE	518-690-7850
27	NATURE CONSERVANCY	PROMISED LAND PRESERVE	TNC NEW YORK STATE OFFICE	518-690-7850
28	PARK	AMSTERDAM BEACH	CHRISTINA CROLL	518-473-7787
29	PARK	CAMP HERO	CHRISTINA CROLL	518-473-7787
30	PARK	HITHER HILLS	CHRISTINA CROLL	518-473-7787
31	PARK	HITHER WOODS	CHRISTINA CROLL	518-473-7787
32	PARK	MONTAUK DOWNS	CHRISTINA CROLL	518-473-7787
33	PARK	MONTAUK POINT	CHRISTINA CROLL	518-473-7787
34	PARK	NAPEAGUE	CHRISTINA CROLL	518-473-7787
35	PARK	SHADMOOR	CHRISTINA CROLL	518-473-7787
36	PARK	MONTAUK COUNTY PARK		

ALSO PRESENT IN MAPPED AREA (POINTS)

Type	Name	Contact	Phone
COAST GUARD	COAST GUARD STATION MONTAUK	US COAST GUARD	631-668-2773

ALSO PRESENT IN MAPPED AREA (POLYGONS)

Type	Name	Contact	Phone
ESSENTIAL HABITAT	SUMMER FLOUNDER - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SUMMER FLOUNDER - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLACK SEA BASS - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLACK SEA BASS - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SPINY DOGFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SPINY DOGFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BASKING SHARK - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BASKING SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFIN TUNA - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFIN TUNA - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	COMMON THRESHER SHARK - ALL LIFE STAGES	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SANDBAR SHARK - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SANDBAR SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SKIPJACK TUNA - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SKIPJACK TUNA - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	TIGER SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	WHITE SHARK - ALL LIFE STAGES	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BIG AND LITTLE REED PONDS (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	CULLODEN POINT (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	FORT POND (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	GARDINERS ISLAND (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	HITHER HILLS UPLANDS (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	LAKE MONTAUK (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	MONTAUK POINT SHOALS (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	NAPEAGUE HARBOR (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	OYSTER POND (SH)	JEFFREY L. HERTER	518-486-7942
STATE PROTECTED AREA	NAPEAGUE HARBOR STATE TIDAL WETLANDS	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465

JURISDICTIONS

COUNTY: SUFFOLK COUNTY
COAST GUARD: DISTRICT 1, SECTOR LONG ISLAND SOUND
USACE: NORTH ATLANTIC DIVISION, NEW YORK DISTRICT

FEMA: REGION II
EPA: REGION 2

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	312.45	0.49
10B	Freshwater Marshes	87.00	0.14
10C	Swamps	104.19	0.16
10D	Scrub and Shrub Wetlands	190.51	0.30
7	Exposed Tidal Flats	14.00	0.02

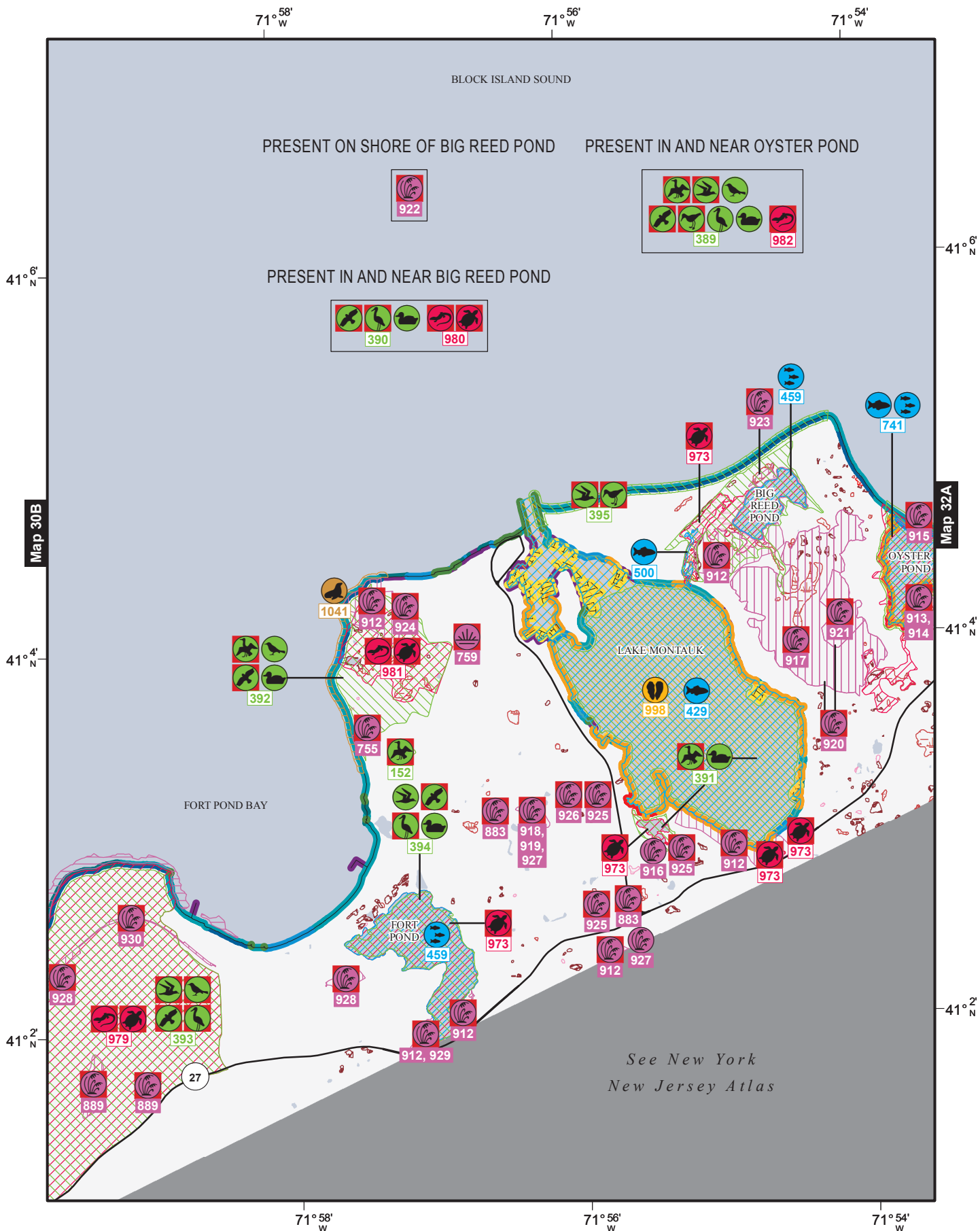
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	8,367.53	5.20	8%
10D	Scrub and Shrub Wetlands	411.14	0.26	< 1%
9B	Vegetated Low Banks	18,393.09	11.43	18%
8B	Sheltered, Solid Man-Made Structures	4,671.98	2.90	5%
8C	Sheltered Riprap	318.72	0.20	< 1%
7	Exposed Tidal Flats	1,103.56	0.69	1%
6A	Gravel Beaches	2,436.37	1.51	2%
6B	Riprap	2,991.33	1.86	3%
5	Mixed Sand and Gravel Beaches	28,015.41	17.41	27%
4	Coarse Grained Sand Beaches	15,247.25	9.47	15%
3A	Fine to Medium Grained Sand Beaches	2,166.23	1.35	2%
3B	Scarps and Steep Slopes (Sand)	12,408.06	7.71	12%
1B	Exposed, Solid Man-Made Structures	5,582.27	3.47	5%
Total ESI Shoreline:		102,112.94	63.45	
Total Shoreline:		78,464.22	48.76	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov





Map 30A
Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016

Map 30A
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D
SAV	Eelgrass	High Ecological Value				Present												

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
152	Diving	Common loon	General Distribution	C/C			Present													-	-	-	-
389	Diving	Common loon	Concentration Area	C/C			Present													-	-	-	-
	Gull/Tern	Common tern	Concentration Area	E/T			Present													May-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
	Gull/Tern	Least tern	Concentration Area	T/T			Present													Apr-Aug	-	-	-
	Passerine	Passerine birds	Concentration Area				Present													Jan-Dec	-	-	-
	Raptor	Northern harrier	Concentration Area	E/T			Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	Concentration Area	T/E	T		Present													Mar-Aug	-	-	-
	Wading	Herons	Concentration Area				Present													Jan-Dec	-	-	-
	Waterfowl	American black duck	Concentration Area				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Canada goose	Wintering				Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Mallard	Concentration Area				Present													Mar-Aug	-	-	-
	Waterfowl	Mergansers	Concentration Area				Present													-	Apr-May	Oct-Nov	-
	Waterfowl	Waterfowl	Concentration Area				Present													-	Jan-Dec	-	-
390	Raptor	Bald eagle	General Distribution	T/T			Present													Feb-Aug	-	-	-
	Raptor	Northern harrier	Nesting	E/T			Present													Mar-Aug	-	-	-
	Raptor	Osprey	Concentration Area	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Raptor	Osprey	General Distribution	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Raptor	Short-eared owl	General Distribution	T/E			Present													-	Oct-Apr	-	-
	Wading	Egrets	Concentration Area				Present													Jan-Dec	-	-	-
	Wading	Herons	Concentration Area				Present													Jan-Dec	Jan-Dec	-	-
	Wading	Least bittern	General Distribution	T/T			Present													Apr-Aug	Apr	Aug-Sep	-
	Wading	Least bittern	Nesting	T/T			Present													Apr-Aug	Apr	Aug-Sep	-
	Waterfowl	American black duck	Nesting				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Canada goose	Nesting				Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Hooded merganser	Wintering				Present													-	-	-	-
	Waterfowl	Mallard	Nesting				Present													Mar-Aug	-	-	-
	Waterfowl	Redhead	Wintering				Present													-	Nov-Mar	-	-
	Waterfowl	Waterfowl	Wintering				Present													-	Jan-Dec	-	-
391	Diving	Common loon	General Distribution	C/C			Present													-	-	-	-
	Waterfowl	American black duck	Wintering				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Canada goose	Wintering				Present													Mar-Aug	Jan-Dec	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D			
392	Waterfowl	Scaup	Wintering			Present													Mar-Apr	Oct-Nov	-
	Waterfowl	Waterfowl	Wintering			Present													Jan-Dec	-	-
	Waterfowl	White-winged scoter	Concentration Area			Present													Sep-May	-	-
	Diving	Common loon	General Distribution	C/C		Present													-	-	-
	Passerine	American goldfinch	Nesting			Present												Mar-Aug	-	-	-
	Passerine	Bank swallow	Nesting			Present												Apr-Aug	-	-	-
	Passerine	Blue-gray gnatcatcher	Nesting			Present												May-Jul	Apr-May	Aug-Sep	-
	Passerine	Yellow-billed cuckoo	Nesting			Present												May-Aug	May-Jun	Sep-Oct	-
	Raptor	Great horned owl	Nesting			Present												Jan-Apr	-	-	-
	Raptor	Northern harrier	Nesting	E/T		Present												Mar-Aug	-	-	-
393	Waterfowl	Common eider	Wintering			Present												Sep-May	-	-	-
	Waterfowl	Long-tailed duck	Wintering			Present												-	-	-	-
	Waterfowl	Mallard	Wintering			Present												Mar-Aug	-	-	-
	Waterfowl	White-winged scoter	Wintering			Present												-	Sep-May	-	-
	Gull/Tern	Common tern	General Distribution	E/T		Present												May-Aug	-	-	-
	Passerine	Black & white warbler	Nesting			Present												Apr-Oct	Apr-Jun	Sep-Oct	-
	Passerine	Prairie warbler	Nesting			Present												Apr-Aug	-	-	-
	Passerine	Whip-poor-will	General Distribution	C/C		Present												May-Aug	-	-	-
	Passerine	Whip-poor-will	Nesting	C/C		Present												May-Aug	-	-	-
	Raptor	Northern harrier	Vulnerable Occurrence	E/T		Present												Mar-Aug	-	-	-
394	Raptor	Red-shouldered hawk	General Distribution	-/C		Present												Mar-Aug	-	-	-
	Wading	Least bittern	General Distribution	T/T		Present												Apr-Aug	Apr	Aug-Sep	-
	Gull/Tern	Bonaparte's gull	Concentration Area			Present												-	-	-	-
	Gull/Tern	G. black-backed gull	Concentration Area			Present												Mar-Aug	-	-	-
	Gull/Tern	Herring gull	Concentration Area			Present												Mar-Aug	-	-	-
	Gull/Tern	Ring-billed gull	Concentration Area			Present												-	-	-	-
	Raptor	Osprey	General Distribution	-/C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-
	Raptor	Osprey	Vulnerable Occurrence	-/C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Least bittern	General Distribution	T/T		Present												Apr-Aug	Apr	Aug-Sep	-
	Wading	Least bittern	Nesting	T/T		Present												Apr-Aug	Apr	Aug-Sep	-
395	Waterfowl	American black duck	Migration			Present												Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Canada goose	Concentration Area			Present												Mar-Aug	Jan-Dec	-	-
	Waterfowl	Mergansers	Migration			Present												-	Apr-May	Oct-Nov	-
	Waterfowl	Redhead	Migration			Present												-	Nov-Mar	-	-
	Waterfowl	Scoters	Migration			Present												-	Apr-May	Sep-Nov	-
	Waterfowl	Waterfowl	Concentration Area			Present												-	Jan-Dec	-	-
	Waterfowl	Waterfowl	Migration			Present												-	Jan-Dec	-	-
	Gull/Tern	Common tern	General Distribution	E/T		Present												May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		100S												Apr-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	2												Mar-Aug	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Eggs	Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N				
429	Diadromous	American eel	Nursery Area			Common												-	Apr-Aug	Jan-Dec	Sep-Nov
459	Estuarine Nursery	White perch	Nursery Area			Common												Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
500	Diadromous	Alewife	Spawning Area			Common												Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
741	Estuarine Nursery	White perch	Nursery Area			Common												Apr-Jul	Apr-Jul	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area			Common												May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area			Common												May-Aug	May-Sep	Jan-Dec	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												S	F	Concentration	Mapping Qualifier
				S	F		J	F	M	A	M	J	J	A	S	O	N	D				
755	Plant	Scottish licorice-root	Vulnerable Occurrence	E/E		Low															-	-
759	FAV	Featherfoil	Vulnerable Occurrence	C/T		Present															-	-
883	Plant	Clustered mountainmint	Vulnerable Occurrence	-T		Present															-	-
889	Upland	Bushy rockrose	Vulnerable Occurrence	-T		Present															-	-
912	Plant	Southern arrowwood	High Ecological Value	-T		Abundant															-	-
913	Plant	Clustered mountainmint	Vulnerable Occurrence	-T		50															-	-
	Plant	Southern arrowwood	High Ecological Value	-T		Abundant															-	-
914	Plant	Cosmopolitan bulrush	Vulnerable Occurrence	C/-		5															-	-
	Plant	Marsh straw sedge	Vulnerable Occurrence	-T		Present															-	-
	Plant	Mitchell's sedge	Vulnerable Occurrence	-E		20															-	-
	Plant	Slender blue flag	Vulnerable Occurrence	-T		315															-	-
	Plant	Slender seapurslane	Vulnerable Occurrence	-E		Present															-	-
915	Plant	Slender seapurslane	Vulnerable Occurrence	-E		Present															-	-
	Upland	Seaside knotweed	Vulnerable Occurrence	C/C		Present															-	-
916	Wetland	Saltmarsh spikerush	Vulnerable Occurrence			Abundant															-	-
917	Plant	Clustered mountainmint	Vulnerable Occurrence	-T		75															-	-
	Plant	Ntip blue-eyed grass	Vulnerable Occurrence	-E		Present															-	-
918	Plant	Clustered mountainmint	Vulnerable Occurrence	-T		60															-	-
	Plant	Hyss. thoroughwort	Vulnerable Occurrence			80															-	-
	Plant	Rare plant	Vulnerable Occurrence	-E		Low															-	-
	Plant	Sandplain flax	Vulnerable Occurrence	-T		Low															-	-
919	Plant	Clustered mountainmint	Vulnerable Occurrence	-T		20															-	-
	Plant	Hyss. thoroughwort	Vulnerable Occurrence			80															-	-
	Upland	Sandplain gerardia	Vulnerable Occurrence	E/E	E	350															-	-
920	Plant	Midland sedge	Vulnerable Occurrence	-T		Present															-	-
921	Plant	Low. yell. loosestrife	Vulnerable Occurrence	-E		Few															-	-
	Upland	Bushy rockrose	Vulnerable Occurrence	-T		190															-	-
922	Plant	Whorled marshpennynwort	Vulnerable Occurrence	E/E		Abundant															-	-
923	Plant	Clustered bluets	Vulnerable Occurrence	-E		5,000															-	-
924	Plant	Dwarf bulrush	Vulnerable Occurrence	-E		Abundant															-	-
925	Plant	Sandplain flax	Vulnerable Occurrence	-T		100 - 150															-	-
926	Plant	Low. yell. loosestrife	Vulnerable Occurrence	-E		Present															-	-
927	Plant	Hyss. thoroughwort	Vulnerable Occurrence			165															-	-
928	Plant	Nantucket serviceberry	Vulnerable Occurrence	-E		15															-	-

HABITATS & RARE PLANTS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence											
								J	F	M	A	M	J	J	A	S	O	N	D
929	Upland	Bushy rockrose	Vulnerable Occurrence	-/T			Abundant												
	Plant	Southern arrowwood	Vulnerable Occurrence	-/T			Low												
930	Plant	Whorled marshpennwort	Vulnerable Occurrence	E/E			25												
	Plant	Nantucket serviceberry	Vulnerable Occurrence	-/E			Present												

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence											
								J	F	M	A	M	J	J	A	S	O	N	D
973	Turtle	Spotted turtle	Vulnerable Occurrence	C/C			Present												
979	Snake	E. hog-nosed snake	Vulnerable Occurrence	C/C			Present												
	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C			Present												
	Turtle	Spotted turtle	Vulnerable Occurrence	C/C			Present												
	Amphibian	B. spotted salamander	Vulnerable Occurrence	E/C			Present												
980	Turtle	Spotted turtle	Vulnerable Occurrence	C/C			Present												
	Amphibian	B. spotted salamander	Vulnerable Occurrence	E/C			Present												
981	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C			Present												
	Amphibian	B. spotted salamander	Vulnerable Occurrence	E/C			Present												
982	Amphibian	Southern leopard frog	Vulnerable Occurrence	-/C			Present												
	Amphibian																		

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D
998	Bivalve	Bay scallop	Nursery Area				Common												

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D
1041	Pinniped	Harbor seal	Haul Out				Present												

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence											
								J	F	M	A	M	J	J	A	S	O	N	D
1042	Diving	Common loon	General Distribution	C/C			10S												
		Common loon	Wintering	C/C			Present												
1043	Gull/Tern	Pied-billed grebe	General Distribution	E/T			10S												
		Black skimmer	General Distribution	-/C			Present												
		Common tern	General Distribution	E/T			10S												
		Least tern	General Distribution	T/T			Present												
1044	Raptor	Roseate tern	General Distribution	E/E			Present												
	Shorebird	Northern harrier	General Distribution	E/T			Present												
		American oystercatcher	General Distribution	T/-			Present												
		Piping plover	General Distribution	T/E			Present												
1045	Waterfowl	Black scoter	Rafting				Present												


BIRDS (continued)

Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
					J	F	M	A	M	J	J	A	S	O	N	D				
	Bufflehead	Wintering		Present													-	Oct-Jun	-	-
	Common eider	Rafting		Present													Sep-May	-	-	-
	Common goldeneye	Wintering		Present													-	Nov-Apr	-	-
	Harlequin duck	Wintering		Present													-	Mar-May	Nov-Dec	-
	King eider	Wintering		Present													-	-	-	-
	Long-tailed duck	Rafting		Present													-	-	-	-
	Red-breasted merganser	Wintering		Present													-	-	-	-
	Scoters	Rafting		Present													-	Apr-May	Sep-Nov	-
	Surf scoter	Rafting		Present													-	-	-	-
	Waterfowl	Rafting		Present													-	Jan-Dec	-	-
	White-winged scoter	Rafting		Present													-	Sep-May	-	-




FISH

Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
					J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous	Alewife		Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
		American eel		Common													-	Apr-Aug	Apr-Aug	Jan-Dec	Sep-Nov
		American shad		Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
		Blueback herring		Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
		Striped bass		Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Striped bass		Common													-	-	-	Jan-Dec	Jan-Dec
		Atlantic herring		Abundant													-	-	Mar-May	Jan-Dec	Jan-Dec
		Black sea bass		Common													-	-	-	Apr-Nov	Apr-Nov
		Bluefish		Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
		Scup		Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Marine Benthic	Summer flounder		Common													-	-	-	Mar-Nov	Mar-Nov
		Weakfish		Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
		Weakfish		Abundant													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
		Windowpane		Common													Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
		Winter flounder		Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Marine Pelagic	Little skate		Common													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
		Northern searobin		Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Red hake		Common													-	-	-	Mar-Nov	Mar-Nov
		Silver hake		Common													-	-	May-Oct	Mar-Nov	Mar-Nov
		Striped searobin		Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Marine Pelagic	Butterfish		Abundant													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
		Spiny dogfish		Common													-	-	-	May-Nov	May-Nov


REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
	Green sea turtle	General Distribution	T/T	T	Present													-	-	-	Jun-Nov	-
	K. ridley sea turtle	General Distribution	E/E	E	Present													-	-	-	Jun-Nov	-
	K. ridley sea turtle	Vulnerable Occurrence	E/E	E	Present													-	-	-	Jun-Nov	-
	Leatherback sea turtle	Vulnerable Occurrence	E/E	E	Present													-	-	-	Jun-Nov	-
	Loggerhead sea turtle	General Distribution	T/T	E	Present													-	-	-	Jun-Nov	-
	Loggerhead sea turtle	Vulnerable Occurrence	T/T	E	Present													-	-	-	Jun-Nov	-

INVERTEBRATES









Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
	Bay scallop	Harvest Area			Low													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Eastern oyster	Harvest Area			Moderate													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			Moderate													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Horseshoe crab	Nursery Area			Common													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
	Channeled whelk	Harvest Area			Low													Sep-Nov	Sep-Nov	-	Jan-Dec	Jan-Dec
	American lobster	Nursery Area			Common													Jun-Nov	Jan-Dec	May-Aug	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Harbor porpoise	General Distribution	C/C		Present													-	-	-	-
	Humpback whale	General Distribution	-/E	E	Present													-	-	-	-
	N.A. right whale	General Distribution	-/E	E	Present													-	-	-	-


ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS



Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Razorbill																	-	-	-	-
	D. crested cormorant																	Mar-Aug	-	-	-
	Great cormorant																	-	-	-	-
	Horned grebe																	-	-	-	-
	Red-throated loon																	-	-	-	-
	Bonaparte's gull																	-	-	-	-
	G. black-backed gull																	Mar-Aug	-	-	-
	Herring gull																	Mar-Aug	-	-	-
	Laughing gull																	Apr-Aug	-	-	-
	Ring-billed gull																	-	-	-	-
	Wild turkey																	Mar-Nov	-	-	-
	Acadian flycatcher																	Jun-Jul	May-Jun	Aug-Sep	-
	Chuck-will's-widow																	-	May-Jun	-	-
	Black-legged kittiwake																	-	-	-	-
	Cory's shearwater																	-	Jun-Nov	-	-
																		-	-	-	-

Long Island Sound: Map 30A

BIRDS (continued)


Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	-	-	-
	Scoters													-	Mar-Apr	Oct-Nov	-
	Surf scoter													-	Apr-May	Sep-Nov	-
	White-winged scoter													-	Sep-May	-	-

FISH



Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bluegill													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Brown bullhead													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Common carp													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Pumpkinseed													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Smallmouth bass													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Yellow perch													Mar-May	Mar-May	Mar-Aug	Jan-Dec	Jan-Dec
	Winter skate													Jun-Jan	Jun-Jan	-	Jan-Dec	Jan-Dec

Long Island Sound: Map 30A

BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	Nov-Mar	-	-
	Redhead													-	-	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-Nov	-
	Scoters													-	Apr-May	Sep-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-

FISH


Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bluegill													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Brown bullhead													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Common carp													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Pumpkinseed													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Smallmouth bass													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Yellow perch													Mar-May	Mar-May	Mar-Aug	Jan-Dec	Jan-Dec
	Winter skate													Jun-Jan	Jun-Jan	-	Jan-Dec	Jan-Dec

Long Island Sound: Map 30A

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Atlantic surfclam													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Blue mussel													Apr-Oct	Apr-Oct	Jan-Dec	Jan-Dec
	Eastern oyster													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Softshell clam													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Longfin squid													May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Horseshoe crab													May-Jun	-	Jan-Dec	Jan-Dec
	Jonah crab													Nov-Jun	Jun-Oct	Jan-Dec	Jan-Dec

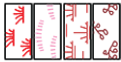
MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Bottlenose dolphin													-	-	-	-
	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	19.74	0.03
10B	Freshwater Marshes	38.44	0.06
10C	Swamps	76.89	0.12
10D	Scrub and Shrub Wetlands	63.45	0.10



ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	1,744.38	1.08	4%
10D	Scrub and Shrub Wetlands	63.09	0.04	< 1%
9B	Vegetated Low Banks	9,765.53	6.07	21%
8B	Sheltered, Solid Man-Made Structures	4,671.98	2.90	10%
8C	Sheltered Riprap	318.72	0.20	1%
6A	Gravel Beaches	1,104.93	0.69	2%
6B	Riprap	2,496.64	1.55	5%
5	Mixed Sand and Gravel Beaches	13,138.93	8.16	28%
4	Coarse Grained Sand Beaches	2,652.30	1.65	6%
3B	Scarps and Steep Slopes (Sand)	5,406.57	3.36	12%
1B	Exposed, Solid Man-Made Structures	4,875.26	3.03	11%
Total ESI Shoreline:		46,238.34	28.73	
Total Shoreline:		38,035.27	23.63	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov



Map 30B
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Monthly Presence
SAV	Eelgrass	High Ecological Value				Present													

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
143	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
332	Raptor	Barn owl	General Distribution	E/-			Present													Mar-Aug	-	-	-
	Wading	Little blue heron	General Distribution	C/-			Present													Apr-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			Present													Mar-Aug	-	-	-
337	Shorebird	American oystercatcher	General Distribution	T/-			10S													Mar-Aug	-	-	-
	Wading	Glossy ibis	General Distribution	C/-			10S													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			10S													Mar-Aug	-	-	-
396	Diving	D. crested cormorant	Nesting				Present													Mar-Aug	-	-	-
	Gull/Tern	Black skimmer	Nesting	-/C			Present													Mar-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	E/T			Present													May-Aug	-	-	-
	Gull/Tern	G. black-backed gull	Nesting				Present													Mar-Aug	-	-	-
	Gull/Tern	Herring gull	Nesting				Present													Mar-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	Nesting	E/E	E		Present													May-Aug	-	-	-
	Passerine	Bank swallow	Nesting				Present													Apr-Aug	-	-	-
	Passerine	Yellow-breasted chat	Nesting	E/C			Present													May-Aug	-	-	-
	Raptor	Bald eagle	Wintering	T/T			Present													Feb-Aug	-	-	-
	Raptor	Northern harrier	Nesting	E/T			Present													Mar-Aug	-	-	-
	Raptor	Osprey	Nesting	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Raptor	Red-tailed hawk	Nesting				Present													Mar-Aug	-	-	-
	Raptor	Snowy owl	Wintering				Present													-	Mar-Apr	Nov-Dec	-
	Shorebird	American oystercatcher	Nesting	T/-			Present													Mar-Aug	-	-	-
	Wading	BC night-heron	Nesting				Present													Mar-Aug	-	-	-
	Wading	Great egret	Nesting	T/-			Present													Mar-Aug	-	-	-
	Wading	Snowy egret	Nesting	T/-			Present													Mar-Aug	-	-	-
	Waterfowl	American black duck	Wintering				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Brant	Wintering				Present													-	Mar-May	Oct-Nov	-
	Waterfowl	Bufflehead	Wintering				Present													-	Oct-Jun	-	-
	Waterfowl	Canada goose	Nesting				Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Gadwall	Nesting				Present													Jan-Dec	-	-	-
	Waterfowl	Greater scaup	Wintering				Present													-	-	-	-
	Waterfowl	Lesser scaup	Wintering				Present													-	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D			
397	Waterfowl	Long-tailed duck	Wintering			Present													-	-	-
	Waterfowl	Red-breasted merganser	Wintering			Present													-	-	-
	Waterfowl	Ruddy duck	Wintering			Present													-	-	-
	Waterfowl	Waterfowl	Wintering			Present													-	-	-
	Waterfowl	White-winged scoter	Wintering			Present													-	-	-
	Gull/Tern	Black skimmer	Concentration Area	-/C		Present													Mar-Aug	-	-
	Gull/Tern	Common tern	Concentration Area	E/T		Present													May-Aug	-	-
	Gull/Tern	Herring gull	Wintering			Present													Mar-Aug	-	-
	Gull/Tern	Roseate tern	Concentration Area	E/E	E	Present													May-Aug	-	-
	Passerine	Grasshopper sparrow	General Distribution	E/C		Present													Oct-Nov	-	-
	Passerine	Grasshopper sparrow	Nesting	E/C		Present													Oct-Nov	-	-
	Passerine	Horned lark	General Distribution	E/C		Present													Mar-May	-	-
	Raptor	Northern harrier	Nesting	E/T		Present													Mar-Aug	-	-
	Raptor	Osprey	General Distribution	-/C		Present													Mar-Aug	Jul-Nov	-
	Raptor	Osprey	Nesting	-/C		Present													Mar-Aug	Jul-Nov	-
	Shorebird	Piping plover	Nesting	T/E	T	Present													Mar-Aug	-	-
	Waterfowl	American black duck	Nesting			Present													Apr-May	Mar-Apr	Sep-Nov
	Waterfowl	American black duck	Wintering			Present													Apr-May	Mar-Apr	Sep-Nov
	Waterfowl	Bufflehead	Wintering			Present													-	Oct-Jun	-
	Waterfowl	Common goldeneye	Wintering			Present													-	Nov-Apr	-
398	Waterfowl	Long-tailed duck	Wintering			Present													-	-	-
	Waterfowl	Mallard	Nesting			Present													Mar-Aug	-	-
	Waterfowl	Red-breasted merganser	Wintering			Present													-	-	-
	Waterfowl	Scoters	Wintering			Present													-	Apr-May	Sep-Nov
	Waterfowl	Waterfowl	Wintering			Present													-	Jan-Dec	-
	Gull/Tern	Common tern	General Distribution	E/T		Present													May-Aug	-	-
	Passerine	Seaside sparrow	General Distribution	T/C		Present													May-Aug	-	-
	Passerine	Yellow-breasted chat	General Distribution	E/C		Present													May-Aug	-	-
	Raptor	Bald eagle	General Distribution	T/T		Present													Feb-Aug	-	-
	Raptor	Northern goshawk	General Distribution	T/C		Present													-	-	-
399	Raptor	Osprey	General Distribution	-/C		Present													Mar-Aug	Mar-Jun	Jul-Nov
	Raptor	Peregrine falcon	General Distribution	T/E		Present													Mar-Aug	-	-
	Gull/Tern	Common tern	General Distribution	E/T		Present													May-Aug	-	-
	Passerine	Seaside sparrow	General Distribution	T/C		Present													May-Aug	-	-
	Passerine	Yellow-breasted chat	General Distribution	E/C		Present													May-Aug	-	-
	Raptor	Bald eagle	General Distribution	T/T		Present													Feb-Aug	-	-
	Raptor	Northern goshawk	General Distribution	T/C		Present													-	-	-
	Raptor	Osprey	General Distribution	-/C		Present													Mar-Aug	Mar-Jun	Jul-Nov
	Raptor	Peregrine falcon	General Distribution	T/E		Present													Mar-Aug	-	-
	Wading	Glossy ibis	General Distribution	C/-		Present													Mar-Aug	-	-
400	Passerine	Seaside sparrow	General Distribution	T/C		Present													May-Aug	-	-
	Passerine	Yellow-breasted chat	General Distribution	E/C		Present													May-Aug	-	-
	Raptor	Bald eagle	General Distribution	T/T		Present													Feb-Aug	-	-
	Raptor	Northern goshawk	General Distribution	T/C		Present													-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence																			Nest	Mig.(S)	Mig.(F)	Molt
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D										
401	Raptor	Osprey	General Distribution	-/C		Present													Mar-Aug	Mar-Aug	Jul-Nov	-						
	Raptor	Peregrine falcon	General Distribution	T/E		Present													Mar-Aug		-	-						
	Passerine	Black & white warbler	Nesting			Present													Apr-Oct	Apr-Jun	Sep-Oct	-						
	Passerine	Prairie warbler	Nesting			Present													Apr-Aug	-	-	-						
	Passerine	Whip-poor-will	General Distribution	C/C		Present													May-Aug	-	-	-						
	Passerine	Whip-poor-will	Nesting	C/C		Present													May-Aug	-	-	-						
	Raptor	Northern harrier	Vulnerable Occurrence	E/T		Present													Mar-Aug	-	-	-						
	Raptor	Red-shouldered hawk	General Distribution	-/C		Present													Mar-Aug	-	-	-						
	Wading	Least bittern	General Distribution	T/T		Present													Apr-Aug	Apr	Aug-Sep	-						
	402	Gull/Tern	Least tern	T/T		100S													Apr-Aug	-	-	-						
	Shorebird	American oystercatcher	General Distribution	T/-		4													Mar-Aug	-	-	-						
	Shorebird	Piping plover	General Distribution	T/E	T	10S													Mar-Aug	-	-	-						

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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864	Upland	Seaside knotweed	Vulnerable Occurrence	C/C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Hatch	Internest	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D			
962	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-		Present												Jun-Jul	-	Jan-Dec	Jan-Dec
979	Snake	E. hog-nosed snake	Vulnerable Occurrence	C/C		Present												Jun	-	Jan-Dec	Jan-Dec
	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Present												May-Jun	-	Jan-Dec	Jan-Dec
	Turtle	Spotted turtle	Vulnerable Occurrence	C/C		Present												May-Jun	-	Jan-Dec	Jan-Dec
983	Amphibian	B. spotted salamander	Vulnerable Occurrence	E/C		Present												Mar	-	Jan-Dec	Jan-Dec
																		Apr-May	-	Jan-Dec	Jan-Dec

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
				S	F		J	F	M	A	M	J	J	A	S	O	N	D				
1028	Bivalve	Eastern oyster	Harvest Area			Low													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area			High													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Softshell clam	Harvest Area			Low													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)





BIRDS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
Diving	Common loon	General Distribution	C/C		10S													-	-	-	-
	Pied-billed grebe	General Distribution	E/T		10S													-	-	-	-
Gull/Tern	Black skimmer	General Distribution	-/C		Present													Mar-Aug	-	-	-
	Common tern	General Distribution	E/T		10S													May-Aug	-	-	-
Least tern	Least tern	General Distribution	T/T		Present													Apr-Aug	-	-	-
	Roseate tern	General Distribution	E/E	E	Present													May-Aug	-	-	-
Raptor	Northern harrier	General Distribution	E/T		Present													Mar-Aug	-	-	-
	American oystercatcher	General Distribution	T/-		Present													Mar-Aug	-	-	-
Shorebird	Piping plover	General Distribution	T/E	T	Present													Mar-Aug	-	-	-


FISH

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
Diadromous	Alewife	Migration			Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Alewife	Nursery Area			Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
American eel	American eel	Migration			Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American shad	Nursery Area			Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
Blueback herring	Blueback herring	Migration		C/-	Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Striped bass	Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
Atlantic herring	Atlantic herring	Nursery Area			Common													-	-	Mar-May	Jan-Dec	Jan-Dec
	Atlantic herring	Nursery Area			Abundant													-	-	Mar-May	Jan-Dec	Jan-Dec
Atlantic menhaden	Atlantic menhaden	Nursery Area			Common													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Bay anchovy	Nursery Area			Abundant													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
Black sea bass	Black sea bass	Nursery Area			Common													-	-	-	Apr-Nov	Apr-Nov
	Bluefish	Nursery Area			Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
Bluefish	Bluefish	Nursery Area			Abundant													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov




FISH (continued)

Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
					J	F	M	A	M	J	J	A	S	O	N	D					
	Northern kingfish	Nursery Area		Common													Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
	Scup	Nursery Area		Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Summer flounder	Nursery Area		Common													-	-	-	Mar-Nov	Mar-Nov
	Weakfish	Nursery Area		Abundant													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Weakfish	Nursery Area		Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Windowpane	Nursery Area		Common													Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area		Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area		Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside	Nursery Area		Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Northern pipefish	Nursery Area		Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Oyster toadfish	Nursery Area		Common													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Atlantic tomcod	Nursery Area		Common													Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
	Little skate	Nursery Area		Common													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Northern searobin	Nursery Area		Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Red hake	Nursery Area		Common													-	-	-	Mar-Nov	Mar-Nov
	Silver hake	Nursery Area		Common													May-Sep	May-Sep	May-Oct	Mar-Nov	Mar-Nov
	Striped searobin	Nursery Area		Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Tautog	Nursery Area		Common													Apr-Sep	Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
	Atlantic mackerel	Nursery Area		Common													Apr-Jun	Apr-Jun	Apr-Jun	Apr-Nov	Apr-Nov
	Butterfish	Nursery Area		Abundant													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Butterfish	Nursery Area		Common													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Spiny dogfish	Nursery Area		Common													-	-	-	May-Nov	May-Nov



REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
					J	F	M	A	M	J	J	A	S	O	N	D					
	Green sea turtle	General Distribution	T/T	Present													-	-	-	Jun-Nov	-
	K. ridley sea turtle	General Distribution	E/E	Present													-	-	-	Jun-Nov	-
	Loggerhead sea turtle	General Distribution	T/T	Present													-	-	-	Jun-Nov	-

INVERTEBRATES










Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
					J	F	M	A	M	J	J	A	S	O	N	D					
	Bay scallop	Harvest Area		Low													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Eastern oyster	Harvest Area		Moderate													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area		Moderate													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Horseshoe crab	Nursery Area		Common													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
	Channeled whelk	Harvest Area		Low													Sep-Nov	Sep-Nov	-	Jan-Dec	Jan-Dec
	American lobster	Nursery Area		Common													Jun-Nov	Jan-Dec	May-Aug	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	CT/NY S F C/C	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
					J	F	M	A	M	J	J	A	S	O	N	D				
 Dolphin	Harbor porpoise	General Distribution	-/E	Present													-	-	-	-
 Whale	Humpback whale	General Distribution	-/E	Present													-	-	-	-
	N.A. right whale	General Distribution	-/E	Present													-	-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)



BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Alcid	Razorbill													-	-	-	-
 Diving	D. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
 Gull/Tern	Bonaparte's gull													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Laughing gull													Apr-Aug	-	-	-
	Ring-billed gull													-	-	-	-
 Landfowl	Wild turkey													Mar-Nov	-	-	-
 Passerine	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	Chuck-will's-widow													-	May-Jun	-	-
 Pelagic	Black-legged kittiwake													-	-	-	-
	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
 Shorebird	Semipalmated sandpiper													-	-	Jul-Oct	-
 Wading	BC night-heron													Mar-Aug	-	-	-
 Waterfowl	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-





BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug			-
	Mute swan													Mar-Sep			-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-Nov	-
	Scoters													-	Apr-May	Sep-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-
	Wood duck													Mar-Aug	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Black crappie													May-Jun	May-Jun	May-Jun	Jan-Dec	Jan-Dec
	Bluegill													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Brown bullhead													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Pumpkinseed													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Yellow perch													Mar-May	Mar-May	Mar-Aug	Jan-Dec	Jan-Dec
	American sand lance													Nov-Mar	Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec
	Cunner													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Winter skate													Jun-Jan	Jun-Jan	-	Jan-Dec	Jan-Dec





INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Ribbed mussel													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Longfin squid													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Blue crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Fiddler crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
	Jonah crab													Nov-Jun	May-Nov	Jun-Oct	Jan-Dec	Jan-Dec
	Lady crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Spider crabs													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Grass shrimp													May-Oct	May-Oct	May-Oct	May-Oct	Jan-Dec


REPTILES & AMPHIBIANS

Subelement	Species	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Turtle	N. diamondback terrapin													-	-	-	Apr-Nov	Apr-Nov

INVERTEBRATES


Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Bivalve	Atlantic surfclam													Jun-Oct*	Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec
	Bay scallop													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Blue mussel													Apr-Nov	Apr-Nov	Apr-Nov	Jan-Dec	Jan-Dec
 Cephalopod	Longfin squid													-	-	-	-	Jan-Dec
 Crab	Blue crab													May-Oct	Jun-Oct	Jun-Oct	Jan-Dec	Jan-Dec
	Blue crab													-	-	Jun-Oct	-	Aug-Mar
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Aug-Mar	Aug-Mar
 Lobster	American lobster													-	-	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Dolphin	Bottlenose dolphin													-	-	-	-
	Harbor porpoise													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Dolphin													-	-	-	-
	Bottlenose dolphin													-	-	-	-
	Pinniped													-	-	-	-
	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES		
ESI Rank	Habitat Classification	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	40.09
10B	Freshwater Marshes	1.22
10C	Swamps	7.79
10D	Scrub and Shrub Wetlands	12.92
7	Exposed Tidal Flats	14.02

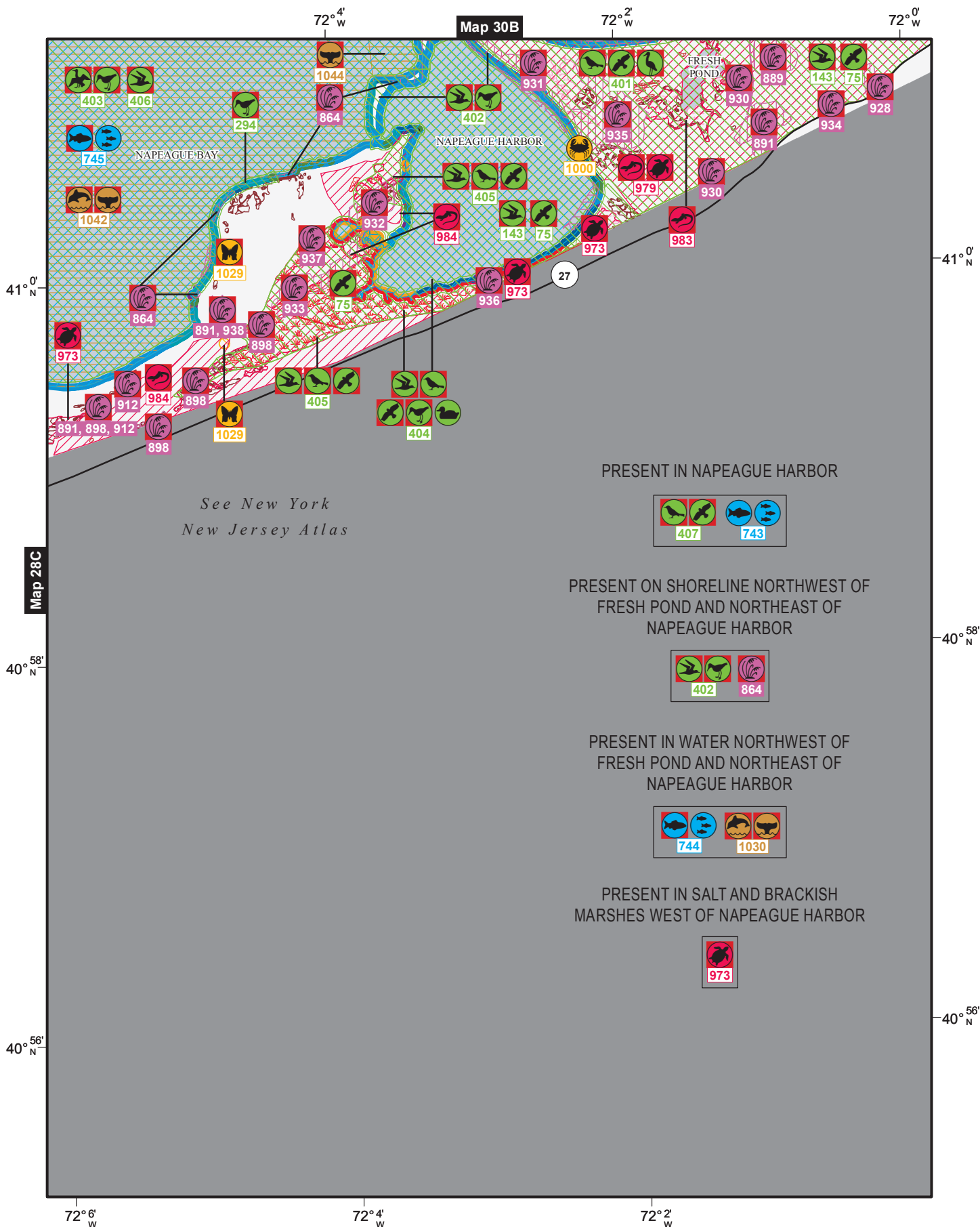
ESI SHORELINE HABITAT TYPES		
ESI Rank	Shoreline Habitat Classification	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	5%
9B	Vegetated Low Banks	14%
7	Exposed Tidal Flats	4%
6A	Gravel Beaches	3%
5	Mixed Sand and Gravel Beaches	38%
4	Coarse Grained Sand Beaches	14%
3B	Scarps and Steep Slopes (Sand)	22%

Total ESI Shoreline: 30,541.58
Total ESI Shoreline: 18.98
Total Shoreline: 21,186.75
Total Shoreline: 13.16

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov

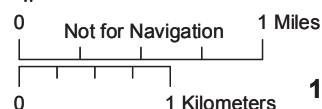




Map 30C Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016



1:50,000



Map 30C
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence
SAV	Eelgrass	High Ecological Value				Present	J F M A M J J A S O N D
							<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence	Nest	Mig.(S)	Mig.(F)	Molt
75	Raptor	Northern harrier	General Distribution	E/T			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	-	-	-
143	Gull/Tern	Common tern	General Distribution	E/T			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	May-Aug	-	-	-
294	Shorebird	Piping plover	General Distribution	T/E	T		8	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	-	-	-
401	Passerine	Black & white warbler	Nesting				Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Apr-Oct	Apr-Jun	Sep-Oct	-
	Passerine	Prairie warbler	Nesting				Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Apr-Aug	-	-	-
	Passerine	Whip-poor-will	General Distribution	C/C			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	May-Aug	-	-	-
	Passerine	Whip-poor-will	Nesting	C/C			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	May-Aug	-	-	-
	Raptor	Northern harrier	Vulnerable Occurrence	E/T			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	-	-	-
	Raptor	Red-shouldered hawk	General Distribution	-/C			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	-	-	-
	Wading	Least bittern	General Distribution	T/T			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Apr-Aug	Apr	Aug-Sep	-
402	Gull/Tern	Least tern	General Distribution	T/T			100S	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Apr-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			4	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		10S	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	-	-	-
403	Diving	Common loon	General Distribution	C/C			10S	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	-	-	-	-
	Diving	Pied-billed grebe	General Distribution	E/T			10S	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	-	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	-	-	-
404	Gull/Tern	Black skimmer	Concentration Area	-/C			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	-	-	-
	Gull/Tern	Common tern	Concentration Area	E/T			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	May-Aug	-	-	-
	Gull/Tern	Herring gull	Wintering				Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	-	-	-
	Gull/Tern	Roseate tern	Concentration Area	E/E	E		Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	May-Aug	-	-	-
	Passerine	Grasshopper sparrow	Nesting	E/C			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Oct-Nov	-	-	-
	Raptor	Northern harrier	Nesting	E/T			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	-	-	-
	Raptor	Osprey	Nesting	-/C			Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	Nesting	T/E	T		Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	-	-	-
	Waterfowl	American black duck	Nesting				Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	American black duck	Wintering				Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Bufflehead	Wintering				Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	-	Oct-Jun	-	-
	Waterfowl	Common goldeneye	Wintering				Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	-	Nov-Apr	-	-
	Waterfowl	Long-tailed duck	Wintering				Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	-	-	-	-
	Waterfowl	Mallard	Nesting				Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Mar-Aug	-	-	-
	Waterfowl	Red-breasted merganser	Wintering				Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	-	-	-	-
	Waterfowl	Scoters	Wintering				Present	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	-	Apr-May	Sep-Nov	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
								J	F	M	A	M	J	J	A	S	O	N	D				
	Waterfowl	Waterfowl	Wintering				Present													-	Jan-Dec	-	-
405	Gull/Tern	Common tern	General Distribution				Present													May-Aug	-	-	-
	Passerine	Grasshopper sparrow	General Distribution				Present													Oct-Nov	-	-	-
	Passerine	Horned lark	General Distribution				Present													Mar-May	-	-	-
	Raptor	Osprey	General Distribution				Present													Mar-Aug	Jul-Nov	-	-
406	Gull/Tern	Common tern	General Distribution				10S													May-Aug	-	-	-
407	Passerine	Grasshopper sparrow	General Distribution				Present													Oct-Nov	-	-	-
	Passerine	Horned lark	General Distribution				Present													Mar-May	-	-	-
	Raptor	Osprey	General Distribution				Present													Mar-Aug	Jul-Nov	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
743	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
744	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Diadromous	Alewife	Migration				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Migration				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	American shad	Nursery Area				Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
	Diadromous	Blueback herring	Migration				Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Atlantic herring	Nursery Area				Abundant													-	-	Mar-May	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Scup	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Weakfish	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Estuarine Nursery	Windowpane	Nursery Area				Common													Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Winter flounder	Nursery Area				Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Marine Benthic	Little skate	Nursery Area				Common													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Marine Benthic	Northern searobin	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Marine Benthic	Red hake	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
	Marine Benthic	Silver hake	Nursery Area				Common													-	-	May-Oct	Mar-Nov	Mar-Nov
	Marine Benthic	Striped searobin	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Marine Pelagic	Butterfish	Nursery Area				Abundant													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Marine Pelagic	Spiny dogfish	Nursery Area				Common													-	-	-	May-Nov	May-Nov
	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
745	Diadromous	American eel	Migration				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	American shad	Nursery Area				Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
	Diadromous	Blueback herring	Migration				Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Atlantic herring	Nursery Area				Common													-	-	Mar-May	Jan-Dec	Jan-Dec
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Common													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bay anchovy	Nursery Area				Abundant													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Black sea bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Eggs	Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N				
	Estuarine Nursery	Bluefish	Nursery Area			Abundant												Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Northern kingfish	Nursery Area			Common												Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
	Estuarine Nursery	Scup	Nursery Area			Abundant												May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Weakfish	Nursery Area			Abundant												May-Sep	May-Sep	Jul-Nov	May-Nov
	Estuarine Nursery	Windowpane	Nursery Area			Common												Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area			Abundant												May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area			Common												Apr-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Oyster toadfish	Nursery Area			Common												Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area			Common												Nov-Feb	Dec-May	Jan-Dec	Jan-Dec
	Marine Benthic	Little skate	Nursery Area			Common												Jan-Dec	-	Jan-Dec	Jan-Dec
	Marine Benthic	Northern searobin	Nursery Area			Common												May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Marine Benthic	Tautog	Nursery Area			Common												Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
	Marine Pelagic	Atlantic mackerel	Nursery Area			Common												Apr-Jun	Apr-Jun	Apr-Nov	Apr-Nov
	Marine Pelagic	Butterfish	Nursery Area			Common												May-Aug	May-Aug	May-Dec	May-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence														
				S	F		J	F	M	A	M	J	J	A	S	O	N	D			
864	Upland	Seaside knotweed	Vulnerable Occurrence	C/C		Present												-	-	-	-
889	Upland	Bushy rockrose	Vulnerable Occurrence	-/T		Present												-	-	-	-
891	Plant	New Eng. blazing star	Vulnerable Occurrence	C/T		7												-	-	-	-
898	Plant	Slender blue flag	Vulnerable Occurrence	-/T		Abundant												-	-	-	-
912	Plant	Southern arrowwood	High Ecological Value	-/T		Abundant												-	-	-	-
928	Plant	Nantucket serviceberry	Vulnerable Occurrence	-/E		15												-	-	-	-
	Upland	Bushy rockrose	Vulnerable Occurrence	-/T		Abundant												-	-	-	-
930	Plant	Nantucket serviceberry	Vulnerable Occurrence	-/E		Present												-	-	-	-
931	Plant	Annual seepweed	Vulnerable Occurrence	-/E		Present												-	-	-	-
	Plant	Dwarf saltwort	Vulnerable Occurrence	-/T		150 - 200												-	-	-	-
	Plant	Goose tongue	Vulnerable Occurrence	-/T		Abundant												-	-	-	-
	Plant	Roland's seablite	Vulnerable Occurrence	-/E		Present												-	-	-	-
	Plant	Slender crabgrass	Vulnerable Occurrence	-/E		75												-	-	-	-
	Plant	Texan flatsedge	Vulnerable Occurrence	-/E		Present												-	-	-	-
	Wetland	Sea pink	Vulnerable Occurrence	E/T		800 - 1000												-	-	-	-
932	Plant	Annual seepweed	Vulnerable Occurrence	-/E		Abundant												-	-	-	-
	Plant	Dwarf saltwort	Vulnerable Occurrence	-/T		90												-	-	-	-
	Plant	Goose tongue	Vulnerable Occurrence	-/T		1700												-	-	-	-
	Plant	Marsh fimbry	Vulnerable Occurrence	-/T		50 - 100												-	-	-	-
	Plant	New Eng. blazing star	Vulnerable Occurrence	C/T		30												-	-	-	-
	Plant	O. evening primrose	Vulnerable Occurrence	-/T		Low												-	-	-	-
	Plant	Rare plant	Vulnerable Occurrence	-/E		Present												-	-	-	-
	Plant	Texan flatsedge	Vulnerable Occurrence	-/E		40												-	-	-	-
	Wetland	Sea pink	Vulnerable Occurrence	E/T		500												-	-	-	-
933	Plant	Annual seepweed	Vulnerable Occurrence	-/E		50												-	-	-	-
	Plant	Dwarf saltwort	Vulnerable Occurrence	-/T		450 - 500												-	-	-	-

HABITATS & RARE PLANTS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence											
								J	F	M	A	M	J	J	A	S	O	N	D
	Plant	Goose tongue	Vulnerable Occurrence	-/T			Present											-	-
	Plant	Marsh fimbry	Vulnerable Occurrence	-/T			100S											-	-
	Plant	New Eng. blazing star	Vulnerable Occurrence	C/T			100S											-	-
	Plant	Roland's seablite	Vulnerable Occurrence	-/E			100											-	-
	Plant	Silverweed cinquefoil	Vulnerable Occurrence	-/T			100											-	-
	Plant	Slender crabgrass	Vulnerable Occurrence	-/E			Present											-	-
	Plant	Texan flatsedge	Vulnerable Occurrence	-/E			1500 - 2000											-	-
	Wetland	Sea pink	Vulnerable Occurrence	E/T			Abundant											-	-
934	Plant	Clustered mountainmint	Vulnerable Occurrence	-/T			5											-	-
	Plant	Nantucket serviceberry	Vulnerable Occurrence	-/E			200											-	-
	Upland	Bushy rockrose	Vulnerable Occurrence	-/T			12											-	-
935	Plant	Rare plant	Vulnerable Occurrence	-/E			550											-	-
	Wetland	Scirpus-like rush	Vulnerable Occurrence	-/E			675											-	-
936	Plant	Annual seepweed	Vulnerable Occurrence	-/E			10 -50											-	-
	Plant	Dwarf saltwort	Vulnerable Occurrence	-/T			75											-	-
	Plant	Goose tongue	Vulnerable Occurrence	-/T			700											-	-
	Plant	New Eng. blazing star	Vulnerable Occurrence	C/T			35											-	-
937	Plant	Marsh fimbry	Vulnerable Occurrence	-/T			50 - 100											-	-
938	Plant	Carolina clubmoss	Vulnerable Occurrence	-/E			Present											-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence											
								J	F	M	A	M	J	J	A	S	O	N	D
973	Turtle	Spotted turtle	Vulnerable Occurrence	C/C			Present											May-Jun	Jan-Dec
979	Snake	E. hog-nosed snake	Vulnerable Occurrence	C/C			Present											Jun	Jan-Dec
	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C			Present											May-Jun	Jan-Dec
	Turtle	Spotted turtle	Vulnerable Occurrence	C/C			Present											May-Jun	Jan-Dec
983	Amphibian	B. spotted salamander	Vulnerable Occurrence	E/C			Present											Mar	Jan-Dec
984	Amphibian	Eastern spadefoot	Vulnerable Occurrence	E/C			Present											Apr-Jun	Jan-Dec
	Snake	E. hog-nosed snake	Vulnerable Occurrence	C/C			Present											Jun	Jan-Dec

INVERTEBRATES



Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence											
								J	F	M	A	M	J	J	A	S	O	N	D
1000	Crab	Horseshoe crab	Spawning Area				High											May-Jun	Jan-Dec
1029	Insect	Jersey jair underwing	Vulnerable Occurrence	-/C			Present											Jun-Sep	Jul-Oct
	Insect	Pine Barrens underwing	Vulnerable Occurrence	-/C			Present											-	Jan-Dec

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
								J	F	M	A	M	J	J	A	S	O	N	D				
1030	Dolphin	Harbor porpoise	General Distribution	C/C			Present													-	-	-	-
	Whale	Humpback whale	General Distribution	-/E	E		Present													-	-	-	-
	Whale	N.A. right whale	General Distribution	-/E	E		Present													-	-	-	-
1042	Dolphin	Harbor porpoise	General Distribution	C/C			Present													-	-	-	-
	Whale	N.A. right whale	General Distribution	-/E	E		Present													-	-	-	-
1044	Whale	Humpback whale	General Distribution	-/E	E		Present													-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
	Gull/Tern	Black skimmer	General Distribution	-/C			Present												Mar-Aug	-	-	-
		Least tern	General Distribution	T/T			Present												Apr-Aug	-	-	-
		Roseate tern	General Distribution	E/E	E		Present												May-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		Present												Mar-Aug	-	-	-



FISH

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
	Estuarine Nursery	Summer flounder	Nursery Area			Common													-	-	-	Mar-Nov	Mar-Nov
		Winter flounder	Nursery Area			Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec








REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
	Turtle	Green sea turtle	General Distribution	T/T	T		Present												-	-	-	Jun-Nov	-
		K. ridley sea turtle	General Distribution	E/E	E		Present												-	-	-	Jun-Nov	-
		Loggerhead sea turtle	General Distribution	T/T	E		Present												-	-	-	Jun-Nov	-

INVERTEBRATES

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve	Bay scallop	Harvest Area			Low													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
		Eastern oyster	Harvest Area			Moderate													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
		Northern quahog	Harvest Area			Moderate													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Crab	Horseshoe crab	Nursery Area			Common													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
	Gastropod	Channeled whelk	Harvest Area			Low													Sep-Nov	Sep-Nov	-	Jan-Dec	Jan-Dec



BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 	Razorbill													-	-	-	-
	D. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
	Bonaparte's gull													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Laughing gull													Apr-Aug	-	-	-
	Ring-billed gull													-	-	-	-
	Wild turkey													Mar-Nov	-	-	-
	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	Chuck-will's-widow													-	May-Jun	-	-
	Black-legged kittiwake													-	-	-	-
	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Semipalmated sandpiper													-	-	Jul-Oct	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-

BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	-	-	-
	Scoters													-	Mar-Apr	Oct-Nov	-
	Surf scoter													-	Apr-May	Sep-Nov	-
	White-winged scoter													-	-	-	-
	Wood duck													-	Sep-May	-	-
														Mar-Aug	-	-	-



FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Black crappie													May-Jun	May-Jun	May-Jun	Jan-Dec	Jan-Dec
	Bluegill													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Brown bullhead													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Pumpkinseed													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Yellow perch													Mar-May	Mar-May	Mar-Aug	Jan-Dec	Jan-Dec
	American sand lance													Nov-Mar	Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec
	Cunner													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Winter skate													Jun-Jan	Jun-Jan	-	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
	Softshell clam	J	F	M	A	M	J	J	A	S	O	N	D	Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec

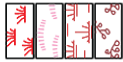
MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
	Bottlenose dolphin	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	252.62	0.39
10B	Freshwater Marshes	47.34	0.07
10C	Swamps	19.48	0.03
10D	Scrub and Shrub Wetlands	114.14	0.18



ESI SHORELINE HABITAT TYPES

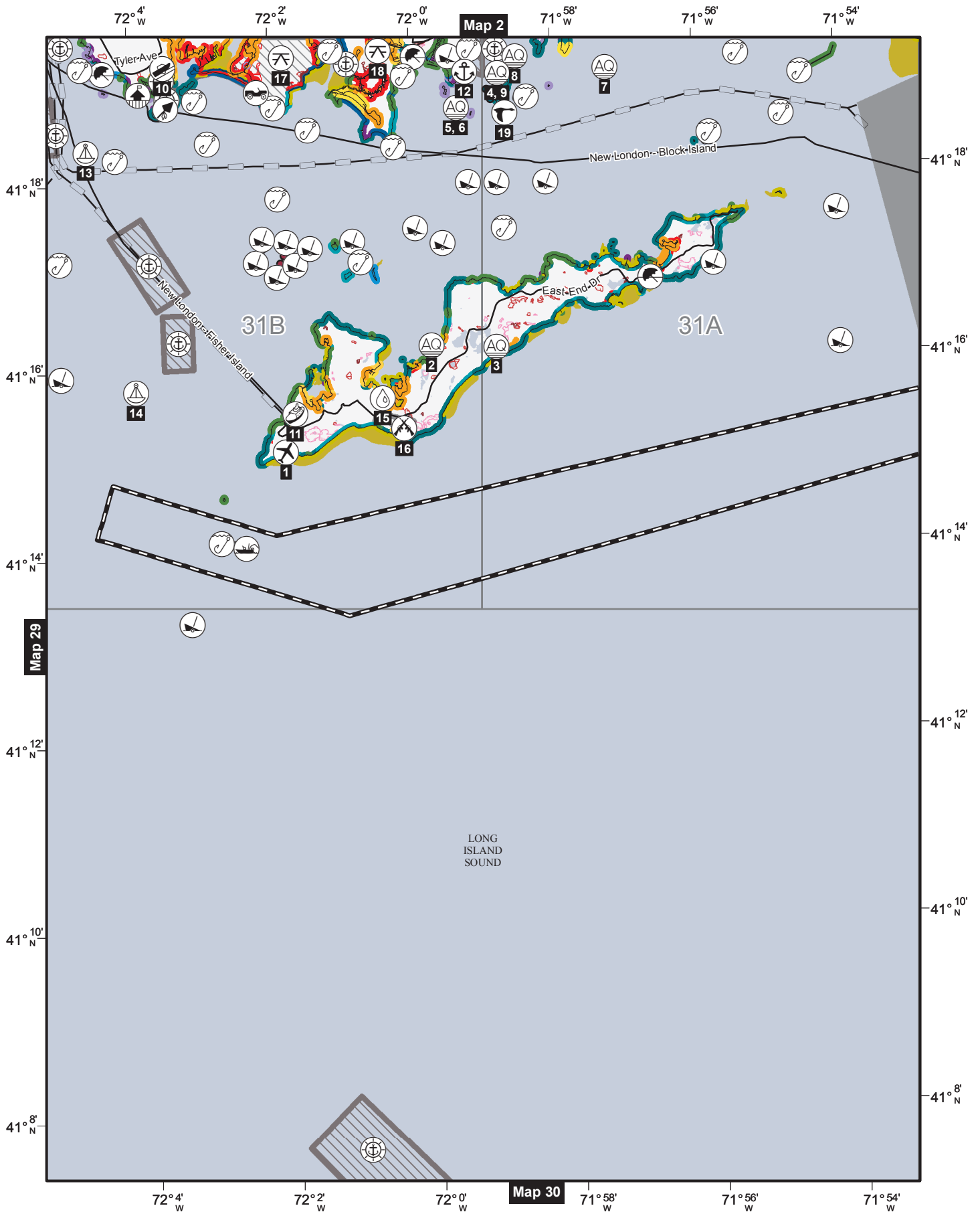
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	5,096.31	3.17	20%
10D	Scrub and Shrub Wetlands	348.05	0.22	1%
9B	Vegetated Low Banks	4,339.78	2.70	17%
6A	Gravel Beaches	452.61	0.28	2%
6B	Riprap	494.69	0.31	2%
5	Mixed Sand and Gravel Beaches	3,256.25	2.02	13%
4	Coarse Grained Sand Beaches	8,198.30	5.09	32%
3A	Fine to Medium Grained Sand Beaches	2,166.23	1.35	9%
3B	Scarps and Steep Slopes (Sand)	277.26	0.17	1%
1B	Exposed, Solid Man-Made Structures	707.01	0.44	3%

Total ESI Shoreline: 25,336.49 Total ESI Shoreline: 15.74
 Total Shoreline: 19,245.46 Total Shoreline: 11.96

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov





Map 31
Long Island Sound



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: September 2016

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 31
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Contact
1	AIRPORT	ELIZABETH FIELD AIRPORT	FEDERAL AVIATION ADMINISTRATION
2	AQUACULTURE	FISHERS ISLAND OYSTER FARM WEST HRBR (09-PA)	WADE CARDEN
3	AQUACULTURE	FISHERS ISLAND OYSTER FARM ISLAND POND (09-PA)	WADE CARDEN
4	AQUACULTURE	STONINGTON FARMS SHELLFISH, INC. (CT053AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE
5	AQUACULTURE	CONNECTICUT CULTURED OYSTERS (CT039AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE
6	AQUACULTURE	PRAMER OYSTER CO. (CT036AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE
7	AQUACULTURE	DOLAN BROTHER LOTS (CT 090A AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE
8	AQUACULTURE	MARKOW DEEDED LOT (CT 090A AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE
9	AQUACULTURE	SIX PENNY OYSTER (CT 093 AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE
10	BOAT RAMP	BAYBERRY LANE BOAT RAMP	
11	FERRY	FISHERS ISLAND FERRY TERMINAL	
12	MARINA	SEAPORT MARINA	
13	REPEATED MEASUREMENT SITE	STATION LDLC3 - NEW LONDON LEDGE	JAMES B. EDSON
14	REPEATED MEASUREMENT SITE	STATION 44060 - EASTERN LONG ISLAND SOUND	JAMES B. EDSON
15	WATER INTAKE	FISHERS IS. OYSTER FARM WATER INTAKE	STEVE MALINOWSKI

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Contact
16	MILITARY	US NAVAL UNDERWATER SYSTEMS CENTER	
17	PARK	BLUFF POINT COASTAL RESERVE	CT DEPT. OF ENERGY AND ENV. PROTECTION
18	PARK	HALEY FARM STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION
19	WILDLIFE REFUGE	STEWART B. MCKINNEY NATIONAL WILDLIFE REFUGE	RICK POTVIN

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SUMMER FLOUNDER - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SUMMER FLOUNDER - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLACK SEA BASS - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SPINY DOGFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SPINY DOGFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC MACKEREL - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325

ALSO PRESENT IN MAPPED AREA (POLYGONS) (continued)			
ESSENTIAL HABITAT	ATLANTIC MACKEREL - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - LARVAE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BASKING SHARK - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BASKING SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFIN TUNA - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFIN TUNA - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	COMMON THRESHER SHARK - ALL LIFE STAGES	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SANDBAR SHARK - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SANDBAR SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SKIPJACK TUNA - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	WHITE SHARK - ALL LIFE STAGES	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	DUMPLING ISLANDS AND FLAT HAMMOCK (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	FISHERS IS BEACHES, PINE IS AND SHALLOWS	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	HUNGRY POINT ISLANDS (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	MONTAUK POINT SHOALS (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	THE RACE (SH)	JEFFREY L. HERTER	518-486-7942

JURISDICTIONS

COUNTY: NEW COUNTY, SUFFOLK COUNTY
COAST GUARD: DISTRICT 1, SECTOR LONG ISLAND SOUND
USACE: NORTH ATLANTIC DIVISION, NEW ENGLAND DISTRICT, NEW YORK DISTRICT

FEMA: REGION I, REGION II
EPA: REGION 1, REGION 2

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	180.91	0.28
10B	Freshwater Marshes	84.70	0.13
10C	Swamps	50.71	0.08
10D	Scrub and Shrub Wetlands	14.68	0.02
9A	Sheltered Tidal Flats	55.27	0.09
7	Exposed Tidal Flats	638.31	1.00

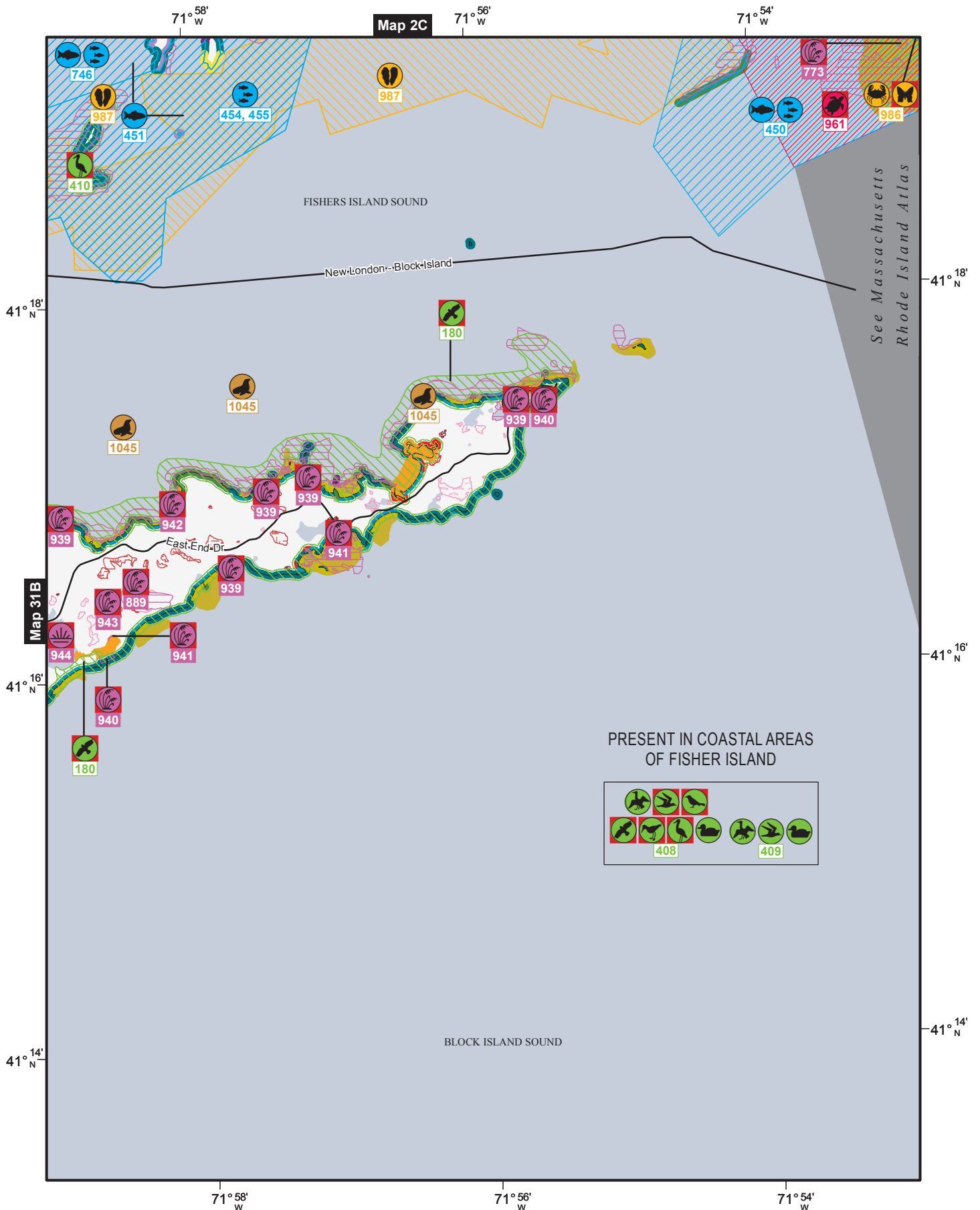
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	23,129.33	14.37	15%
10D	Scrub and Shrub Wetlands	380.65	0.24	< 1%
9A	Sheltered Tidal Flats	9,988.15	6.21	6%
9B	Vegetated Low Banks	13,489.12	8.38	8%
8B	Sheltered, Solid Man-Made Structures	3,883.08	2.41	2%
8C	Sheltered Riprap	4,593.36	2.85	3%
7	Exposed Tidal Flats	23,180.29	14.40	15%
6A	Gravel Beaches	25,917.43	16.10	16%
6B	Riprap	16,768.21	10.42	11%
5	Mixed Sand and Gravel Beaches	12,791.24	7.95	8%
4	Coarse Grained Sand Beaches	1,350.07	0.84	1%
3A	Fine to Medium Grained Sand Beaches	8,505.61	5.29	5%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	4,353.70	2.71	3%
1A	Exposed, Rocky Shores	36.09	0.02	< 1%
1B	Exposed, Solid Man-Made Structures	10,524.54	6.54	7%
Total ESI Shoreline:		158,890.87	98.73	
Total Shoreline:		110,363.70	68.58	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov





Map 31A
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
SAV	Elgrass	High Ecological Value				Present												
SAV	Cutleaf watermilfoil	High Ecological Value			-/E	Present												

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt		
				S	F	J	F	M	A	M	J	J	A	S	O	N	D						
180	Raptor	Osprey	General Distribution	-/C															Mar-Aug	Mar-Jun	Jul-Nov	-	
408	Diving	D. crested cormorant	Nesting																Mar-Aug	-	-	-	
	Gull/Tern	Black skimmer	Vulnerable Occurrence	-/C															Mar-Aug	-	-	-	
	Gull/Tern	Common tern	Nesting	E/T															May-Aug	-	-	-	
	Gull/Tern	G. black-backed gull	Nesting																Mar-Aug	-	-	-	
	Gull/Tern	Herring gull	Nesting																Mar-Aug	-	-	-	
	Gull/Tern	Least tern	Nesting	T/T															Apr-Aug	-	-	-	
	Gull/Tern	Roseate tern	Concentration Area	E/E	E														May-Aug	-	-	-	
	Passerine	Barn Swallow	Nesting																Apr-Aug	-	-	-	
	Passerine	Belted kingfisher	Nesting																Mar-Aug	-	-	-	
	Passerine	Brown thrasher	Nesting	C/-															Mar-Aug	-	-	-	
	Passerine	Eastern kingbird	Nesting																Apr-Aug	-	-	-	
	Passerine	Passerine birds	Migration																Jan-Dec	Jan-Dec	-	-	
	Passerine	Tree swallow	Nesting																Mar-Aug	-	-	-	
	Raptor	Osprey	Nesting	-/C															Mar-Aug	Mar-Jun	Jul-Nov	-	
	Shorebird	American oystercatcher	Nesting	T/-															Mar-Aug	-	-	-	
	Shorebird	Piping plover	Vulnerable Occurrence	T/E	T														Mar-Aug	-	-	-	
	Shorebird	Shorebirds	Migration																-	Jan-Dec	-	-	-
	Wading	BC night-heron	Nesting																Mar-Aug	-	-	-	
Wading	Great blue heron	Vulnerable Occurrence																Mar-Aug	-	-	-		
Wading	Green heron	Nesting																Apr-Aug	-	-	-		
Wading	Herons	Vulnerable Occurrence																Jan-Dec	Jan-Dec	-	-	-	
Wading	Little blue heron	Vulnerable Occurrence	C/-															Apr-Aug	-	-	-	-	
Wading	Snowy egret	Nesting	T/-															Mar-Aug	-	-	-	-	
Waterfowl	Canada goose	Nesting																Mar-Aug	Jan-Dec	-	-	-	
Waterfowl	Common eider	Nesting																Sep-May	-	-	-	-	
Waterfowl	Mallard	Nesting																Mar-Aug	-	-	-	-	
Waterfowl	Waterfowl	Wintering																-	Jan-Dec	-	-	-	
Waterfowl	Wood duck	Nesting																Mar-Aug	-	-	-	-	
409	Diving	Grebes	Wintering															-	Jan-Dec	-	-	-	
	Diving	Loons	Wintering															-	Apr-May	Oct-Nov	-	-	

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Molt
						J	F	M	A	M	J	J	A	S	O	N	D	
	Gull/Tern	Terns	Wintering		Present													
	Waterfowl	Common eider	Concentration Area		Present													
	Waterfowl	Diving ducks	Wintering		Present													
410	Wading	Glossy ibis	Nesting	C/-	Present													
	Wading	Wading birds	Nesting		Present													
	Wading	Wading birds	Nesting		Present													

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Adults
						J	F	M	A	M	J	J	A	S	O	N	D	
450	Diadromous	Striped bass	Concentration Area		Common													Jan-Dec
	Estuarine Nursery	Bluefish	Concentration Area		Common													Jan-Dec
	Estuarine Nursery	Scup	Concentration Area		Abundant													Jun-Nov
451	Estuarine Nursery	Summer flounder	Concentration Area		Common													May-Nov
	Diadromous	Striped bass	Concentration Area		Common													Mar-Nov
	Estuarine Nursery	Bluefish	Concentration Area		Common													Jan-Dec
454	Estuarine Nursery	Scup	Concentration Area		Abundant													Jun-Nov
	Estuarine Nursery	Summer flounder	Concentration Area		Common													Apr-Nov
	Estuarine Nursery	Black sea bass	Concentration Area		Common													May-Nov
455	Estuarine Nursery	Alewife	Nursery Area		Common													Mar-Nov
	Diadromous	American eel	Nursery Area		Common													Jan-Dec
	Diadromous	Brown trout (sea run)	Migration		Uncommon													Apr-Nov
	Diadromous	Hickory shad	Concentration Area		Common													Apr-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area		Abundant													Jan-Dec
	Estuarine Nursery	Rainwater killifish	Nursery Area		Common													Jul-Nov
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Nov
	Estuarine Nursery	Winter flounder	Concentration Area		Abundant													May-Nov
	Estuarine Resident	Mummichog	Nursery Area		Common													Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area		Common													Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area		Common													Jan-Dec
																		Sep-May

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
773	Plant	Seaside sandplant	Vulnerable Occurrence	C/-	Present												
889	Upland	Bushy rockrose	Vulnerable Occurrence	-/T	Present												
939	Plant	Seacoast angelica	Vulnerable Occurrence	E/-	Present												
940	Wetland	Red pigweed	Vulnerable Occurrence	-/T	Present												
941	Plant	Golden dock	Vulnerable Occurrence	C/E	Present												
942	Plant	American burnweed	Vulnerable Occurrence	-/E	Present												
943	Plant	Twining screwworm	Vulnerable Occurrence	-/E	Present												
944	FAV	Spotted pondweed	Vulnerable Occurrence	-/T	Present												

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F E/E E	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					

961 Turtle Leatherback sea turtle



INVERTEBRATES

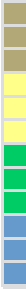
Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F -/T	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					

986 Crab Horseshoe crab

Insect Frosted elfin



Bivalve Eastern oyster



MARINE MAMMALS


Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				

1045 Pinniped Harbor seal



WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BIRDS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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Diving Common loon



Gull/Tern Pied-billed grebe



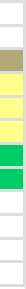
Least tern



Shorebird Roseate tern



American oystercatcher



Piping plover



FISH

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
🐡	Diadromous	Migration			Common											Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov		
	Alewife	Nursery Area			Common											Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct		
	American eel	Migration			Common											-	Apr-Aug	Jan-Dec	Jan-Dec	Sep-Nov		
	American shad	Nursery Area			Common											May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul		
🐟	Blueback herring	Migration	C/-		Common											May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov		
	Striped bass	Nursery Area			Common											-	-	-	Jan-Dec	Jan-Dec		
	Atlantic herring	Nursery Area			Common											-	Mar-May	Jan-Dec	Jan-Dec	Jan-Dec		
	Atlantic herring	Nursery Area			Abundant											-	Mar-May	Jan-Dec	Jan-Dec	Jan-Dec		
	Atlantic menhaden	Nursery Area			Common											May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov		
	Bay anchovy	Nursery Area			Common											May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec		
	Black sea bass	Nursery Area			Common											-	-	-	Jan-Dec	Jan-Dec		
	Bluefish	Nursery Area			Common											Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov		
	Scup	Nursery Area			Abundant											May-Aug	May-Aug	May-Aug	May-Nov	May-Nov		

Diadromous Alewife



American eel



American shad



Blueback herring



Striped bass



Atlantic herring



Atlantic herring



Bay anchovy



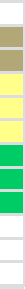
Black sea bass





Bluefish




Scup





FISH (continued)

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
	Summer flounder	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
	Weakfish	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Windowpane	Nursery Area				Common													Apr-Oct	May-Nov	May-Nov	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area				Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Little skate	Nursery Area				Common													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Northern searobin	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Red hake	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
	Silver hake	Nursery Area				Common													-	-	May-Oct	Mar-Nov	Mar-Nov
	Smooth dogfish	Nursery Area				Common													-	-	-	May-Oct	May-Oct
	Spotted hake	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
	Striped searobin	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
	Atlantic mackerel	Nursery Area				Common													Apr-Jun	Apr-Jun	Apr-Jun	Apr-Nov	Apr-Nov
	Butterfish	Nursery Area				Abundant													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Butterfish	Nursery Area				Common													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Spiny dogfish	Nursery Area				Common													-	-	-	May-Nov	May-Nov


REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
	Green sea turtle	General Distribution				Present													-	-	-	Jun-Nov	-
	K. ridley sea turtle	General Distribution				Present													-	-	-	Jun-Nov	-
	Loggerhead sea turtle	General Distribution				Present													-	-	-	Jun-Nov	-







INVERTEBRATES

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
	Eastern oyster	Harvest Area				Moderate													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area				Low													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	American lobster	Nursery Area				Common													Jun-Nov	Jan-Dec	May-Aug	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
	Harbor porpoise	General Distribution				Present													-	-	-	-
	Humpback whale	General Distribution				Present													-	-	-	-
	N.A. right whale	General Distribution				Present													-	-	-	-

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Razorbill													-	-	-	-
	D. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
	Bonaparte's gull													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Laughing gull													Apr-Aug	-	-	-
	Ring-billed gull													-	-	-	-
	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	Black-legged kittiwake													-	-	-	-
	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-




BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Scaup													-	Mar-Apr	Oct-Nov	-	-
	Scoters													-	Apr-May	Sep-Nov	-	-
	Surf scoter													-	-	-	-	-
	White-winged scoter													-	Sep-May	-	-	-



FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous Gizzard shad													Apr-Jun	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
	Marine Benthic Winter skate													Jun-Jan	Jun-Jan	-	Jan-Dec	Jan-Dec

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve Northern quahog													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Cephalopod Longfin squid													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Crab Blue crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
	Jonah crab													Nov-Jun	May-Nov	Jun-Oct	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Dolphin Bottlenose dolphin													-	-	-	-
	Pinniped Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	8.07	0.01
10B	Freshwater Marshes	26.42	0.04
10C	Swamps	22.53	0.04
10D	Scrub and Shrub Wetlands	3.23	0.01
9A	Sheltered Tidal Flats	31.68	0.05
7	Exposed Tidal Flats	276.02	0.43

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	1,385.50	0.86	4%
9A	Sheltered Tidal Flats	2,081.10	1.29	6%
9B	Vegetated Low Banks	1,448.20	0.90	4%
8B	Sheltered, Solid Man-Made Structures	391.49	0.24	1%
7	Exposed Tidal Flats	7,605.01	4.73	20%
6A	Gravel Beaches	12,783.71	7.94	34%
6B	Riprap	4,335.75	2.69	11%
5	Mixed Sand and Gravel Beaches	5,426.09	3.37	14%
4	Coarse Grained Sand Beaches	237.10	0.15	1%
3A	Fine to Medium Grained Sand Beaches	460.14	0.29	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	1,285.90	0.80	3%
1B	Exposed, Solid Man-Made Structures	315.30	0.20	1%

Total ESI Shoreline: 37,755.31 Total ESI Shoreline: 23.46
 Total Shoreline: 25,850.95 Total Shoreline: 16.06

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov



SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	2,180.91	3.41
10B	Freshwater Marshes	32.52	0.05
10C	Swamps	17.41	0.03
10D	Scrub and Shrub Wetlands	18.98	0.03
9A	Sheltered Tidal Flats	556.75	0.87
7	Exposed Tidal Flats	44.25	0.07

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	131,013.11	81.41	28%
10B	Freshwater Marshes	1,060.88	0.66	< 1%
10C	Swamps	204.62	0.13	< 1%
10D	Scrub and Shrub Wetlands	921.45	0.57	< 1%
9A	Sheltered Tidal Flats	83,029.45	51.59	18%
9B	Vegetated Low Banks	148,527.38	92.29	32%
8B	Sheltered, Solid Man-Made Structures	54,940.40	34.14	12%
8C	Sheltered Riprap	4,615.38	2.87	1%
7	Exposed Tidal Flats	7,438.56	4.62	2%
6B	Riprap	2,719.11	1.69	1%
5	Mixed Sand and Gravel Beaches	892.05	0.55	< 1%
4	Coarse Grained Sand Beaches	2,614.89	1.62	1%
3A	Fine to Medium Grained Sand Beaches	13,814.33	8.58	3%
1B	Exposed, Solid Man-Made Structures	14,501.36	9.01	3%

Total ESI Shoreline: 466,292.98 Total ESI Shoreline: 289.74
Total Shoreline: 236,873.65 Total Shoreline: 147.19

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov



Map 31B
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BENTHIC

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence
SAV	Eelgrass	High Ecological Value				Present	J F M A M J J A S O N D

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence	Nest	Mig.(S)	Mig.(F)	Molt
4	Passerine	Seaside sparrow	General Distribution	T/C			Present		May-Aug	-	-	-
14	Shorebird	American oystercatcher	Nesting	T/-			Present		Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E	T		Present		Mar-Aug	-	-	-
	Shorebird	Shorebirds	Migration				Present		-	Jan-Dec	-	-
22	Raptor	Osprey	General Distribution	-/C			Present		Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Snowy egret	General Distribution	T/-			Present		Mar-Aug	-	-	-
40	Wading	Glossy ibis	General Distribution	C/-			Present		Mar-Aug	-	-	-
91	Wading	Snowy egret	General Distribution	T/-			Present		Mar-Aug	-	-	-
143	Gull/Tern	Common tern	General Distribution	E/T			Present		May-Aug	-	-	-
180	Raptor	Osprey	General Distribution	-/C			Present		Mar-Aug	Mar-Jun	Jul-Nov	-
293	Shorebird	American oystercatcher	General Distribution	T/-		4	Present		Mar-Aug	-	-	-
408	Diving	D. crested cormorant	Nesting				Present		Mar-Aug	-	-	-
	Gull/Tern	Black skimmer	Vulnerable Occurrence	-/C			Present		Mar-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	E/T			Present		May-Aug	-	-	-
	Gull/Tern	G. black-backed gull	Nesting				Present		Mar-Aug	-	-	-
	Gull/Tern	Herring gull	Nesting				Present		Mar-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T			Present		Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	Concentration Area	E/E	E		Present		May-Aug	-	-	-
	Passerine	Barn Swallow	Nesting				Present		Apr-Aug	-	-	-
	Passerine	Belted kingfisher	Nesting				Present		Mar-Aug	-	-	-
	Passerine	Brown thrasher	Nesting	C/-			Present		Mar-Aug	-	-	-
	Passerine	Eastern kingbird	Nesting				Present		Apr-Aug	-	-	-
	Passerine	Passerine birds	Migration				Present		Jan-Dec	Jan-Dec	-	-
	Passerine	Tree swallow	Nesting				Present		Mar-Aug	-	-	-
	Raptor	Osprey	Nesting	-/C			Present		Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	Nesting	T/-			Present		Mar-Aug	-	-	-
	Shorebird	Piping plover	Vulnerable Occurrence	T/E	T		Present		Mar-Aug	-	-	-
	Shorebird	Shorebirds	Migration				Present		-	Jan-Dec	-	-
	Wading	BC night-heron	Nesting				Present		Mar-Aug	-	-	-
	Wading	Great blue heron	Vulnerable Occurrence				Present		Mar-Aug	-	-	-
	Wading	Green heron	Nesting				Present		Apr-Aug	-	-	-
	Wading	Hérons	Vulnerable Occurrence				Present		Jan-Dec	Jan-Dec	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N				
409	Wading	Little blue heron	Vulnerable Occurrence	C/-		Present												Apr-Aug	-	-	-
	Wading	Snowy egret	Nesting	T/-		Present												Mar-Aug	-	-	-
	Waterfowl	Canada goose	Nesting			Present												Mar-Aug	Jan-Dec	-	-
	Waterfowl	Common eider	Nesting			Present												Sep-May	-	-	-
	Waterfowl	Mallard	Nesting			Present												Mar-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering			Present												-	Jan-Dec	-	-
	Waterfowl	Wood duck	Nesting			Present												Mar-Aug	-	-	-
	Diving	Grebes	Wintering			Present												-	Jan-Dec	-	-
	Diving	Loons	Wintering			Present												-	Apr-May	Oct-Nov	-
	Gull/Tern	Terns	Wintering			Present												-	-	-	-
411	Waterfowl	Common eider	Concentration Area			Present												Sep-May	-	-	-
	Waterfowl	Diving ducks	Wintering			Present												-	-	-	-
	Diving	D. crested cormorant	Nesting			Present												Mar-Aug	-	-	-
	Gull/Tern	G. black-backed gull	Nesting			Present												Mar-Aug	-	-	-
	Gull/Tern	Herring gull	Nesting			Present												Mar-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	T/-		Present												Mar-Aug	-	-	-
	Wading	BC night-heron	Nesting			Present												Mar-Aug	-	-	-
	Wading	Glossy ibis	Nesting	C/-		Present												Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		2												Mar-Aug	-	-	-
	Wading	Great egret	Nesting	T/-		Present												Mar-Aug	-	-	-
412	Wading	Hérons	Nesting			Present												Jan-Dec	-	-	-
	Wading	Little blue heron	Nesting	C/-		Present												Apr-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		Present												Mar-Aug	-	-	-
	Wading	Snowy egret	Nesting	T/-		Present												Mar-Aug	-	-	-
	Wading	Tricolored heron	Nesting			Present												Apr-Aug	-	-	-
	Diving	D. crested cormorant	Nesting			Present												Mar-Aug	-	-	-
	Gull/Tern	G. black-backed gull	Nesting			Present												Mar-Aug	-	-	-
	Gull/Tern	Herring gull	Nesting			Present												Mar-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-		2												Mar-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	T/-		Present												Mar-Aug	-	-	-
413	Wading	BC night-heron	Nesting			Present												Mar-Aug	-	-	-
	Wading	Glossy ibis	Nesting	C/-		Present												Mar-Aug	-	-	-
	Wading	Great egret	Nesting	T/-		Present												Mar-Aug	-	-	-
	Wading	Hérons	Nesting			Present												Mar-Aug	-	-	-
	Wading	Little blue heron	Nesting	C/-		Present												Jan-Dec	-	-	-
	Wading	Snowy egret	Nesting	T/-		Present												Apr-Aug	-	-	-
	Wading	Tricolored heron	Nesting			Present												Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		10												Apr-Aug	-	-	-
	Passerine	Seaside sparrow	General Distribution	T/C		7												May-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		Present												Mar-Aug	-	-	-
414	Gull/Tern	Common tern	General Distribution	E/T		2												May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		3												Apr-Aug	-	-	-
	Passerine	Seaside sparrow	General Distribution	T/C		4												May-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-		3												Mar-Aug	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Eggs	Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N					
	Wading	Great egret	General Distribution	T/-		10S												Mar-Aug	-	-	-	-
	Wading	Snowy egret	General Distribution	T/-		3												Mar-Aug	-	-	-	-
415	Shorebird	American oystercatcher	General Distribution	T/-		2												Mar-Aug	-	-	-	-
	Wading	Great egret	General Distribution	T/-		2												Mar-Aug	-	-	-	-
416	Gull/Tern	Common tern	General Distribution	E/T		5												May-Aug	-	-	-	-
417	Diving	Cormorants	Nesting			Present												Jan-Dec	-	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Mapping Qualifier	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N			
	Estuarine Resident	Mummichog	Nursery Area			Abundant												May-Aug	May-Sep	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area			Common												Apr-Aug	May-Sep	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area			Abundant												Jun-Sep	Jun-Oct	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area			Abundant												May-Aug	May-Sep	Jan-Dec
	Estuarine Resident	Threespine stickleback	Nursery Area			Common												Apr-Sep	May-Oct	Jan-Dec
	Marine Benthic	Tautog	Nursery Area			Common												Apr-Sep	May-Sep	Apr-Nov
750	Diadromous	American eel	Nursery Area			Common												Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	Bluefish	Nursery Area			Common												-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Rainwater killifish	Nursery Area			Common												May-Aug	May-Sep	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area			Abundant												May-Aug	May-Aug	Jan-Dec
	Estuarine Resident	Grubby	Nursery Area			Common												Dec-Apr	Jan-May	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area			Abundant												May-Aug	May-Sep	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area			Common												Apr-Aug	May-Sep	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area			Abundant												Jun-Sep	Jun-Oct	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area			Abundant												May-Aug	May-Sep	Jan-Dec
	Estuarine Resident	Threespine stickleback	Nursery Area			Common												Apr-Sep	May-Oct	Jan-Dec
	Marine Benthic	Tautog	Nursery Area			Common												Apr-Sep	May-Sep	Apr-Nov
751	Diadromous	Alewife	Nursery Area			Common												Apr-Jul	Apr-Jul	Apr-Nov
	Diadromous	American eel	Nursery Area			Common												-	Apr-Aug	Sep-Nov
	Estuarine Nursery	Rainwater killifish	Nursery Area			Common												May-Aug	May-Sep	Jan-Dec
	Estuarine Nursery	White perch	Nursery Area			Common												Apr-Jul	Apr-Aug	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area			Common												May-Aug	May-Sep	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area			Common												Jun-Sep	Jun-Oct	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area			Common												Nov-Feb	Dec-May	Sep-May
752	Diadromous	Blueback herring	Nursery Area			Common												May-Sep	May-Oct	Apr-Nov
	Diadromous	Sea lamprey	Migration			Common												May-Jun	May-Jun	Apr-Jul
	Estuarine Nursery	Bluefish	Nursery Area			Abundant												-	-	Jun-Oct
	Estuarine Nursery	Scup	Nursery Area			Common												May-Aug	May-Aug	May-Nov
753	Diadromous	Brown trout (sea run)	Migration			Uncommon												Oct-Nov	Feb-May	Sep-Jan
	Diadromous	Hickory shad	Concentration Area			Common												Jun-Aug	Jun-Aug	Jun-Nov
	Estuarine Nursery	Winter flounder	Concentration Area			Abundant												Feb-May	Mar-Jun	Jan-Dec
	Estuarine Nursery	Black sea bass	Concentration Area			Common												-	-	Jan-Dec
754	Estuarine Nursery	Bluefish	Concentration Area			Common												Jun-Sep	Jun-Sep	Apr-Nov
	Estuarine Nursery	Scup	Concentration Area			Abundant												May-Aug	May-Aug	May-Nov
	Estuarine Nursery	Summer flounder	Concentration Area			Common												-	-	Mar-Nov

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence													
				S	F		J	F	M	A	M	J	J	A	S	O	N			
755	Plant	Scottish licorice-root	Vulnerable Occurrence	E/E		Low												-	-	-
759	FAV	Featherfoil	Vulnerable Occurrence	C/T		Present												-	-	-
763	Plant	Field paspalum	Vulnerable Occurrence	E/E		Present												-	-	-
	Plant	Scotland orache	Vulnerable Occurrence	C/E		Present												-	-	-
	Plant	Scottish licorice-root	Vulnerable Occurrence	E/E		Present												-	-	-

HABITATS & RARE PLANTS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence											
								J	F	M	A	M	J	J	A	S	O	N	D
	Plant	Seacoast angelica	Vulnerable Occurrence	E/-			Present												
	Plant	Slimspike threawn	Vulnerable Occurrence	C/-			Present												
	Plant	Yellow thistle	Vulnerable Occurrence	E/-			Present												
765	Plant	Purple milkweed	Vulnerable Occurrence	C/-			10												
774	Plant	Seaside sandplant	Vulnerable Occurrence	C/-			Present												
	Plant	Woolly beachheather	Vulnerable Occurrence	T/-			Present												
865	Plant	Goose tongue	Vulnerable Occurrence	-T			Present												
890	Plant	Silverweed cinquefoil	Vulnerable Occurrence	-T			Present												
916	Wetland	Saltmarsh spikerush	Vulnerable Occurrence				Abundant												
939	Plant	Seacoast angelica	Vulnerable Occurrence	E/-			Present												
940	Wetland	Red pigweed	Vulnerable Occurrence	-T			Present												
945	Plant	Marsh straw sedge	Vulnerable Occurrence	-T			Present												
	Plant	Silverweed cinquefoil	Vulnerable Occurrence	-T			Present												
946	Plant	Scotland orache	Vulnerable Occurrence	C/E			Present												
947	Plant	Engelmann's spikerush	Vulnerable Occurrence	-E			Present												
948	Plant	Pitseed goosefoot	Vulnerable Occurrence	-E			Abundant												
949	Plant	Field paspalum	Vulnerable Occurrence	E/E			100												
950	Plant	Purple milkweed	Vulnerable Occurrence	C/-			12												
	Plant	Slender blue flag	Vulnerable Occurrence	-T			Present												
	Wetland	Northern gamma grass	Vulnerable Occurrence	-T			Present												
951	Plant	American burnweed	Vulnerable Occurrence	-E			50 - 100												
	Plant	Pitseed goosefoot	Vulnerable Occurrence	-E			Present												
952	Plant	Scottish licorice-root	Vulnerable Occurrence	E/E			Present												
	Plant	Violet woodsorrel	Vulnerable Occurrence	C/-			Present												
	Plant	Whorled marshpennywort	Vulnerable Occurrence	E/E			Present												
	Plant	Woolly beachheather	Vulnerable Occurrence	T/-			Present												
	Plant	Yellow thistle	Vulnerable Occurrence	E/-			Present												

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence											
								J	F	M	A	M	J	J	A	S	O	N	D
987	Bivalve	Eastern oyster	Concentration Area				Present												
988	Insect	Rare insect	Vulnerable Occurrence				Present												
	Insect	Threatened insect	Vulnerable Occurrence	E/-		T	Present												
996	Crab	Horseshoe crab	Spawning Area				Present												

MARINE MAMMALS




Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence											
								J	F	M	A	M	J	J	A	S	O	N	D
1045	Pinniped	Harbor seal	Haul Out				100S												

TERRESTRIAL MAMMALS









Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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1050	Small Mammal	New England cottontail	Vulnerable Occurrence			Present																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																</

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BIRDS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Diving	Common loon			10S													-	-	-	-
		Pied-billed grebe			10S													-	-	-	-
		Black skimmer			Present													Mar-Aug	-	-	-
	Gull/Tern	Common tern			10S													May-Aug	-	-	-
		Least tern			Present													Apr-Aug	-	-	-
		Roseate tern			Present													May-Aug	-	-	-
	Shorebird	American oystercatcher			Present													Mar-Aug	-	-	-
		Piping plover			Present													Mar-Aug	-	-	-

FISH

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous	Migration			Common													Mar-Jun	Apr-Jul	Apr-Jul	Apr-Nov	Mar-Oct
		Nursery Area			Common													-	-	Mar-Jun	Mar-Oct	Mar-Oct
		Migration			Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Jan-Dec
	Cl-	Migration			Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
		Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
		Nursery Area			Common													-	-	Mar-May	Jan-Dec	Jan-Dec
	Estuarine Nursery	Nursery Area			Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Jan-Dec
		Nursery Area			Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Jan-Dec
		Nursery Area			Common													May-Sep	May-Sep	May-Nov	Apr-Nov	Jan-Dec
	Black sea bass	Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
		Nursery Area			Common													Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
		Nursery Area			Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Scup	Nursery Area			Common													-	-	-	Mar-Nov	Mar-Nov
		Nursery Area			Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
		Nursery Area			Common													Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area			Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
		Nursery Area			Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
		Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Atlantic silverside	Nursery Area			Common													Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
		Nursery Area			Abundant													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
		Nursery Area			Common													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Little skate	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Nursery Area			Common													-	-	-	Mar-Nov	Mar-Nov
		Nursery Area			Common													-	-	-	-	-

Long Island Sound: Map 31B

FISH (continued)

Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Eggs	Larvae	Juveniles	Adults
			S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D			
	Silver hake	Nursery Area			Common													May-Oct	Mar-Nov	Mar-Nov
	Smooth dogfish	Nursery Area			Common													May-Oct	May-Oct	May-Oct
	Spotted hake	Nursery Area			Common													-	Mar-Nov	Mar-Nov
	Striped searobin	Nursery Area			Common													May-Sep	Apr-Nov	Apr-Nov
	Tautog	Nursery Area			Common													May-Sep	Jan-Dec	Jan-Dec
	Atlantic mackerel	Nursery Area			Common													Apr-Jun	Apr-Jun	Apr-Jun
	Butterfish	Nursery Area			Abundant													May-Aug	May-Dec	May-Dec
	Butterfish	Nursery Area			Common													May-Aug	May-Dec	May-Dec
	Spiny dogfish	Nursery Area			Common													-	May-Nov	May-Nov

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Hatch	Interest	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
	Green sea turtle	General Distribution	T/T	T	Present													-	-	-	Jun-Nov	-
	K. ridley sea turtle	General Distribution	E/E	E	Present													-	-	-	Jun-Nov	-
	Loggerhead sea turtle	General Distribution	T/T	E	Present													-	-	-	Jun-Nov	-

INVERTEBRATES

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve	Harvest Area			Moderate													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			Low													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	American lobster	Nursery Area			Common													Jun-Nov	Jan-Dec	May-Aug	Jan-Dec	Jan-Dec

MARINE MAMMALS




Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Dolphin	General Distribution	C/C		Present													-	-	-	-
	Whale	General Distribution	-/E	E	Present													-	-	-	-
	Humpback whale	General Distribution	-/E	E	Present													-	-	-	-
	N.A. right whale	General Distribution			Present													-	-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Razorbill	General Distribution			Present													-	-	-	-
	D. crested cormorant	General Distribution			Present													Mar-Aug	-	-	-
	Great cormorant	General Distribution			Present													-	-	-	-
	Horned grebe	General Distribution			Present													-	-	-	-
	Red-throated loon	General Distribution			Present													-	-	-	-
	Bonaparte's gull	General Distribution			Present													-	-	-	-
	G. black-backed gull	General Distribution			Present													Mar-Aug	-	-	-
	Herring gull	General Distribution			Present													Mar-Aug	-	-	-




BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Laughing gull													Apr-Aug	-	-	-
	Ring-billed gull													-	-	-	-
	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	American crow													Mar-Aug	-	-	-
	American goldfinch													Mar-Aug	-	-	-
	American robin													Mar-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Cedar waxwing													Mar-Aug	-	-	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Eastern towhee													Mar-Aug	-	-	-
	European starling													Mar-Aug	-	-	-
	Gray catbird													Mar-Aug	-	-	-
	Marsh wren													Apr-Aug	-	-	-
	Mourning dove													Mar-Aug	-	-	-
	Northern cardinal													Mar-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Red-winged blackbird													Mar-Aug	-	-	-
	Saltmarsh sparrow													May-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-
	Willow flycatcher													May-Aug	-	-	-
	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Cory's shearwater													-	Jun-Nov	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Dunlin													-	Apr-May	Oct-Nov	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Killdeer													Mar-Aug	-	-	-
	Least sandpiper													-	Apr-Jun	Aug-Oct	-
	Lesser yellowlegs													-	Apr-Jun	Aug-Oct	-
	Semipalmated sandpiper													-	-	Jul-Oct	-
	Short-billed dowitcher													-	-	Aug-Oct	-
	Willet													Apr-Aug	-	-	-
	Clapper rail													Mar-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Blue-winged teal													-	Mar-May	Sep-Nov	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-




BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	-	-	-
	Hooded merganser													Mar-Apr	Sep-Oct	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													Nov-Mar	-	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													Mar-Apr	Oct-Nov	-	-
	Scoters													Apr-May	Sep-Nov	-	-
	Surf scoter													-	-	-	-
	White-winged scoter													Sep-May	-	-	-



FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous													Apr-Jun	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
	Freshwater													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Marine Benthic													Jun-Jan	Jun-Jan	-	Jan-Dec	Jan-Dec

INVERTEBRATES


Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Cephalopod													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
	Jonah crab													Nov-Jun	May-Nov	Jun-Oct	Jan-Dec	Jan-Dec
















MARINE MAMMALS

Subelement	Species	Monthly Presence												Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D			
 Dolphin	Bottlenose dolphin															
 Pinniped	Gray seal															
	Harbor seal															

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

SHORELINE RESOURCES

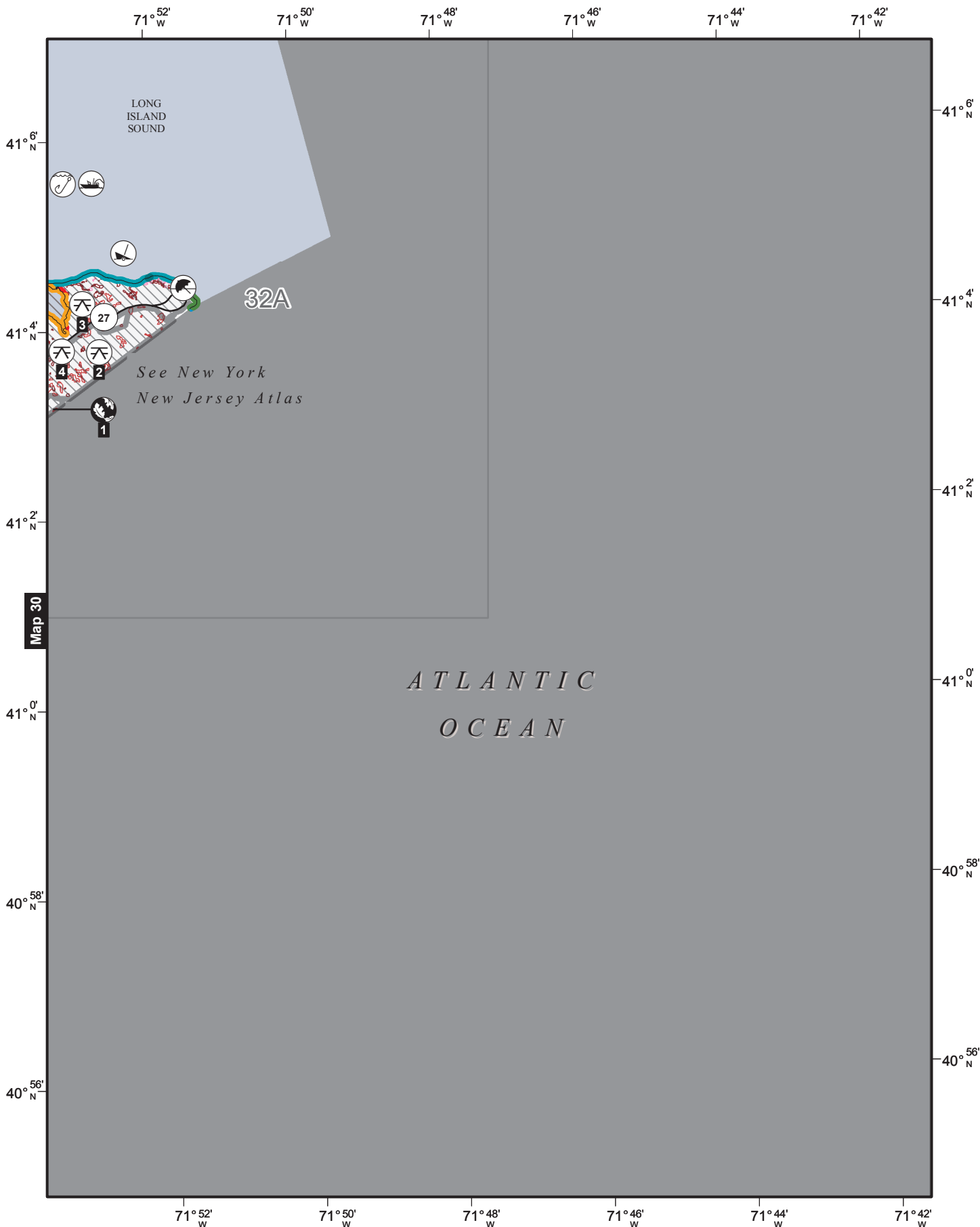
ESI POLYGON HABITAT TYPES		
ESI Rank	Habitat Classification	Area (Sq. Miles)
 10A	Salt and Brackish Water Marshes	172.95
 10B	Freshwater Marshes	58.27
 10C	Swamps	28.18
 10D	Scrub and Shrub Wetlands	11.48
 9A	Sheltered Tidal Flats	23.60
 7	Exposed Tidal Flats	362.31

ESI SHORELINE HABITAT TYPES				
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
 10A	Salt and Brackish Water Marshes	21,761.14	13.52	18%
 10D	Scrub and Shrub Wetlands	385.37	0.24	< 1%
 9A	Sheltered Tidal Flats	7,916.04	4.92	7%
 9B	Vegetated Low Banks	12,064.09	7.50	10%
 8B	Sheltered, Solid Man-Made Structures	3,491.59	2.17	3%
 8C	Sheltered Riprap	4,616.52	2.87	4%
 7	Exposed Tidal Flats	15,575.40	9.68	13%
 6A	Gravel Beaches	13,153.31	8.17	11%
 6B	Riprap	12,437.97	7.73	10%
 5	Mixed Sand and Gravel Beaches	7,365.15	4.58	6%
 4	Coarse Grained Sand Beaches	1,112.96	0.69	1%
 3A	Fine to Medium Grained Sand Beaches	8,050.60	5.00	7%
 2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	3,082.01	1.92	3%
 1A	Exposed, Rocky Shores	36.09	0.02	< 1%
 1B	Exposed, Solid Man-Made Structures	10,225.44	6.35	8%
Total ESI Shoreline:		121,273.69	Total ESI Shoreline:	75.36
Total Shoreline:		84,613.50	Total Shoreline:	52.58

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov

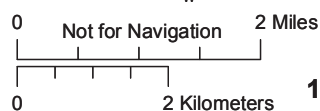




Map 32
Long Island Sound



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: September 2016



1:100,000



Map 32
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Contact
1	NATURE CONSERVANCY	CASWELL CLIFFS	TNC NEW YORK STATE OFFICE
2	PARK	CAMP HERO	CHRISTINA CROLL
3	PARK	MONTAUK POINT	CHRISTINA CROLL
4	PARK	MONTAUK COUNTY PARK	

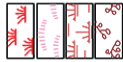
Phone
518-690-7850
518-473-7787
518-473-7787

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SUMMER FLOUNDER - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SUMMER FLOUNDER - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLACK SEA BASS - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SPINY DOGFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SPINY DOGFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	LONGFIN INSHORE SQUID - EGGS	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	ATLANTIC BUTTERFISH - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BASKING SHARK - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BASKING SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFIN TUNA - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLUEFIN TUNA - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	COMMON THRESHER SHARK - ALL LIFE STAGES	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SANDBAR SHARK - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SANDBAR SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SKIPJACK TUNA - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	TIGER SHARK - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	TIGER SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	WHITE SHARK - ALL LIFE STAGES	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	MONTAUK POINT SHOALS (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	OYSTER POND (SH)	JEFFREY L. HERTER	518-486-7942

JURISDICTIONS			
COUNTY:	SUFFOLK COUNTY	FEMA:	REGION 1
COAST GUARD:	DISTRICT 1, SECTOR LONG ISLAND SOUND	EPA:	REGION 2
USACE:	NORTH ATLANTIC DIVISION, NEW YORK DISTRICT		

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	3.45	0.01
10B	Freshwater Marshes	11.15	0.02
10C	Swamps	58.06	0.09
10D	Scrub and Shrub Wetlands	32.70	0.05



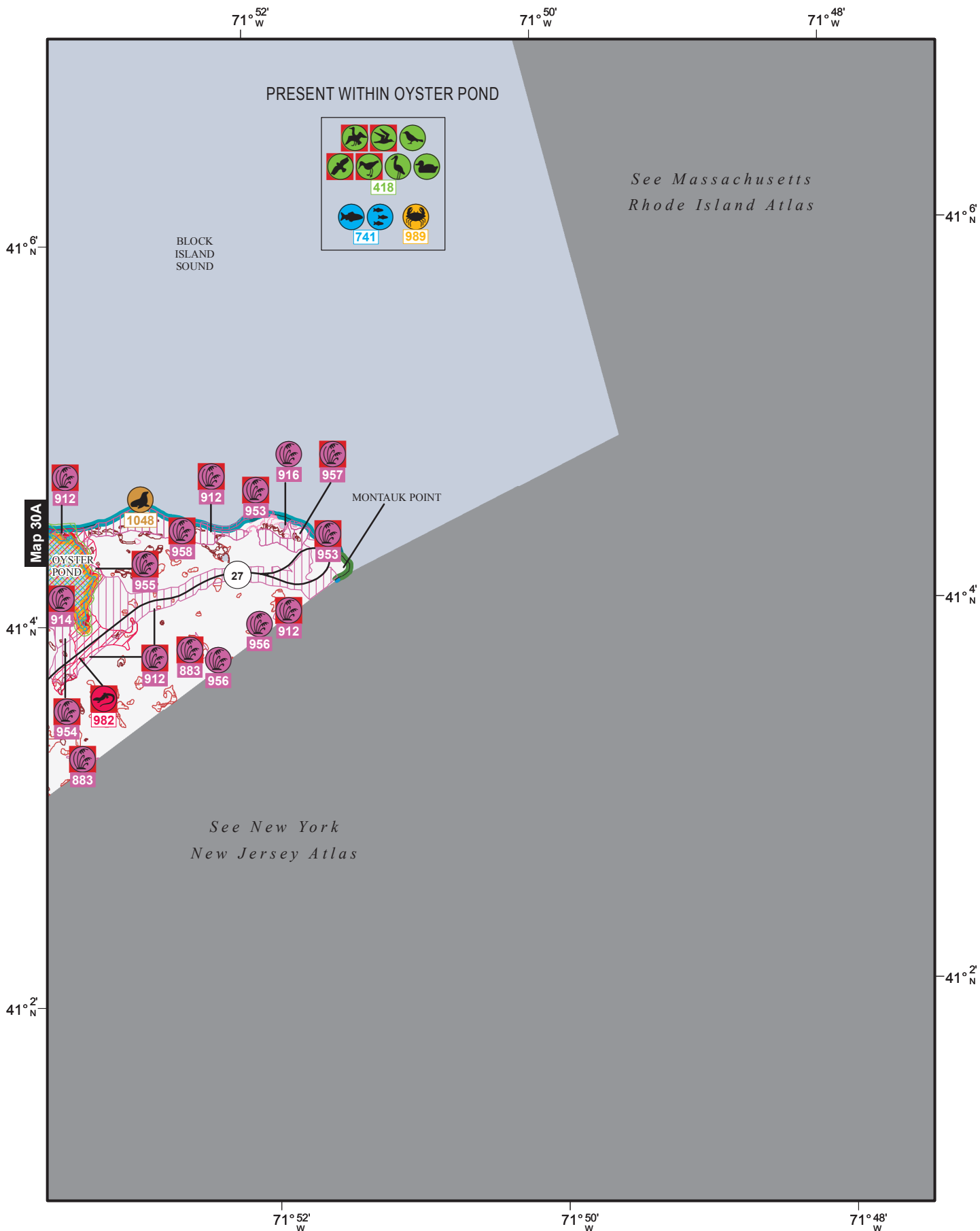
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	782.09	0.49	12%
10B	Freshwater Marshes	170.50	0.11	3%
10D	Scrub and Shrub Wetlands	79.81	0.05	1%
9B	Vegetated Low Banks	2,070.11	1.29	31%
6A	Gravel Beaches	355.96	0.22	5%
6B	Riprap	345.68	0.21	5%
5	Mixed Sand and Gravel Beaches	2,781.69	1.73	42%
4	Coarse Grained Sand Beaches	107.71	0.07	2%
Total ESI Shoreline:		6,693.55	4.16	
Total Shoreline:		5,630.87	3.50	

Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov





Map 32A
Long Island Sound



SEE BACK OF MAP
for details about mapped species and
other species that occur in mapped area.
Data Published: September 2016

Map 32A
Long Island Sound

BIOLOGICAL RESOURCES

Note: An asterisk (*) indicates that life stage occurs in this range but not in all months included

DISPLAYED ON MAP

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F C/C	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
418	Diving	Common loon	Concentration Area		Present													-	-	-	-
	Gull/Tern	Common tern	Concentration Area	E/T	Present													May-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T	Present													May-Aug	-	-	-
	Gull/Tern	Least tern	Concentration Area	T/T	Present													Apr-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T	Present													Apr-Aug	-	-	-
	Passerine	Passerine birds	Concentration Area		Present													Jan-Dec	-	-	-
	Raptor	Northern harrier	Concentration Area	E/T	Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	Concentration Area	T/E	Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	Present													Mar-Aug	-	-	-
	Wading	Hérons	Concentration Area		Present													Jan-Dec	-	-	-
	Waterfowl	American black duck	Concentration Area		Present													Apr-May	Sep-Nov	-	-
	Waterfowl	Canada goose	Wintering		Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Mallard	Concentration Area		Present													Mar-Aug	-	-	-
	Waterfowl	Mergansers	Concentration Area		Present													-	Apr-May	Oct-Nov	-
	Waterfowl	Waterfowl	Concentration Area		Present													-	Jan-Dec	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
741	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area		Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area		Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
883	Plant	Clustered mountainmint	Vulnerable Occurrence	-/T	Present												
912	Plant	Southern arrowwood	High Ecological Value	-/T	Abundant												
914	Plant	Cosmopolitan bulrush	Vulnerable Occurrence	C/-	5												
	Plant	Marsh straw sedge	Vulnerable Occurrence	-/T	Present												
	Plant	Mitchell's sedge	Vulnerable Occurrence	-/E	20												
	Plant	Slender blue flag	Vulnerable Occurrence	-/T	315												
	Plant	Slender seapurslane	Vulnerable Occurrence	-/E	Present												
916	Wetland	Saltmarsh spikerush	Vulnerable Occurrence	-/E	Abundant												
953	Plant	American knotweed	Vulnerable Occurrence	-/E	100												
	Upland	Seaside knotweed	Vulnerable Occurrence	C/C	80												
954	Plant	Clustered mountainmint	Vulnerable Occurrence	-/T	50												

HABITATS & RARE PLANTS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
955	Plant	Slender seapurslane	Vulnerable Occurrence	-/E	Present												
	Plant	Texan flatsedge	Vulnerable Occurrence	-/E	30												
956	Plant	Hyss. thoroughwort	Vulnerable Occurrence		40												
	Plant	Hyss. thoroughwort	Vulnerable Occurrence		40												
957	Wetland	Short-fruited rush	Vulnerable Occurrence	-/E	100												
	Plant	Clustered mountainmint	Vulnerable Occurrence	-/T	75												
958	Plant	Hyss. thoroughwort	Vulnerable Occurrence		80												
	Plant	Rare plant	Vulnerable Occurrence	-/E	Present												

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
982	Amphibian	B. spotted salamander	Vulnerable Occurrence	E/C	Present												
	Amphibian	Southern leopard frog	Vulnerable Occurrence	-/C	Present												

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
989	Crab	Horseshoe crab	Nursery Area		Common												

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
1048	Pinniped	Harbor seal	Haul Out		Varies (5 - 75)												

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
955	Diving	Common loon	General Distribution	C/C	10S												
		Common loon	Wintering	C/C	Present												
956	Pied-billed grebe		General Distribution	E/T	10S												
	Raptor	Northern harrier	General Distribution	E/T	Present												
957	Waterfowl	Black scoter	Rafting		Present												
		Bufflehead	Wintering		Present												
958	Common eider		Rafting		Present												
	Common goldeneye		Wintering		Present												
959	Harlequin duck		Wintering		Present												
	King eider		Wintering		Present												
960	Long-tailed duck		Rafting		Present												
	Red-breasted merganser		Wintering		Present												
961	Scoters		Rafting		Present												
	Surf scoter		Rafting		Present												

BIRDS (continued)

Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
			S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D			
	Waterfowl	Rafting			Present													Jan-Dec	-	-
	White-winged scoter	Rafting			Present													Sep-May	-	-

FISH

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
	Striped bass	Nursery Area			Common													-	-	-	Apr-Nov	Apr-Nov
	Black sea bass	Nursery Area			Common													-	-	-	Apr-Nov	Apr-Nov
	Bluefish	Nursery Area			Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Scup	Nursery Area			Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Weakfish	Nursery Area			Abundant													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
	K. ridley sea turtle	Vulnerable Occurrence			Present													-	-	-	Jun-Nov	-
	Leatherback sea turtle	Vulnerable Occurrence			Present													-	-	-	Jun-Nov	-
	Loggerhead sea turtle	Vulnerable Occurrence			Present													-	-	-	Jun-Nov	-

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	Harbor porpoise	General Distribution			Present													-	-	-	-
	Humpback whale	General Distribution			Present													-	-	-	-
	N.A. right whale	General Distribution			Present													-	-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)


BIRDS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
			S	F		J	F	M	A	M	J	J	A	S	O	N	D				
	D. crested cormorant																	Mar-Aug	-	-	-
	Great cormorant																	-	-	-	-
	Horned grebe																	-	-	-	-
	Red-throated loon																	-	-	-	-
	G. black-backed gull																	Mar-Aug	-	-	-
	Herring gull																	Mar-Aug	-	-	-
	American black duck																	Apr-May	Mar-Apr	Sep-Nov	-
	American coot																	-	-	-	-
	American wigeon																	-	-	-	-
	Black brant																	-	May	Oct	-
	Black scoter																	-	-	-	-
	Blue-winged teal																	Mar-May	Sep-Nov	-	-
	Bufflehead																	-	Oct-Jun	-	-



BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common eider													Sep-May	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	-	-	-
	Scoters													-	Mar-Apr	Oct-Nov	-
	Surf scoter													-	Apr-May	Sep-Nov	-
	White-winged scoter													-	-	-	-
														-	Sep-May	-	-

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Atlantic surfclam													Apr-Oct	Apr-Oct	Apr-Oct	Jan-Dec	Jan-Dec
	Blue mussel													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Eastern oyster													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Softshell clam													-	-	-	-	-
														-	Sep-May	-	-	-

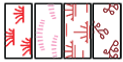
MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Dolphin													-	-	-	-
	Pinniped													-	-	-	-
	Bottlenose dolphin													-	-	-	-
	Gray seal													-	-	-	-
	Harbor seal													-	-	-	-

For additional information about species locations and extent, reference the underlying GIS data available from response.restoration.noaa.gov

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	3.45	0.01
10B	Freshwater Marshes	11.15	0.02
10C	Swamps	58.10	0.09
10D	Scrub and Shrub Wetlands	32.72	0.05



ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	782.09	0.49	12%
10B	Freshwater Marshes	170.50	0.11	3%
10D	Scrub and Shrub Wetlands	79.81	0.05	1%
9B	Vegetated Low Banks	2,071.01	1.29	31%
6A	Gravel Beaches	355.96	0.22	5%
6B	Riprap	345.68	0.21	5%
5	Mixed Sand and Gravel Beaches	2,782.13	1.73	42%
4	Coarse Grained Sand Beaches	108.18	0.07	2%
Total ESI Shoreline:		6,695.36	Total ESI Shoreline: 4.16	
		5,632.68	Total Shoreline: 3.50	






































Note: A shoreline segment may include multiple shoreline habitats. If any segments include multiple habitats, the combined length of all habitats may exceed the length of the mapped shoreline, and the percent of ESI shoreline values will sum to greater than 100%

All underlying GIS data can be obtained from response.restoration.noaa.gov



LEGEND: LONG ISLAND SOUND

Sensitive Biological Resources

	Birds		Invertebrates		Habitats
	Birds		Bivalve		FAV
	Alcid/Pelagic		Cephalopod		Upland/Wetland/Plant
	Diving		Crab/Invertebrate/Shellfish		
	Gull/Tern		Insect		Benthic
	Passerine		Gastropod		Terrestrial Mammal
	Raptor		Lobster		Bat
	Shorebird		Shrimp		Small Mammal
	Wading				
	Waterfowl		Reptiles & Amphibians		Marine Mammals
			Amphibian/Snake		Dolphin
	Fish		Turtle		Pinniped
	Fish				Whale
	Nursery		Threatened or Endangered Species		Map ID

Guidelines for Interpreting Environmental Sensitivity Index (ESI) Maps

The following guidelines may help map users interpret the ESI maps. Additional information about resources mapped for this atlas can be found in the ESI Intro pages and associated metadata.

Sensitive Biological Resources (1:50,000 scale maps): Species are arranged into eight major categories or "elements" and further subdivided into "subelement" groupings representing species that share similar lifestyle characteristics and risks to oiling.

Biological resources may be mapped as points, lines, and/or polygons. Each element is represented by a unique color and/or hatch pattern, and icons illustrate the subelement(s) found within each feature. If a species is state or federally listed as threatened or endangered, a solid red square is placed behind the icon. When multiple elements occur in the same location, overlapping hatch patterns will be shown.

The associated Map ID "links" to the map report where the species and attributes are listed. To maximize readability, biological polygons covering more than 10 square km are not displayed on the map. Instead, these species are listed in the "Widespread in Mapped Area" section of the report. Occurrences of non-listed species assigned a "General Distribution" mapping qualifier are listed under "Also Present in Mapped Area" regardless of polygon size.









































Shoreline Habitat Resources (all maps): The shoreline was mapped at mean-high water, then classified based on vulnerability to spilled oil and ease of clean-up. Shorelines are ranked on a scale from 1 (least vulnerable) to 10 (most vulnerable). Cooler colors represent less vulnerable shoreline types; warm and hot colors indicate increased vulnerability. A shoreline may have more than one habitat type present. When this happens, the most landward shoreline type is mapped on the shoreline, and the more seaward type(s) are mapped adjacent to the water. The areal extent of intertidal and marsh habitats may also be mapped as polygons. Most often these polygons represent tidal flats and marshes, though in particularly rocky shored areas, these may include exposed, wave-cut platforms and sand and gravel beaches.

Human-Use Features (1:100,000 scale maps): Locations of human-use features and jurisdictional boundaries are mapped as points, lines, or polygons. As with biological features, the human-use features appearing on the map include Map ID which "links" to a description of the feature in the map report. Additional features, particularly jurisdictional and management boundaries that cover the majority or entirety of the mapped area, are listed in the report, but not shown on the map.












LEGEND: LONG ISLAND SOUND



















Human-Use Features

-  Abandoned Vessel
 -  Access
 -  Airport
 -  Anchorage
 -  Aquaculture
 -  Archaeological Sites
 -  Army Corp of Engineers
 -  Artificial Reef
 -  Beach
 -  Boat Ramp
 -  Campground
 -  Coast Guard
 -  Commercial Fishing
 -  EPA Facility
 -  EPA Region
 -  Essential Habitat
 -  FEMA region
 -  Ferry
 -  Fishery Area
 -  Heliport
 -  Historic Wreck
 -  Historical Site
 -  Landfill
 -  Lock and Dam
 -  Management Area
 -  Marina
 -  Military
 -  Mine Site
 -  National Landmark
 -  Nature Conservancy
 -  NOAA Facility
 -  Park
 -  Port
 -  Recreational Fishing
 -  Repeated Measurement Site
 -  State Protected Area
 -  Tribal Land
 -  Waste Disposal
-  Water Intake
  Wildlife Refuge



Human-Use Features (continued)

-  Map ID
-  Ferry Route
-  Rail Route
-  Road
-  Shipping Lane
-  Interstate
-  US Highway
-  State Highway or Route
-  Management Area

ESI Shoreline and Habitat Ranking

-  1A) Exposed, Rocky Shores
-  1B) Exposed, Solid Man-Made Structures
-  2A) Exposed Wave-Cut Platforms (Bedrock/Mud/Clay)
-  2B) Exposed Scarps and Steep Slopes (Clay)
-  3A) Fine to Medium Grained Sand Beaches
-  3B) Scarps and Steep Slopes (Sand)
-  4) Coarse-Grained Sand Beaches
-  5) Mixed Sand and Gravel Beaches
-  6A) Gravel Beaches
-  6B) Riprap
-  7) Exposed Tidal Flats
-  8A) Sheltered Scarps (Bedrock/Mud/Clay)
-  8A) Sheltered, Impermeable, Rocky Shores
-  8B) Sheltered, Solid Man-Made Structures
-  8C) Sheltered Riprap
-  9A) Sheltered Tidal Flats
-  9B) Vegetated Low Banks
-  10A) Salt and Brackish Water Marshes
-  10B) Freshwater Marshes
-  10C) Swamps
-  10D) Scrub and Shrub Wetlands

Examples of Double and Triple Shoreline Rankings:

-  10D & 2A
-  10C & 10A & 4

Shorelines often contain varied geomorphology, and therefore may require two or three ESI types to describe. These symbols will look similar to the examples above. The first shoreline type listed is the most landward shore type.