

Environmental Sensitivity Index Maps

A Guide to Coastal Resources at Risk to Spilled Oil

Long Island Sound: Volume 3



Office of Response and Restoration

September 2016

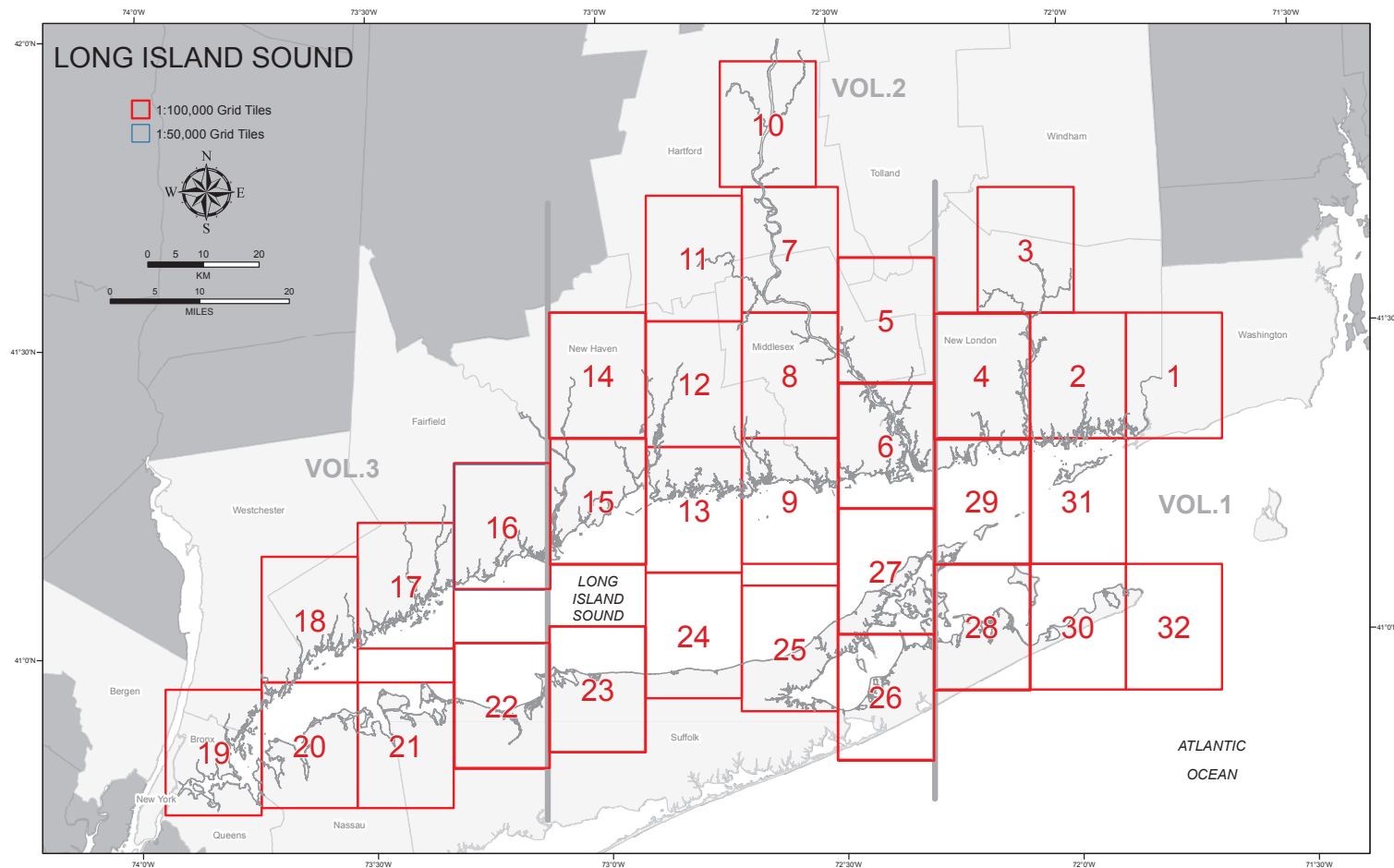
NOAA

Environmental Sensitivity

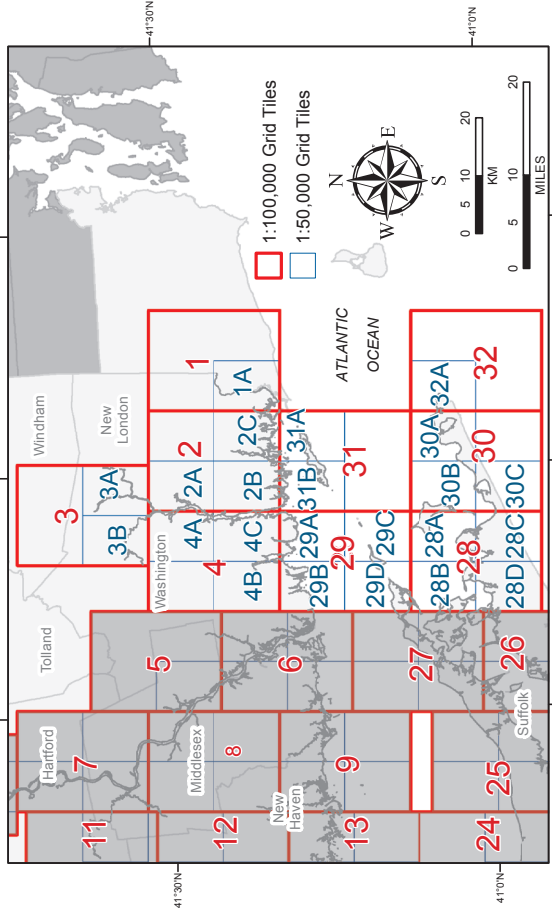
Index Maps

A Guide to Coastal Resources at Risk to Spilled Oil

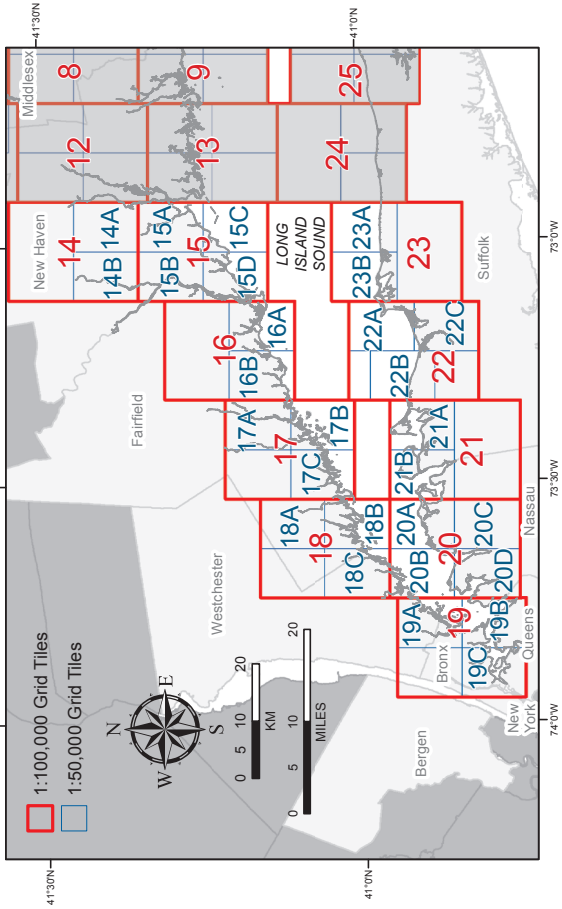
Long Island Sound



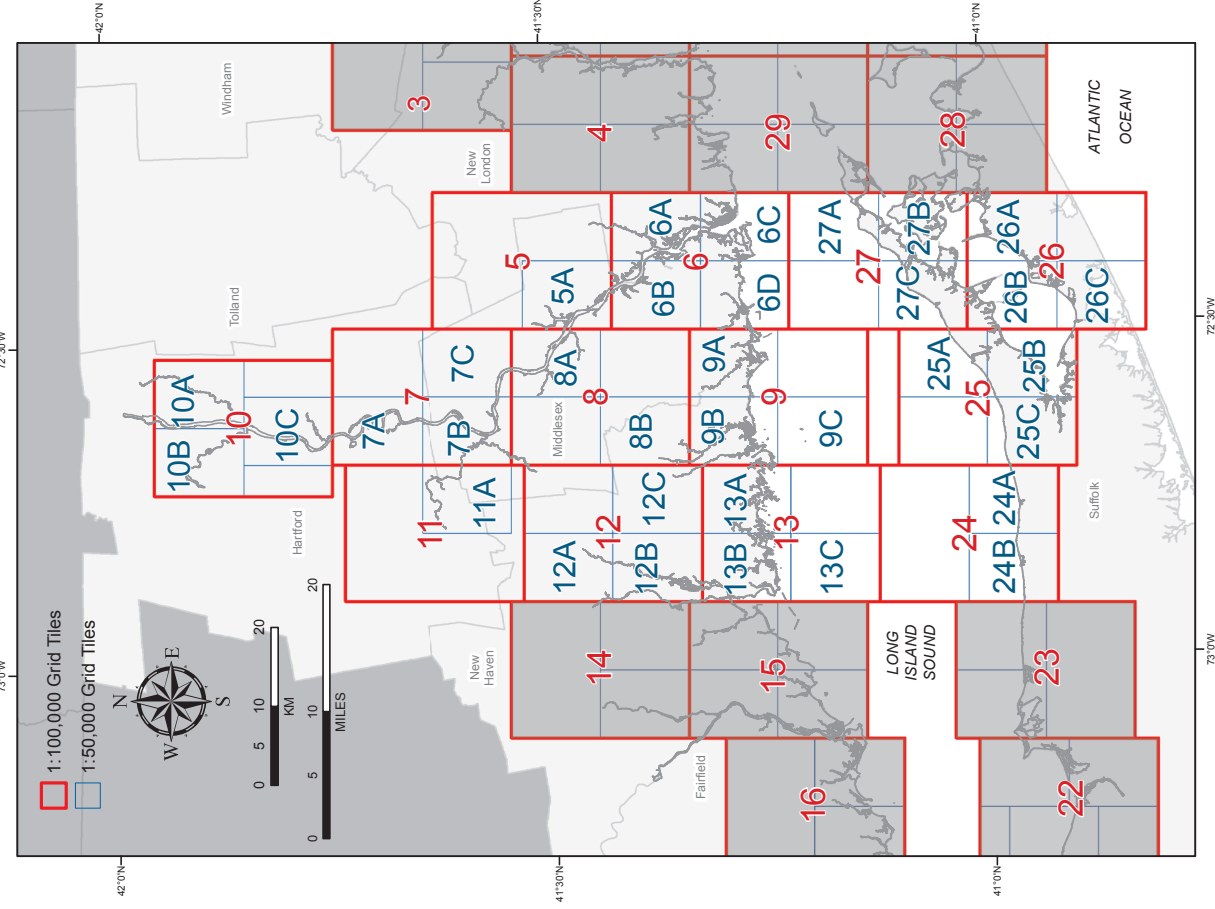
Long Island Sound East: Volume 1



Long Island Sound West: Volume 3



Long Island Sound Central: Volume 2



CONTENTS

Introduction	iii
Shoreline Habitat Mapping	iii
Sensitive Biological Resources	v
Marine Mammals	vii
Birds	ix
Herpetofauna	x
Fish	xi
Invertebrates	xix
Habitats	xx
Benthic	xxi
Terrestrial Mammals	xxi
Invasive Species	xxii
Wildlife Rehabilitation	xxiii
Human Use Resources	xxiv
Geographic Information System	xxviii
Acknowledgements	xxix
Appropriate Use of Atlas and Data	xxix
Species List	xxx
Shoreline Descriptions	xxix
Exposed, Rocky Shores: ESI = 1A	xxxix
Exposed, Solid Man-Made Structures: ESI = 1B	xl
Exposed, Wave-Cut Platforms in Mud: ESI = 2A	xli
Exposed Scarps and Steep Slopes in Mud or Clay: ESI = 2B	xlii
Fine- to Medium-Grained Sand Beaches: ESI = 3A	xliii
Scarps and Steep Slopes in Sand: ESI = 3B	xliv
Coarse-Grained Sand Beaches: ESI = 4	xlvi
Mixed Sand and Gravel Beaches: ESI = 5	xlvi
Gravel Beaches: ESI = 6A	xlvi
Riprap: ESI = 6B	xlvi
Exposed Tidal Flats: ESI = 7	xlix
Sheltered, Impermeable Rocky Shores ESI = 8A	l
Sheltered, Solid Man-Made Structures: ESI = 8B	li
Sheltered Riprap: ESI = 8C	lii
Sheltered Tidal Flats: ESI = 9A	liii
Vegetated Low Banks: ESI = 9B	liv
Salt- and Brackish-Water Marshes: ESI = 10A	lv
Freshwater Marshes: ESI = 10B	lvi
Swamps: ESI = 10C	lvii
Scrub-Shrub Wetlands: ESI = 10D	lviii

Environmental Sensitivity Index Maps (Maps 1-4 contained in Volume 1, Maps 5-13 contained in Volume 2)

Map 14: Human Use Resources	505
Map 14A: Biological Resources	509
Map 14B: Biological Resources.....	513
Map 15: Human Use Resources	517
Map 15A: Biological Resources	521
Map 15B: Biological Resources.....	529
Map 15C: Biological Resources	535
Map 15D: Biological Resources.....	543
Map 16: Human Use Resources	555
Map 16A: Biological Resources	559
Map 16B: Biological Resources.....	567
Map 17: Human Use Resources	575
Map 17A: Biological Resources	579
Map 17B: Biological Resources.....	585
Map 17C: Biological Resources	593
Map 18: Human Use Resources	601
Map 18A: Biological Resources	605
Map 18B: Biological Resources.....	609
Map 18C: Biological Resources	617
Map 19: Human Use Resources	625
Map 19A: Biological Resources	629
Map 19B: Biological Resources.....	637
Map 19C: Biological Resources.....	645
Map 20: Human Use Resources	651
Map 20A: Biological Resources	657
Map 20B: Biological Resources.....	667
Map 20C: Biological Resources	677
Map 20D: Biological Resources.....	683
Map 21: Human Use Resources	691
Map 21A: Biological Resources	695
Map 21B: Biological Resources.....	705
Map 22: Human Use Resources	715
Map 22A: Biological Resources	719
Map 22B: Biological Resources.....	729
Map 22C: Biological Resources.....	739
Map 23: Human Use Resources	749
Map 23A: Biological Resources	753
Map 23B: Biological Resources.....	759

Maps 24-27 contained in Volume 2, Maps 28-32 contained in Volume 1

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.

Bronx River Alliance. 2015. Alewife Herring: An Anadromous Fish in the Bronx River. Bronx River Alliance. 16 pp.

CRASC. 2015. River Herring Restoration Status and Plans in the Connecticut River Basin. Connecticut River Atlantic Salmon Commission. U.S. Fish and Wildlife Service, Connecticut River Coordinator's Office, Sunderland MA. Technical Subcommittee for River Herring. February 10, 2015.

Connecticut Department of Energy and Environmental Protection. 2015a. Connecticut Freshwater Fish Distribution. GIS Data. Provided by E. O'Donnell, Hartford, CT

Connecticut Department of Energy and Environmental Protection. 2015b. Marine Recreational Fishing Areas in Connecticut. GIS Data. Provided by D. Pacileo, Old Lyme, CT.

Connecticut Department of Energy and Environmental Protection. 2015c. Sturgeon Gear Restriction Areas. GIS Data. Provided by D. Pacileo, Old Lyme CT.

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

Connecticut Department of Energy and Environmental Protection. 2015e. 2015 Connecticut Angler's Guide – Inland and Marine Fishing. 60 pp. www.ct.gov/deep/fishing

Gephard, S., and J. McMenemy. 2004. An Overview of the Program to Restore Atlantic Salmon and Other Diadromous Fishes to the Connecticut River with Notes on the Current Status of these Species in the River. Pp. 287-317 in Jacobson, P.M. et al (eds). The Connecticut River ecological study (1965-1973) revisited: ecology of the lower Connecticut River 1973-2003. Monograph 9, American Fisheries Society, Bethesda MD.

Gotschall, K.F., and D. Pacileo. 2015. A Study of Marine Recreational Fisheries in Connecticut. Job 5: Marine Finfish 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. 142 pp.

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.

Greene, K.E., J.L. Zimmerman, R.W. Laney, and J.C. Thomas-Blate. 2009. Atlantic coast diadromous fish habitat: A review of utilization, threats, recommendations for conservation, and research needs. ASMFC Habitat Management Series No. 9. Report + CD-ROM with digital GIS data. Atlantic States Marine Fisheries Commission, Washington, DC.

Hattala, K.A., A. Kahnle, and R.D. Adams. 2011. Sustainable Fishing Plan for New York River Herring Stocks. New York State Dept. Environmental Conservation. Submitted for review to the Atlantic State Marine Fisheries Commission.

Howell, P., and D. Molnar. 2004. Stock Assessment of White Perch in the Lower Connecticut River. Pp. 379-390 in Jacobson, P.M. et al (eds). The Connecticut River ecological study (1965-1973) revisited: ecology of the lower Connecticut River 1973-2003. Monograph 9, American Fisheries Society, Bethesda MD.

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.

Jacobs, R.P., and E.B. O'Donnell. 2012. A Fisheries Guide to Lakes and Ponds of Connecticut, Including the Connecticut River and its Coves. Bulletin 35, Connecticut Dept. Environmental Protection, Hartford CT. 354 pp.

Jacobs, R.P., and E.B. O'Donnell. 2009. A Pictorial Guide to Freshwater Fishes of Connecticut. Connecticut Dept. Environmental Protection, Bulletin 42. Hartford CT. 242 pp.

Jacobs, R.P., W.A. Hyatt, N.T. Hagstrom, E.B. O'Donnell, E.C. Schluntz, P. Howell, and D.R. Molnar. 2004. Trends in Abundance, Distribution, and Growth of Freshwater Fishes from the Connecticut River in Connecticut (1988-2002). Pp. 319-343 in Jacobson, P.M. et al (eds). The Connecticut River ecological study (1965-1973) revisited: ecology of the lower Connecticut River 1973-2003. Monograph 9, American Fisheries Society, Bethesda MD.

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.

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.

NYDS. 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>

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

NYS DEC. 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.

NYS DEC. 2015a. Fish Atlas Maps of New York. New York State Dept. Environmental Conservation.
<http://www.dec.ny.gov/animals/84622.html>

NYS DEC. 2015b. New York - Long Island Public Fishing Lakes and Ponds. GIS Data. Albany NY.

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

Rachlin, J.W., B.E. Warkentine, and A. Pappantoniou. 2007. An Evaluation of the Ichthyofauna of the Bronx River, a Resilient Urban Waterway. Laboratory for Marine and Estuarine Research (LaMER), Lehman College, Bronx NY. *Northeastern Naturalist* 14(4): 531-544

Savoy, T., and D. Pacileo. 2003. Movements and Important Habitats of Subadult Atlantic Sturgeon in Connecticut Waters. *Transactions of the American Fisheries Society* 132(1):1-8.

Savoy, T.F., V.A. Crecco, and B.C. Marcy. 2004. American Shad Early Life History and Recruitment in the Connecticut River: A 40-Year Summary. Pp. 407-417 in Jacobson, P.M. et al (eds). The Connecticut River ecological study (1965-1973) revisited: ecology of the lower Connecticut River 1973-2003. Monograph 9, American Fisheries Society, Bethesda MD.

Socrates, J.B. 2010. A Study of Striped Bass in the Marine District of New York State. New York State Dept. Environmental Conservation, Bureau of Marine Resources, Albany NY. May 2010. 82 pp.

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.

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.

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.

Cornell University Cooperative Extension Service. 2016. New York horseshoe crab monitoring network sites, web site. <http://www.nyhorseshoecrab.org>.

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.

Fell, P.E., R.S. Warren, J.K. Light, R.L. Rawson Jr., and S.M. Fairley. 2003. Comparison of fish and macroinvertebrate use of *Typha angustifolia* and treated *Phragmites* marshes along the lower Connecticut River. *Estuaries and Coasts* 26 (2B): 534-551.

Gotschall, K.F., and D. Pacileo. 2015. A Study of Marine Recreational Fisheries in Connecticut. Job 5: Marine Finfish 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. 142 pp.

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

This project was supported by the NOAA Office of Response and Restoration, Hazardous Materials Response Division, under the direction of Jill Petersen, NOAA's ESI Program Manager. The development of this atlas was part of a larger effort to update much of the Atlantic coast after the destruction caused by Hurricane Sandy in October 2012. Funding was provided by the Disaster Relief Appropriations Act of 2013.

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.		Narrowleaf pinweed	<i>Lechea tenuifolia</i>
Field paspalum	<i>Paspalum laeve</i>	Narrowleaf willow	<i>Salix exigua</i>
Giant orchid	<i>Pteroglossaspis ecristata</i>	Needletip blue-eyed grass	<i>Sisyrinchium mucronatum</i>
Globefruit primrose-willow	<i>Ludwigia sphaerocarpa</i>	New England blazing star	<i>Liatris scariosa</i> var. <i>novae-angliae</i>
Golden dock	<i>Rumex maritimus</i>	Northern coastal violet	<i>Viola brittoniana</i>
Goldenclub	<i>Orontium aquaticum</i>	Nuttall's milkwort	<i>Polygala nuttallii</i>
Goose tongue	<i>Plantago maritima</i> var. <i>juncoides</i>	Oakes' evening primrose	<i>Oenothera oakesiana</i>
Great Plains flatsedge	<i>Cyperus lupulinus</i> ssp. <i>Lupulinus</i>	Pennsylvania catchfly	<i>Silene caroliniana</i> ssp. <i>pennsylvanica</i>
Hairy small-leaf ticktrefoil	<i>Desmodium ciliare</i>	Peruvian dodder	<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>
Hyssopleaf hedgenettle	<i>Stachys hyssopifolia</i>	Pilgrim grape	<i>Vitis</i> × <i>novae-angliae</i>
Hyssopleaf thoroughwort	<i>Eupatorium hyssopifolium</i> var. <i>laciniatum</i>	Pine barren flatsedge	<i>Cyperus retrorsus</i> var. <i>retrorsus</i>
Justiceweed	<i>Eupatorium leucolepis</i>	Pink tickseed	<i>Coreopsis rosea</i>
Large grass-leaved rush	<i>Juncus biflorus</i>	Pitseed goosefoot	<i>Chenopodium berlandieri</i> var. <i>macrocalycium</i>
Leonard's skullcap	<i>Scutellaria parvula</i> var. <i>missouriensis</i>	Purple milkweed	<i>Asclepias purpurascens</i>
Lesser snakeroot	<i>Ageratina aromatica</i>	Rare plant	
Lizard's tail	<i>Saururus cernuus</i>	Reznicek's sedge	<i>Carex reznicekii</i>
Longbeak beaksedge	<i>Rhynchospora scirpoides</i>	Roland's seablite	<i>Suaeda rolandii</i>
Long-tubercled spikerush	<i>Eleocharis tuberculosa</i>	Saltmarsh aster	<i>Symphyotrichum subulatum</i> var. <i>subulatum</i>
Low frostweed	<i>Helianthemum propinquum</i>	Saltmarsh bulrush	<i>Schoenoplectus novae-angliae</i>
Lowland rotala	<i>Rotala ramosior</i>	Saltmarsh false foxglove	<i>Agalinis maritima</i>
Lowland yellow loosestrife	<i>Lysimachia hybrida</i>	Saltmarsh loosestrife	<i>Lythrum lineare</i>
Manyflower marshpennywort	<i>Hydrocotyle umbellata</i>	Sand blackberry	<i>Rubus cuneifolius</i>
Marsh fimbry	<i>Fimbristylis castanea</i>	Sand dropseed	<i>Sporobolus cryptandrus</i>
Marsh straw sedge	<i>Carex hormathodes</i>	Sandplain flax	<i>Linum intercursum</i>
Meadow zizia	<i>Zizia aptera</i>	Scotland orache	<i>Atriplex glabriuscula</i>
Midland sedge	<i>Carex mesochorea</i>	Scottish licorice-root	<i>Ligusticum scoticum</i> ssp. <i>Scoticum</i>
Mitchell's sedge	<i>Carex mitchelliana</i>	Seacoast angelica	<i>Angelica lucida</i>
Nantucket serviceberry	<i>Amelanchier nantucketensis</i>	Seaside goldenrod	<i>Solidago sempervirens</i> var. <i>mexicana</i>
Narrowfruit horned beaksedge	<i>Rhynchospora inundata</i>	Seaside sandplant	<i>Honckenya peploides</i>
Narrowleaf lespedeza	<i>Lespedeza angustifolia</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>		
Violet woodsorrel	<i>Oxalis violacea</i>	BENTHIC	
Water pygmyweed	<i>Crassula aquatica</i>	SUBMERGED AQUATIC VEGETATION	
Welsh mudwort	<i>Limosella australis</i>	Cutleaf watermilfoil	<i>Myriophyllum</i> <i>pinnatum</i>
Whip nutrush	<i>Scleria triglomerata</i>	Eelgrass	<i>Zostera marina</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 sp.</i>
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 spp.</i>
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 spp.</i>
<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 ssp. 5</i>
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 ssp. 2</i>
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</u> <u>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*
--------------	------------------

MARINE MAMMALS

DOLPHIN

Bottlenose dolphin	<i>Tursiops truncatus</i>
--------------------	---------------------------

Harbor porpoise	<i>Phocoena phocoena</i>
-----------------	--------------------------

SEAL

Gray seal	<i>Halichoerus grypus</i>
-----------	---------------------------

Harbor seal	<i>Phoca vitulina</i>
-------------	-----------------------

WHALE

<u>Humpback whale</u>	<u><i>Megaptera</i></u> <u><i>novaeangliae</i></u>
-----------------------	---

<u>North Atlantic right whale</u>	<u><i>Eubalaena glacialis</i></u>
-----------------------------------	-----------------------------------

TERRESTRIAL MAMMALS

BAT

Eastern red bat	<i>Lasiurus borealis</i>
-----------------	--------------------------

Hoary bat	<i>Lasiurus cinereus</i>
-----------	--------------------------

Silver-haired bat	<i>Lasionycteris</i> <i>noctivagans</i>
-------------------	--

SMALL MAMMAL

New England cottontail	<i>Sylvilagus</i> <i>transitionalis</i>
------------------------	--

North American least shrew	<i>Cryptotis parva</i>
----------------------------	------------------------

Northern river otter	<i>Lontra canadensis</i>
----------------------	--------------------------

* 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

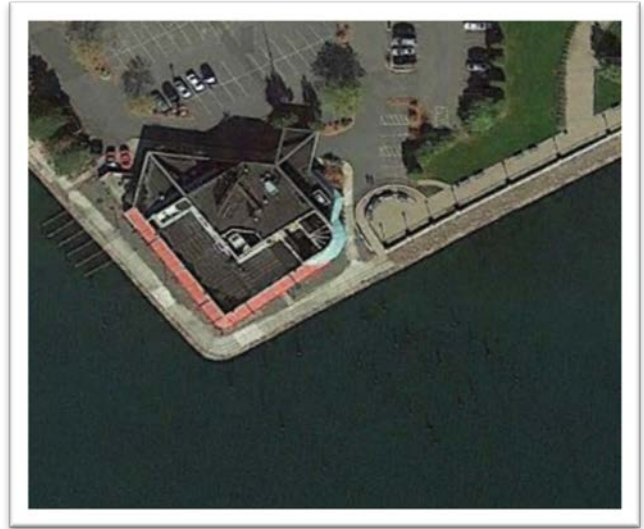
ESI = 2A

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

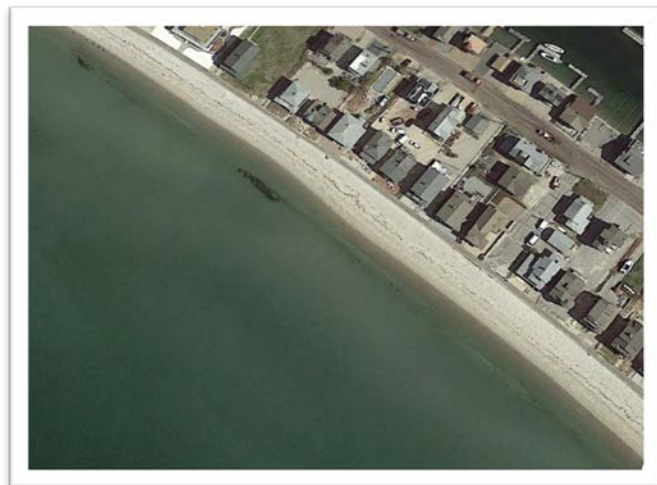
ESI = 3A

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

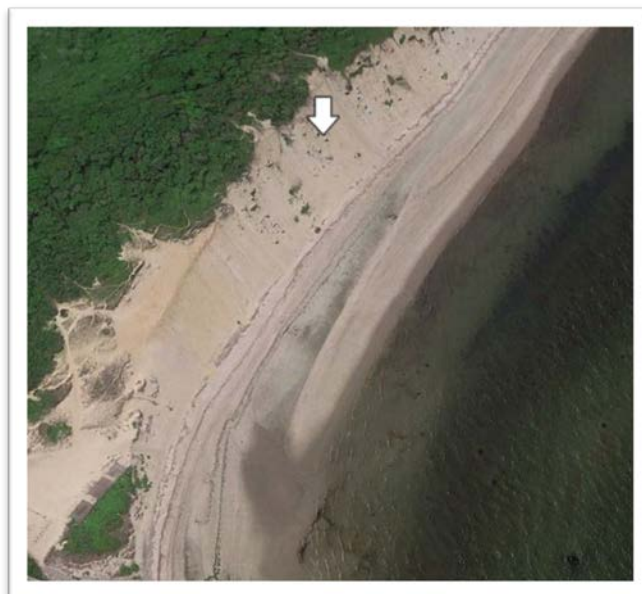
ESI = 3B

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 14
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	LANDFILL	SEYMOUR BULK WASTE LANDFILL	CT DEPT. OF ENERGY AND ENV. PROTECTION	
2	LANDFILL	WOODBIDGE BULK WASTE LANDFILL	CT DEPT. OF ENERGY AND ENV. PROTECTION	
DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
3	PARK	FARMINGTON CANAL LINE STATE PARK TRAIL	CT DEPT. OF ENERGY AND ENV. PROTECTION	860-424-3016
4	PARK	WEST ROCK RIDGE STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION	860-424-3016
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	

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)
10B	Freshwater Marshes	33.45	0.05
10C	Swamps	414.17	0.65
10D	Scrub and Shrub Wetlands	41.60	0.06



ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10B	Freshwater Marshes	1,544.67	0.96	3%
10C	Swamps	1,278.51	0.79	2%
10D	Scrub and Shrub Wetlands	222.82	0.14	< 1%
9B	Vegetated Low Banks	46,163.63	28.68	81%
8B	Sheltered, Solid Man-Made Structures	1,491.20	0.93	3%
8C	Sheltered Riprap	4,696.86	2.92	8%
6A	Gravel Beaches	1,505.64	0.94	3%
5	Mixed Sand and Gravel Beaches	75.20	0.05	< 1%
4	Coarse Grained Sand Beaches	229.60	0.14	< 1%

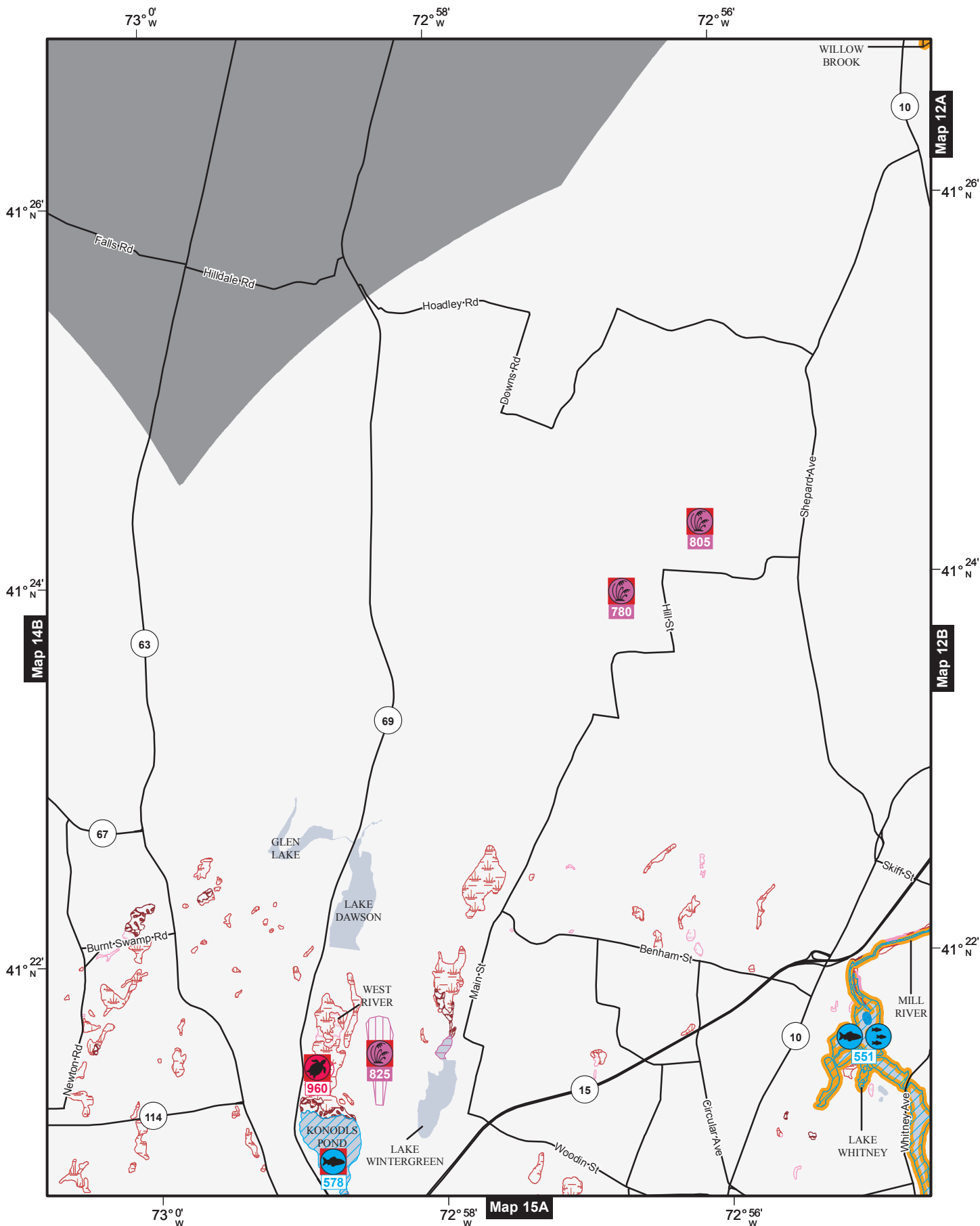


Total ESI Shoreline: 57,208.14 Total ESI Shoreline: 35.55
 Total Shoreline: 48,840.42 Total Shoreline: 30.35

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

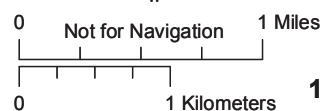




Map 14A
Long Island Sound



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 14A
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
		High Ecological Value		C/-		Present	J F M A M J J A S O N D
SAV	Vasey's pondweed						

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					
551	Diadromous Estuarine Nursery	American eel	Nursery Area				Common		-	-	Apr-Aug	Jan-Dec	Sep-Nov
578	Diadromous	White perch	Nursery Area				Common		Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
	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
	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

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
780	Plant	Devil's-tongue	Vulnerable Occurrence		C/-		Present	
805	Plant	Violet woodsorrel	Vulnerable Occurrence		C/-		Present	
825	Plant	Creeping lespedeza	Vulnerable Occurrence		C/T		Present	
	Plant	Sand blackberry	Vulnerable Occurrence		C/E		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					
960	Turtle	Rare reptile	Vulnerable Occurrence		-/E		Present		Jun	Aug-Sep	-	Jan-Dec	Jan-Dec

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

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				
Passerine	Saltmarsh sparrow							May-Aug	-	-	-
Waterfowl	American black duck							Apr-May	Mar-Apr	Sep-Nov	-
	Bufflehead							-	Oct-Jun	-	-
	Canvasback							-	-	-	-
	Common goldeneye							-	Nov-Apr	-	-
	Mallard							Mar-Aug	-	-	-

FISH

Monthly Presence

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-Jun	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
	White sucker													Apr-May	Apr-Jun	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)
10B	Freshwater Marshes	28.12	0.04
10C	Swamps	264.03	0.41
10D	Scrub and Shrub Wetlands	34.98	0.05

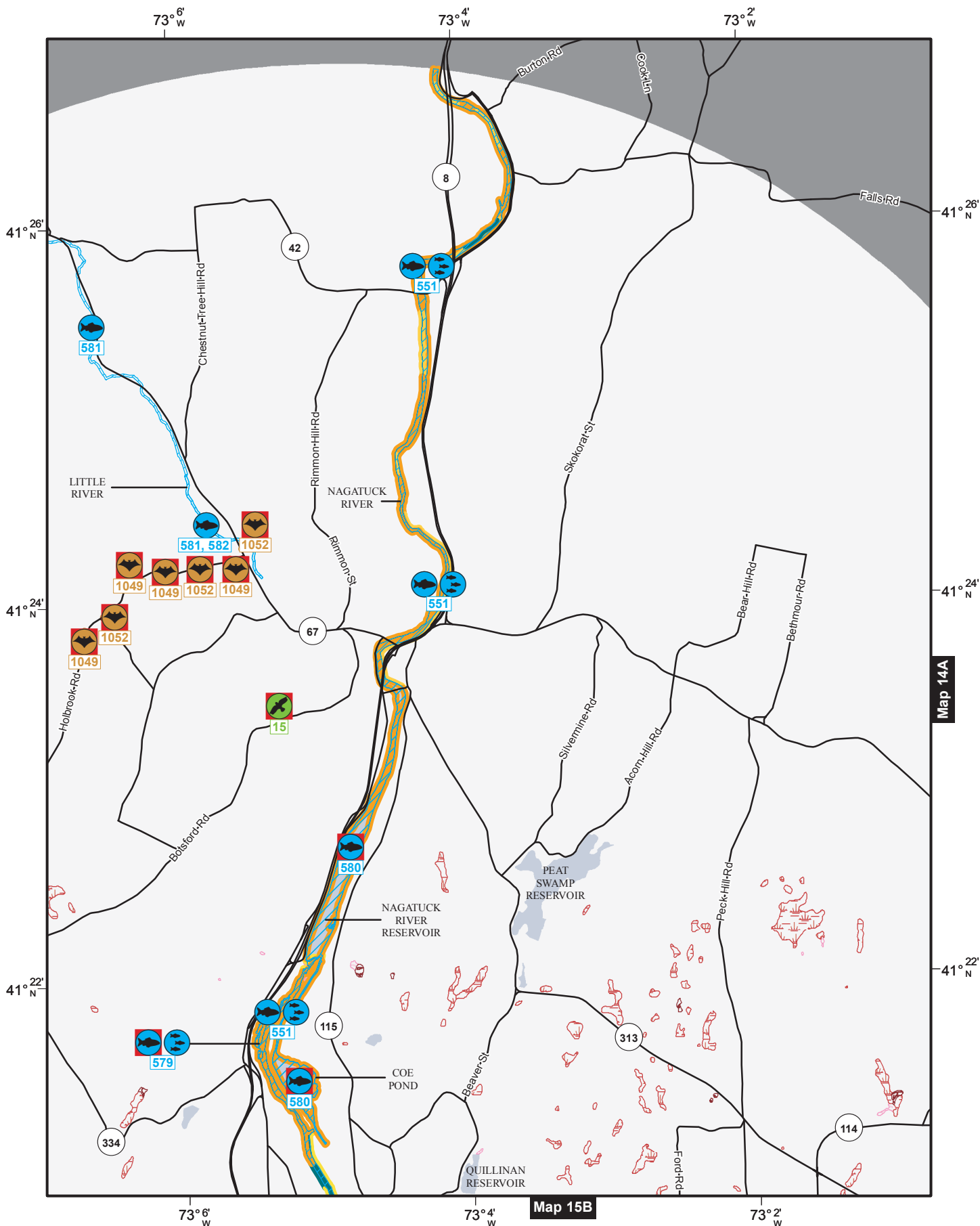
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10B	Freshwater Marshes	948.66	0.59	6%
10C	Swamps	1,278.30	0.79	8%
10D	Scrub and Shrub Wetlands	168.65	0.10	1%
9B	Vegetated Low Banks	12,395.65	7.70	82%
8B	Sheltered, Solid Man-Made Structures	112.82	0.07	1%
4	Coarse Grained Sand Beaches	138.07	0.09	1%
Total ESI Shoreline:		15,042.16	Total ESI Shoreline:	9.35
		12,646.55	Total Shoreline:	7.86

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 14B
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 14B
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												Molt
						J	F	M	A	M	J	J	A	S	O	N	D	
15	Raptor	Bald eagle	General Distribution	T/T	Present													-
																		-



FISH

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				
551	Diadromous	American eel	Nursery Area		Common													-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
579	Diadromous	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area		Common													-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	American shad	Migration		Common													May-Jul	May-Aug	Jun-Nov	Sep-Jul
	Diadromous	Blueback herring	Spawning Area	C/-	Common													May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Sea lamprey	Spawning Area		Common													May-Jun	May-Jun	Apr-Jul	Apr-Jul
	Diadromous	Striped bass	Migration		Common													-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Jan-Dec	Jan-Dec
580	Diadromous	Alewife	Spawning Area		Common													Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American shad	Nursery Area		Common													May-Jul	May-Aug	Jun-Nov	Apr-Jul
	Diadromous	Blueback herring	Spawning Area	C/-	Common													May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Sea lamprey	Spawning Area		Common													May-Jun	May-Jun	Apr-Jul	Apr-Jul
	Diadromous	Striped bass	Migration		Common													-	-	Apr-Nov	Apr-Nov
581	Freshwater	Brook trout	Nursery Area		Common													Sep-Dec	Feb-May	Jan-Dec	Jan-Dec
582	Diadromous	Brown trout	Nursery Area		Common													Oct-Nov	Feb-May	Jan-Dec	Jan-Dec

TERRESTRIAL 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
1049	Bat	Silver-haired bat	Vulnerable Occurrence	C/-	Present												
1052	Bat	Hoary bat	Vulnerable Occurrence	C/-	Present												

FISH

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Diadromous													Oct-Nov	Feb-May	Jan-Dec	Jan-Dec
	Gizzard shad													Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
	Freshwater													May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Bluegill													Sep-Dec	Feb-May	Jan-Dec	Jan-Dec
	Brook trout													May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jun	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
	Spottail shiner													Jun-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Tessellated darter													Apr-May	Apr-Jun	Jan-Dec	Jan-Dec
	White sucker													Apr-May	Apr-Jun	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)
10B	Freshwater Marshes	5.33	0.01
10C	Swamps	149.87	0.23
10D	Scrub and Shrub Wetlands	6.62	0.01

ESI SHORELINE HABITAT TYPES

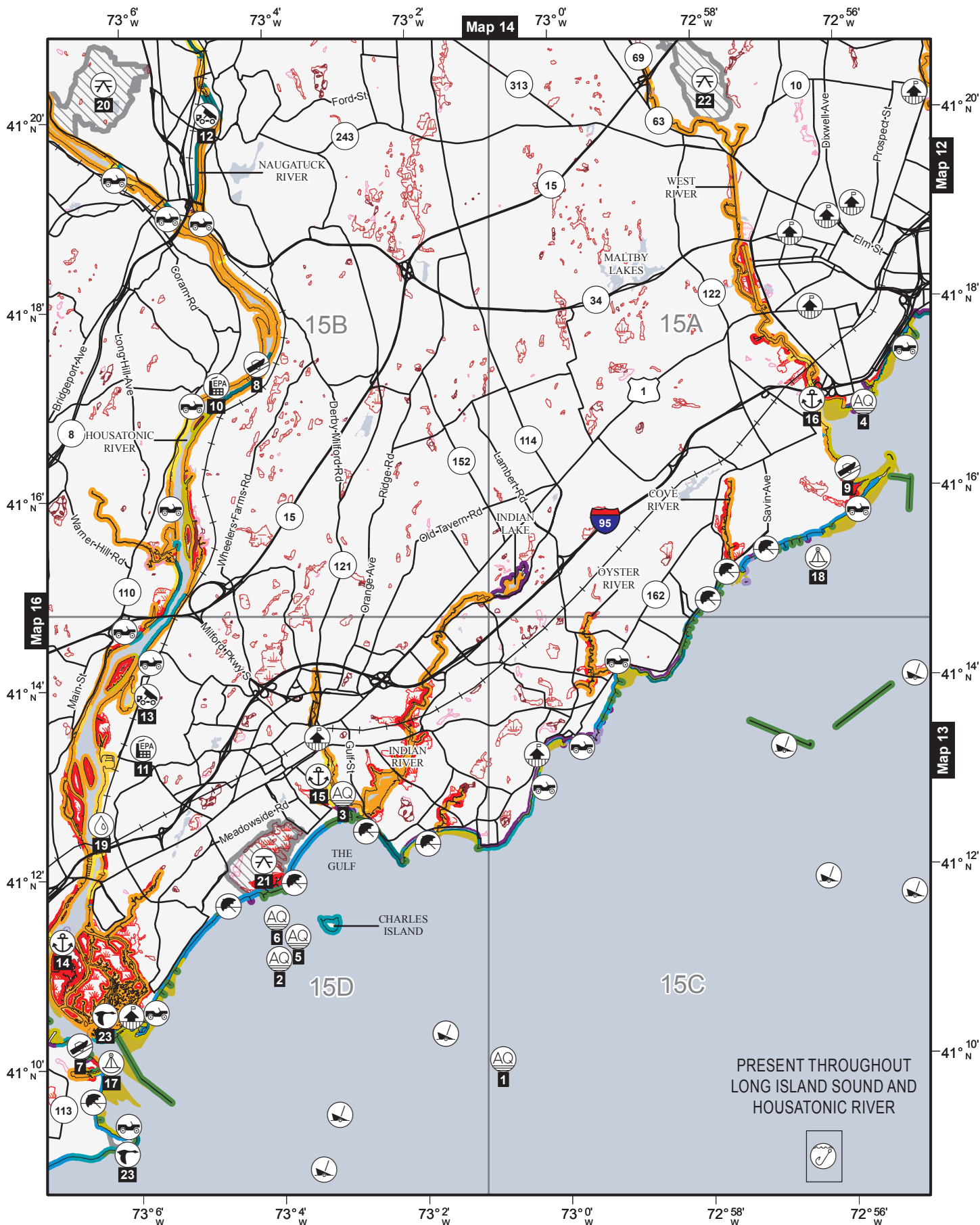
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10B	Freshwater Marshes	596.01	0.37	2%
10D	Scrub and Shrub Wetlands	54.17	0.03	< 1%
9B	Vegetated Low Banks	30,990.52	19.26	79%
8B	Sheltered, Solid Man-Made Structures	1,327.92	0.83	3%
8C	Sheltered Riprap	4,696.86	2.92	12%
6A	Gravel Beaches	1,502.10	0.93	4%
5	Mixed Sand and Gravel Beaches	75.20	0.05	< 1%
4	Coarse Grained Sand Beaches	91.53	0.06	< 1%

Total ESI Shoreline: 39,334.31 Total ESI Shoreline: 24.44
 Total Shoreline: 33,365.96 Total Shoreline: 20.73

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 15
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 15
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	AQUACULTURE	KELP FARM OFF OF MILFORD	CHARLES YARISH	203-251-8432
2	AQUACULTURE	NMFS/MILFORD LABORATORY (CT067AAO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
3	AQUACULTURE	BRIARPATCH ENTERPRISES, INC. (CT028AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
4	AQUACULTURE	THE SOUND SCHOOL R.V.A.C. (CT041AAO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
5	AQUACULTURE	WESTPORT AQUACULTURE (CT028AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
6	AQUACULTURE	WESTPORT AQUACULTURE (CT080AAO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
7	BOAT RAMP	KNAPPS LANDING BOAT RAMP		
8	BOAT RAMP	SUNNYSIDE BOAT RAMP		
9	BOAT RAMP	WEST HAVEN BOAT RAMP		
10	EPA FACILITY	LATEX FOAM INTERNATIONAL, LLC	JACK RAPO, ENGINEERING MANAGER	203-924-0700
11	EPA FACILITY	BIC CONSUMER PRODUCTS MANUFACTURING CO.	MARK SULLIVAN, AREA MGR FACILITIES E&S	203-783-2237
12	LANDFILL	ANSONIA TRANS STA & BW LANDFILL	CT DEPT. OF ENERGY AND ENV. PROTECTION	
13	LANDFILL	MILFORD (D'ADDARIO) BW LANDFILL	CT DEPT. OF ENERGY AND ENV. PROTECTION	
14	MARINA	BREWER STRATFORD MARINA		
15	MARINA	MILFORD HARBOR MARINA		
16	MARINA	WEST COVE MARINA		
17	REPEATED MEASUREMENT SITE	MWS - LIHR	GREG PINIAK	301-713-3028
18	REPEATED MEASUREMENT SITE	MWS - LINH	GREG PINIAK	301-713-3028
19	WATER INTAKE	NRG DEVON STATION POWER PLANT		

DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
20	PARK	OSBORNEDALE STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION	860-424-3016
21	PARK	SILVER SANDS STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION	860-424-3016
22	PARK	WEST ROCK RIDGE STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION	860-424-3016
23	WILDLIFE REFUGE	STEWART B. MCKINNEY NATIONAL WILDLIFE REFUGE	RICK POTVIN	860-399-2513

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	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

JURISDICTIONS

COUNTY:	FAIRFIELD COUNTY, NEW COUNTY	FEMA:	REGION I
COAST GUARD:	DISTRICT 1, SECTOR LONG ISLAND SOUND	EPA:	REGION 1
USACE:	NORTH ATLANTIC DIVISION, NEW ENGLAND DISTRICT		

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	1,407.03	2.20
10B	Freshwater Marshes	207.54	0.32
10C	Swamps	1,181.37	1.85
10D	Scrub and Shrub Wetlands	286.84	0.45
9A	Sheltered Tidal Flats	282.45	0.44
7	Exposed Tidal Flats	717.63	1.12
2A	Exposed Wave-Cut Platforms In Bedrock	0.75	0.00

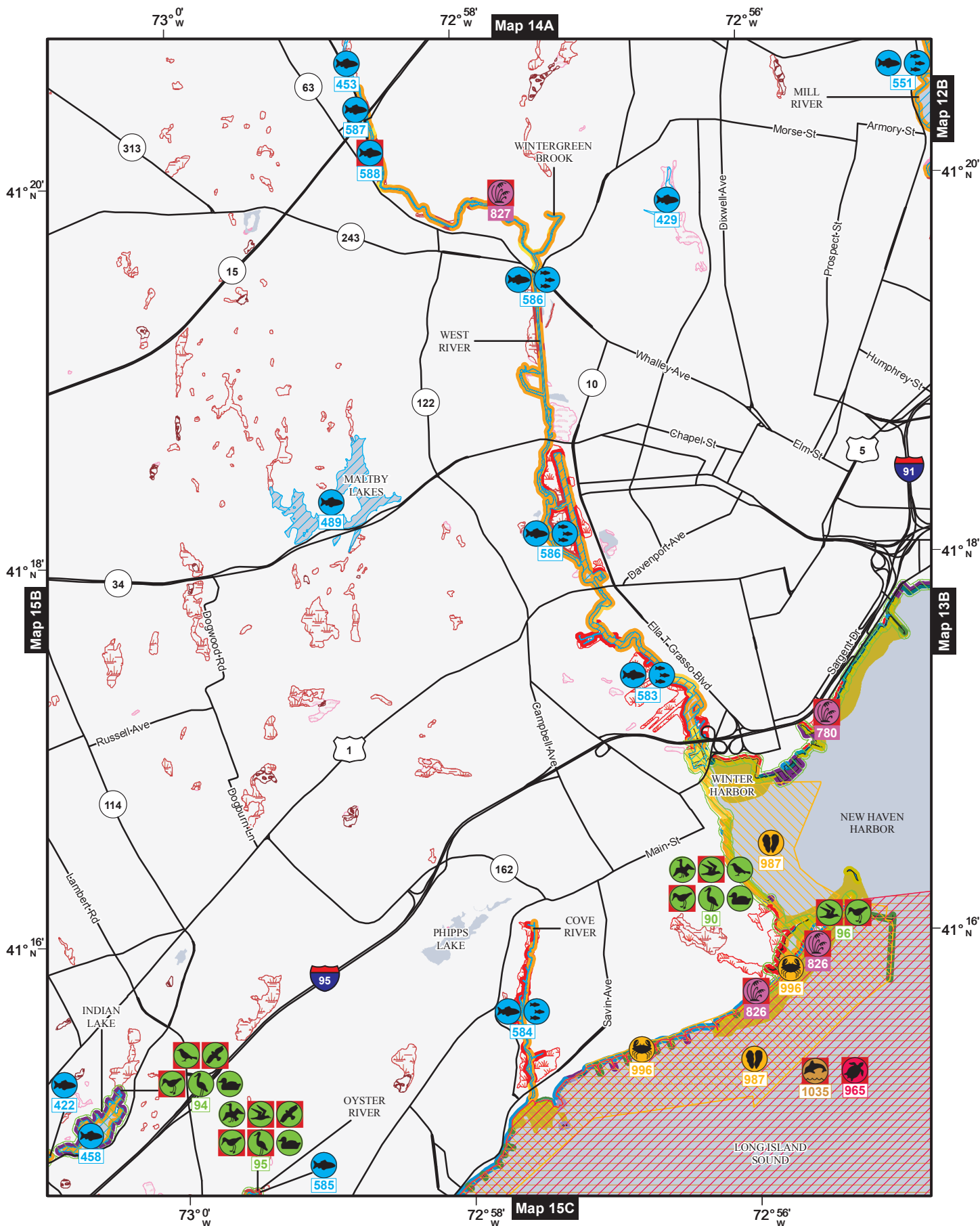
ESI SHORELINE HABITAT TYPES

<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	119,681.52	74.37	22%
10B	Freshwater Marshes	4,766.79	2.96	1%
10C	Swamps	4,310.46	2.68	1%
10D	Scrub and Shrub Wetlands	2,165.61	1.35	< 1%
9A	Sheltered Tidal Flats	60,131.64	37.36	11%
9B	Vegetated Low Banks	205,397.45	127.63	38%
8A	Sheltered, Impermeable, Rocky Shores	245.59	0.15	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	91.70	0.06	< 1%
8A	Sheltered, Impermeable, Rocky Shores	245.59	0.15	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	91.70	0.06	< 1%
8B	Sheltered, Solid Man-Made Structures	17,740.74	11.02	3%
8C	Sheltered Riprap	6,931.07	4.31	1%
7	Exposed Tidal Flats	28,140.65	17.49	5%
6A	Gravel Beaches	10,640.32	6.61	2%
6B	Riprap	19,583.62	12.17	4%
5	Mixed Sand and Gravel Beaches	13,751.19	8.54	3%
4	Coarse Grained Sand Beaches	22,300.74	13.86	4%
3A	Fine to Medium Grained Sand Beaches	53.92	0.03	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	1,625.14	1.01	< 1%
1A	Exposed, Rocky Shores	279.67	0.17	< 1%
1B	Exposed, Solid Man-Made Structures	18,055.08	11.22	3%
Total ESI Shoreline:		535,892.91	332.99	
Total Shoreline:		291,965.40	181.42	

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

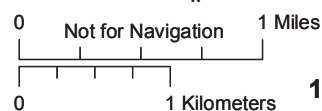




Map 15A
Long Island Sound



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 15A
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				
90	Diving	Grebes	Concentration Area				Present													-	Jan-Dec	-	-
	Diving	Loons	Concentration Area				Present													-	Apr-May	Oct-Nov	-
	Gull/Tern	Black skimmer	Concentration Area			-/C	Present													Mar-Aug	-	-	-
	Gull/Tern	Black tern	Concentration Area				Abundant													-	-	Jul-Sep	-
	Gull/Tern	Common tern	Concentration Area			E/T	Abundant													May-Aug	-	-	-
	Gull/Tern	Common tern	Nesting			E/T	Present													May-Aug	-	-	-
	Gull/Tern	Forster's tern	Concentration Area				Abundant													Apr-Aug	-	-	-
	Gull/Tern	Least tern	Concentration Area			T/T	Abundant													Apr-Aug	-	-	-
	Gull/Tern	Least tern	Nesting			T/T	Present													Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	Concentration Area			E/E	Abundant													May-Aug	-	-	-
	Passerine	Saltmarsh sparrow	Concentration Area				Present													May-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting			T/-	Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting			T/E	Present													Mar-Aug	-	-	-
	Shorebird	Red knot	Concentration Area			T	Abundant													-	May-Jun	Sep-Nov	-
	Shorebird	Semipalmated sandpiper	Concentration Area				Present													-	-	Jul-Oct	-
	Shorebird	Shorebirds	Concentration Area				Highly Abundant													-	Jan-Dec	-	-
	Wading	Wading birds	Concentration Area				Present													Jan-Dec	-	-	-
	Waterfowl	Brant	Concentration Area				Highly Abundant													-	Mar-May	Oct-Nov	-
	Waterfowl	Goldeneye	Concentration Area				Common													-	Apr-May	Nov-Dec	-
	Waterfowl	Greater scaup	Concentration Area				Abundant													-	-	-	-
	Waterfowl	Redhead	Concentration Area				Common													-	Nov-Mar	-	-
94	Passerine	Seaside sparrow	General Distribution			T/C	Present													May-Aug	-	-	-
	Raptor	Osprey	Nesting			-/C	Common													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Red knot	Concentration Area			T	Present													-	May-Jun	Sep-Nov	-
	Wading	Egrets	Concentration Area				Present													Jan-Dec	-	-	-
	Wading	Herons	Concentration Area				Present													Jan-Dec	-	-	-
	Waterfowl	American wigeon	Concentration Area				Present													-	-	-	-
	Waterfowl	Dabbling ducks	Migration				Present													-	Jan-Dec	-	-
	Waterfowl	Green-winged teal	Concentration Area				Present													-	Mar-Apr	Sep-Oct	-
95	Diving	Grebes	Concentration Area				Present													-	Jan-Dec	-	-
	Diving	Loons	Concentration Area				Present													-	Apr-May	Oct-Nov	-
	Gull/Tern	Bonaparte's gull	Concentration Area				Abundant													-	-	-	-
	Gull/Tern	Common tern	General Distribution			E/T	Present													May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution			T/T	Present													Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution			-/C	Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	Wintering			T/-	Present													Mar-Aug	-	-	-
	Wading	Glossy ibis	General Distribution			C/-	Present													Mar-Aug	-	-	-

3

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
	Wading	Great egret	General Distribution		T/-		5													Mar-Aug	-	-	-	-
	Wading	Snowy egret	General Distribution		T/-		2													Mar-Aug	-	-	-	-
	Waterfowl	Diving ducks	Concentration Area				Present													-	-	-	-	-
96	Gull/Tern	Common tern	General Distribution		E/T		Present													May-Aug	-	-	-	-
	Gull/Tern	Least tern	General Distribution		T/T		Present													Apr-Aug	-	-	-	-
	Shorebird	Piping plover	General Distribution		T/E	T	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					
422	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
429	Estuarine Resident	Mummichog	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	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
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
489	Diadromous	American eel	Nursery Area				Uncommon													-	-	Apr-Aug	Jan-Dec	Sep-Nov
551	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	White perch	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
583	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
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	White perch	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
584	Marine Benthic	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Common													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-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
585	Diadromous	Northern pipefish	Nursery Area				Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
586	Estuarine Resident	Striped killifish	Nursery Area				Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	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
587	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
588	Diadromous	Sea lamprey	Migration				Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
	Diadromous	Blueback herring	Spawning Area				Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov

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
780	Plant	Devil's-tongue	Vulnerable Occurrence	C/-	Present												
826	Plant	Sand dropseed	Vulnerable Occurrence	T/-	Present												
827	Plant	Tall cinquefoil	Vulnerable Occurrence	C/-	Present												

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F T	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
965	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												

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												
996	Crab	Horseshoe crab	Spawning Area		Present												

MARINE MAMMALS




Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F C/C	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
1035	Dolphin	Harbor porpoise	General Distribution		Present												

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

Subelement	Species	Mapping Qualifier	CT/NY S F C/C	Concentration	Monthly Presence											
					J	F	M	A	M	J	J	A	S	O	N	D
 Diving	Common loon	General Distribution		10S												
 Shorebird	American oystercatcher	General Distribution	T/-	Present												

FISH





Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence											
					J	F	M	A	M	J	J	A	S	O	N	D
 Diadromous	Alewife	Nursery Area		Common												
 Estuarine	Atlantic menhaden	Nursery Area		Abundant												
	Bay anchovy	Nursery Area		Common												
	Black sea bass	Nursery Area		Common												
	Northern kingfish	Nursery Area		Common												
	Northern puffer	Nursery Area		Common												
	Scup	Nursery Area		Common												
	Winter flounder	Nursery Area		Abundant												
 Estuarine Resident	Atlantic silverside	Nursery Area		Abundant												
	Grubby	Nursery Area		Common												
	Mummichog	Nursery Area		Common												

FISH (continued)

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				
	Northern pipefish	Nursery Area		Abundant													Apr-Aug			Jan-Dec
	Striped killifish	Nursery Area		Common													May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Cunner	Nursery Area		Common													May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Inshore lizardfish	Nursery Area		Common													-	-	Apr-Nov	Apr-Nov
	Striped searobin	Nursery Area		Common													May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Tautog	Nursery Area		Common													Apr-Sep	May-Sep	Apr-Nov	Apr-Nov




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				
	Razorbill													-	-	-	-
	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	-
	American crow													Mar-Aug	-	-	-
	American goldfinch													Mar-Aug	-	-	-
	American robin													Mar-Aug	-	-	-
	Baltimore oriole													Apr-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Blue-winged warbler													-	Apr-May	Sep	-
	Blue jay													Apr-Aug	Mar-May	Sep-Oct	-
	Chimney swift													Jun-Jul	Apr-May	Aug-Sep	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Eastern phoebe													May-Jul	Apr-May	Sep-Nov	-
	European starling													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-winged blackbird													Mar-Aug	-	-	-
	Saltmarsh sparrow													May-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-
	Willow flycatcher													May-Aug	-	-	-

Long Island Sound: Map 15A




BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig. (S)	Mig. (F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Yellow warbler													Apr-Aug	-	-	-
	Northern gannet													-	-	-	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Killdeer													Mar-Aug	-	-	-
	Least sandpiper													-	-	-	-
	Semipalmated sandpiper													-	Apr-Jun	Aug-Oct	-
	BC night-heron													-	-	Jul-Oct	-
	Clapper rail													Mar-Aug	-	-	-
	Great blue heron													Mar-Aug	-	-	-
	Green heron													Mar-Aug	-	-	-
	American black duck													Apr-Aug	-	-	-
	Black scoter													Apr-May	Mar-Apr	Sep-Nov	-
	Bufflehead													-	-	-	-
	Canada goose													-	Oct-Jun	-	-
	Canvasback													Mar-Aug	Jan-Dec	-	-
	Common goldeneye													-	-	-	-
	Gadwall													-	Nov-Apr	-	-
	Greater scaup													Jan-Dec	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													-	-	-	-
	Mute swan													Mar-Aug	-	-	-
	Northern shoveler													Mar-Sep	-	-	-
	Red-breasted merganser													-	-	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	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
	Chain pickerel													Mar-May	Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Channel catfish													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
	White sucker													Apr-May	Apr-Jun	Apr-Jun	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	Eastern oyster													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
		Northern quahog													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
	Crab	Blue 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
		Horseshoe crab													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
	Shrimp	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
		Sevenspine bay shrimp												May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec	

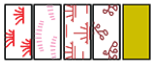
MARINE MAMMALS

	Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
			J	F	M	A	M	J	J	A	S	O	N	D				
	Dolphin	Bottlenose dolphin													-	-	-	
		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	201.09	0.31
10B	Freshwater Marshes	78.07	0.12
10C	Swamps	345.88	0.54
10D	Scrub and Shrub Wetlands	43.01	0.07
7	Exposed Tidal Flats	271.00	0.42



ESI SHORELINE HABITAT TYPES

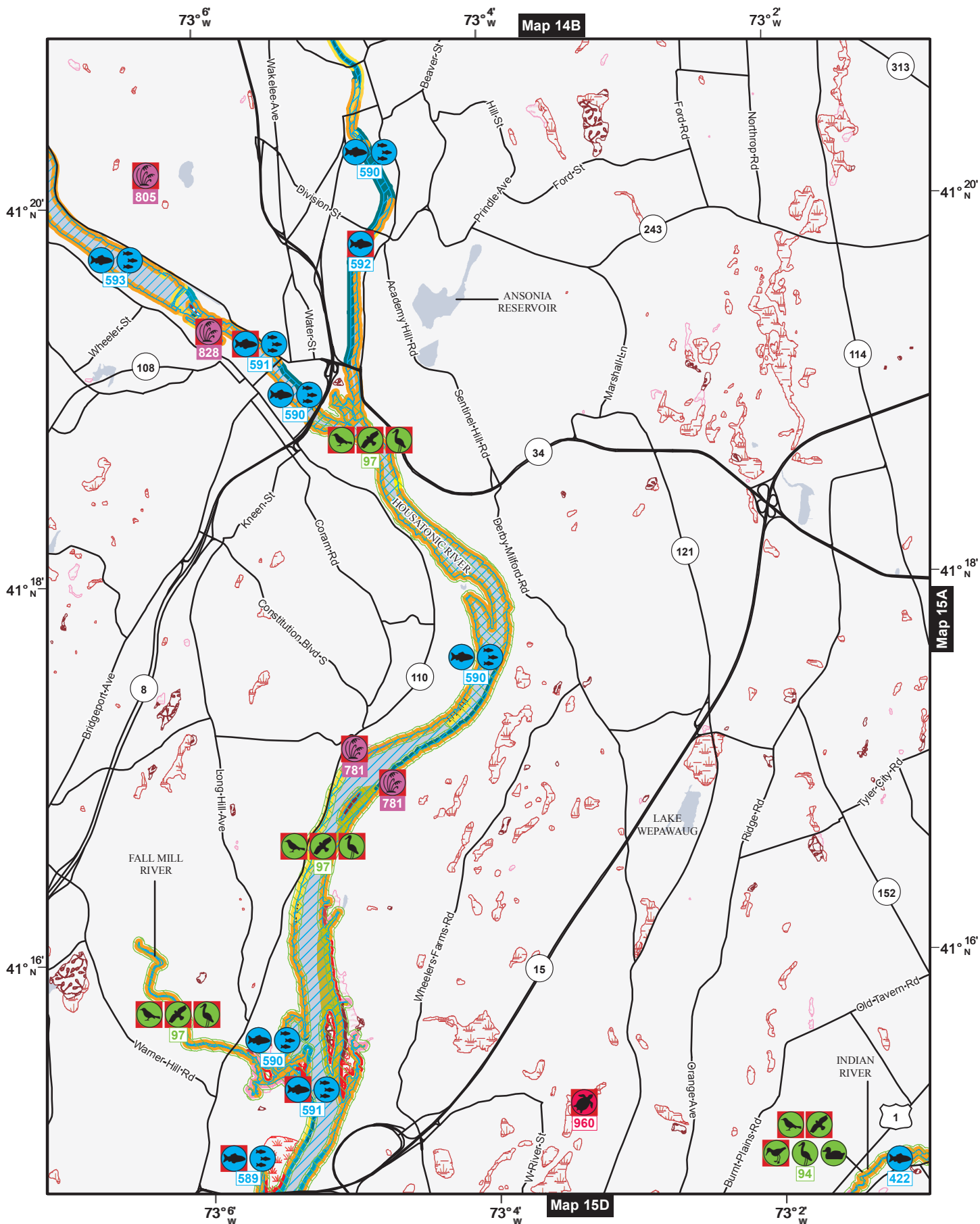
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	15,552.55	9.66	17%
10B	Freshwater Marshes	1,235.11	0.77	1%
10C	Swamps	3,481.15	2.16	4%
10D	Scrub and Shrub Wetlands	107.53	0.07	< 1%
9B	Vegetated Low Banks	38,714.29	24.06	42%
8B	Sheltered, Solid Man-Made Structures	2,740.86	1.70	3%
8C	Sheltered Riprap	1,732.56	1.08	2%
7	Exposed Tidal Flats	9,792.41	6.08	11%
6A	Gravel Beaches	862.84	0.54	1%
6B	Riprap	3,538.46	2.20	4%
5	Mixed Sand and Gravel Beaches	2,228.31	1.38	2%
4	Coarse Grained Sand Beaches	6,625.71	4.12	7%
3A	Fine to Medium Grained Sand Beaches	53.92	0.03	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	413.56	0.26	< 1%
1B	Exposed, Solid Man-Made Structures	6,135.69	3.81	7%

Total ESI Shoreline: 93,214.95 Total ESI Shoreline: 57.92
Total Shoreline: 57,814.95 Total Shoreline: 35.92

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

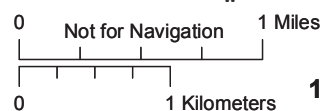




Map 15B
Long Island Sound



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 15B
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				
94	Passerine	Seaside sparrow	General Distribution	T/C	Present													May-Aug	-	-	-
	Raptor	Osprey	Nesting	-/C	Common													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Red knot	Concentration Area	T	Present													-	May-Jun	Sep-Nov	-
	Wading	Egrets	Concentration Area		Present													Jan-Dec	-	-	-
	Wading	Hérons	Concentration Area		Present													Jan-Dec	Jan-Dec	-	-
	Waterfowl	American wigeon	Concentration Area		Present													-	-	-	-
	Waterfowl	Dabbling ducks	Migration		Present													-	Jan-Dec	-	-
97	Waterfowl	Green-winged teal	Concentration Area		Present													-	Mar-Apr	Sep-Oct	-
	Passerine	Seaside sparrow	General Distribution	T/C	Present													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	-	-	-

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					
422	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
589	Estuarine Resident	Mummichog	Nursery Area		Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Diadromous	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American shad	Migration		Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
	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	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	Bluefish	Nursery Area		Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Hogchoker	Nursery Area		Common													May-Aug	May-Aug	May-Aug	Jan-Dec	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	Inland 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	Sheepshead minnow	Nursery Area		Common													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
590	Freshwater	Rainbow smelt	Spawning Area	E/-	Uncommon													Feb-May	Feb-May	Feb-May	Feb-May	Feb-May
	Marine Benthic	Atlantic tomcod	Nursery Area		Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Diadromous	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American shad	Migration		Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
	Diadromous	Striped bass	Migration		Common													-	-	-	Apr-Nov	Apr-Nov

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Larvae	Eggs	Spawn	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
591	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Jul	Jan-Dec	Jan-Dec
	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
	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
592	Estuarine Nursery	Hogchoker	Nursery Area		Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area		Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Inland 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	Sheepshead minnow	Nursery Area		Common													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
593	Freshwater	Rainbow smelt	Spawning Area	E/-	Uncommon													Feb-May	Feb-May	Feb-May	Feb-May	Feb-May
	Marine Benthic	Atlantic tomcod	Nursery Area		Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Blueback herring	Spawning Area	C/-	Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Sea lamprey	Spawning Area		Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
593	Diadromous	Alewife	Spawning Area		Rare													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Diadromous	American eel	Nursery Area		Abundant													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Banded killifish	Nursery Area		Uncommon													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												Nest	Hatch	Internest	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
781	Plant	Awl-leaf arrowhead	Vulnerable Occurrence	C/-	Present													-	-	-	-	-
805	Plant	Violet woodsorrel	Vulnerable Occurrence	C/-	Present													-	-	-	-	-
828	Plant	American senna	Vulnerable Occurrence	C/-	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					
960	Turtle	Rare reptile	Vulnerable Occurrence	-/E	Present													Jun	Aug-Sep	-	Jan-Dec	Jan-Dec



ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

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				
7	Passerine	American goldfinch																Mar-Aug	-	-	-
		American robin																Mar-Aug	-	-	-
8	Barn Swallow	Baltimore oriole																Apr-Aug	-	-	-
		Barn Swallow																Apr-Aug	-	-	-
		Common grackle																Mar-Aug	-	-	-
9	Common yellowthroat	Common yellowthroat																Apr-Aug	-	-	-
		Marsh wren																Apr-Aug	-	-	-

Long Island Sound: Map 15B

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	-	-	-
	Woodthrush													Apr-Aug	-	-	-
	Dunlin													-	Apr-May	Oct-Nov	-
	Killdeer													Mar-Aug	-	-	-
	Least sandpiper													-	Apr-Jun	Aug-Oct	-
	Semipalmated sandpiper													-	-	Jul-Oct	-
	Willet													Apr-Aug	-	-	-
Wading	BC night-heron													Mar-Aug	-	-	-
	Virginia rail													Mar-Aug	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Brown trout													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Jan-Dec
	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
	Brook trout													Sep-Dec	Sep-Apr	Feb-May	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
	Common carp													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Golden shiner													May-Aug	May-Aug	May-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
	Spottail shiner													Jun-Jul	Jun-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Tessellated darter													Apr-May	Apr-May	Apr-Jun	Jan-Dec	Jan-Dec
	White catfish													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	White sucker													Apr-May	Apr-Jun	Apr-Jun	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					
	Eastern oyster													Jun-Oct	Jun-Oct	Jun-Nov	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	62.39	0.10
10B	Freshwater Marshes	72.47	0.11
10C	Swamps	556.80	0.87
10D	Scrub and Shrub Wetlands	109.27	0.17
9A	Sheltered Tidal Flats	15.50	0.02
7	Exposed Tidal Flats	54.27	0.08

ESI SHORELINE HABITAT TYPES

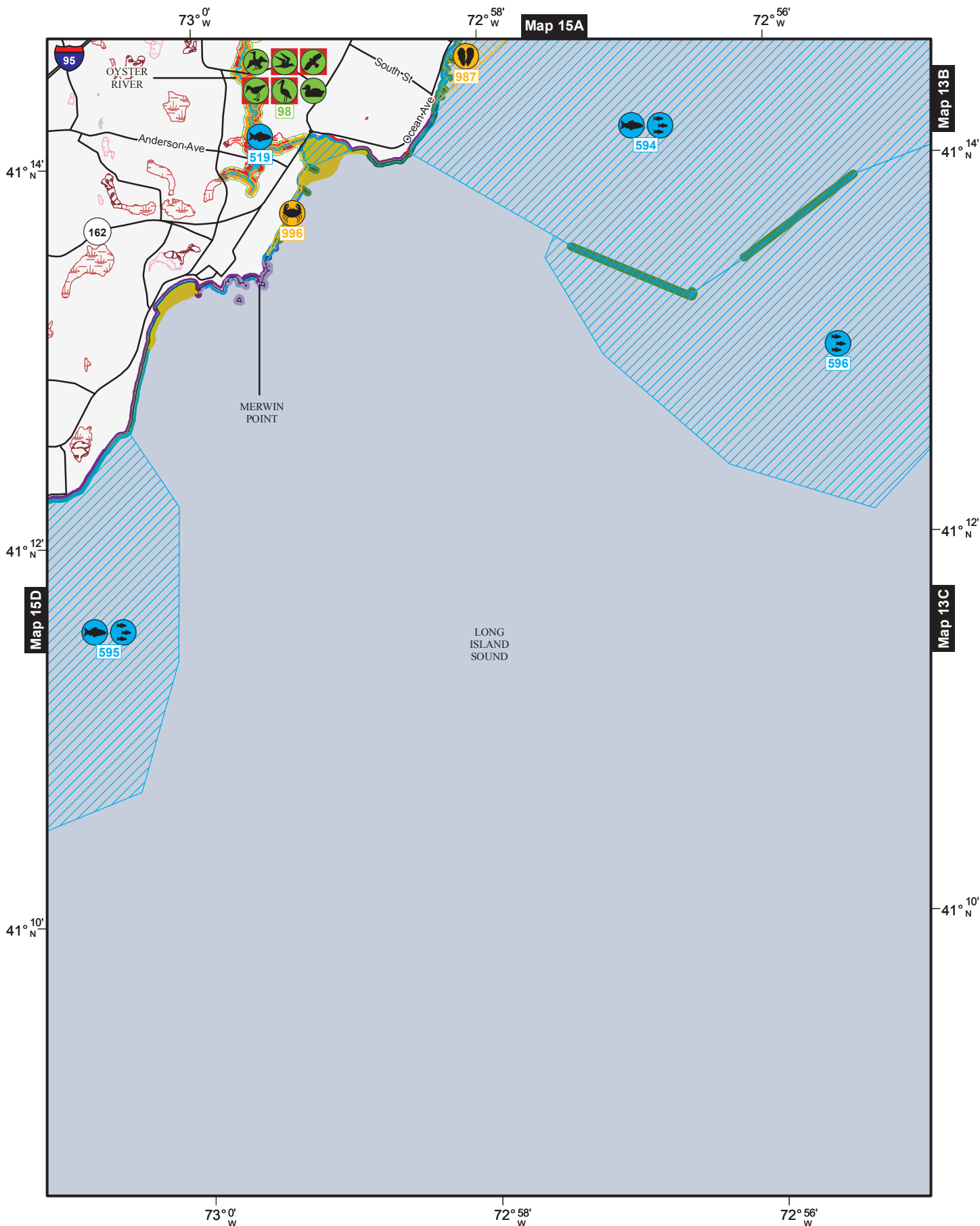
<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
10A	Salt and Brackish Water Marshes	5,352.06	3.33	6%
10B	Freshwater Marshes	3,196.43	1.99	4%
10C	Swamps	460.66	0.29	1%
10D	Scrub and Shrub Wetlands	1,819.52	1.13	2%
9A	Sheltered Tidal Flats	5,298.43	3.29	6%
9B	Vegetated Low Banks	46,040.52	28.61	56%
8A	Sheltered, Impermeable, Rocky Shores	163.86	0.10	< 1%
8B	Sheltered, Solid Man-Made Structures	5,841.74	3.63	7%
8C	Sheltered Riprap	1,171.71	0.73	1%
7	Exposed Tidal Flats	4,306.79	2.68	5%
6A	Gravel Beaches	7,443.19	4.62	9%
5	Mixed Sand and Gravel Beaches	1,669.67	1.04	2%
4	Coarse Grained Sand Beaches	43.96	0.03	< 1%

Total ESI Shoreline: 82,808.53 Total ESI Shoreline: 51.45
 Total Shoreline: 57,452.49 Total Shoreline: 35.70

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 15C
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 15C
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				
98	Diving	Grebes	Concentration Area				Present													-	Jan-Dec	-	-
	Diving	Loons	Concentration Area				Present													-	Apr-May	Oct-Nov	-
	Gull/Tern	Bonaparte's gull	Concentration Area				Abundant													-	-	-	-
	Gull/Tern	Least tern	General Distribution		T/T		Present													Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution		-/C		Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	Wintering		T/-		Present													Mar-Aug	-	-	-
	Wading	Glossy ibis	General Distribution		C/-		3													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution		T/-		5													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution		T/-		2													Mar-Aug	-	-	-
	Waterfowl	Diving ducks	Concentration Area				Present													-	-	-	-

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					
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
594	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Estuarine Nursery	Black sea bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Northern kingfish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
	Estuarine Nursery	Northern puffer	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	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				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Abundant													Apr-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	Inshore lizardfish	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Marine Benthic	Tautog	Nursery Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
595	Diadromous	Hickory shad	Concentration Area				Common													Jun-Aug	Jun-Aug	Jun-Aug	Jun-Nov	Jun-Nov
	Diadromous	Striped bass	Concentration Area				Abundant													-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Concentration Area				Abundant													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Jun-Nov
	Estuarine Nursery	Winter flounder	Concentration Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
596	Estuarine Nursery	Summer flounder	Concentration Area				Abundant													-	-	-	Mar-Nov	Mar-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				
987	Bivalve	Eastern oyster	Concentration Area				Present													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
996	Crab	Horseshoe crab	Spawning Area				Present													May-Jun	-	Jan-Dec	Jan-Dec

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		2													-	-	-	-
	Common loon	General Distribution		C/C		10S													-	-	-	-
	Common tern	General Distribution		E/T		Present													May-Aug	-	-	-
Gull/Tern	Least tern	General Distribution		T/T		5													Apr-Aug	-	-	-
	Roseate tern	General Distribution		E/E		Present													May-Aug	-	-	-
	American oystercatcher	General Distribution		T/-		Present													Mar-Aug	-	-	-
Shorebird	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	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
	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				Abundant													-	-	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	Jan-Nov	Apr-Nov
	Hogchoker	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Scup	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
Estuarine Resident Fish	Summer flounder	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
	Weakfish	Nursery Area				Abundant													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
	Atlantic silverside	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Atlantic moonfish	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Cunner	Nursery Area				Common													May-Aug	May-Aug	May-Aug	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
Marine Benthic	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

FISH (continued)

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				
	Striped searobin	Nursery Area		Common													May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Tautog	Nursery Area		Common													Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
	Tautog	Nursery Area		Abundant													Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
	Atlantic mackerel	Nursery Area		Common													Apr-Jun	Apr-Jun	Apr-Nov	Jan-Nov
	Butterfish	Nursery Area		Abundant													May-Aug	May-Oct	May-Dec	May-Dec

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												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					
	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	C/C	Present													-	-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

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				
	Razorbill																-	-	-	-
	D. crested cormorant																Mar-Aug	-	-	-
	Horned grebe																-	-	-	-
	Red-necked grebe																-	-	-	-
	Red-throated loon																-	-	-	-
	Forster's tern																Apr-Aug	-	-	-
	G. black-backed gull																Mar-Aug	-	-	-
	Herring gull																Mar-Aug	-	-	-
	Ring-billed gull																-	-	-	-
	Acadian flycatcher																Jun-Jul	May-Jun	Aug-Sep	-
	American crow																Mar-Aug	-	-	-
	American goldfinch																Mar-Aug	-	-	-
	American robin																Mar-Aug	-	-	-
	Baltimore oriole																Apr-Aug	-	-	-
	Barn Swallow																Apr-Aug	-	-	-
	Blue-winged warbler																-	Apr-May	Sep	-




BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig. (S)	Mig. (F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
Pelagic	Blue jay													Apr-Aug	Mar-May	Sep-Oct	-
	Chimney swift													Jun-Jul	Apr-May	Aug-Sep	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Eastern phoebe													May-Jul	Apr-May	Sep-Nov	-
	European starling													Mar-Aug	-	-	-
	Gray catbird													Mar-Aug	-	-	-
	House finch													Mar-Aug	-	-	-
	House sparrow													Mar-Aug	-	-	-
	Marsh wren													Apr-Aug	-	-	-
Shorebird	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													-	-	-	-
Wading	Northern gannet													-	-	-	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Killdeer													Mar-Aug	-	-	-
	Least sandpiper													-	Apr-Jun	Aug-Oct	-
	Semipalmated sandpiper													-	-	Jul-Oct	-
	BC night-heron													Mar-Aug	-	-	-
	Clapper rail													Mar-Aug	-	-	-
	Great blue heron													Mar-Aug	-	-	-
	Green heron													Apr-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
Waterfowl	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													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded 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				
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													Mar-Apr	Oct-Nov	-	-
	Scoters													Apr-May	Sep-Nov	-	-
	Surf scoter													-	-	-	-
	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					
	Eastern oyster													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Ribbed mussel													Jun-Sep	Jun-Sep	Jun-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
	Green crab													Mar-Sep	Mar-Sep	May-Oct	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-Dec	Jan-Dec
	Mantis shrimp													Feb-May	Feb-May	Feb-May	Jan-Dec	Jan-Dec
	Sevenspine bay shrimp													May-Oct	May-Oct	May-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	40.45	0.06
10B	Freshwater Marshes	15.43	0.02
10C	Swamps	81.11	0.13
10D	Scrub and Shrub Wetlands	27.63	0.04
7	Exposed Tidal Flats	57.86	0.09
2A	Exposed Wave-Cut Platforms In Bedrock	0.75	0.00

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	5,746.14	3.57	15%
10C	Swamps	368.56	0.23	1%
9B	Vegetated Low Banks	6,743.32	4.19	18%
8B	Sheltered, Solid Man-Made Structures	212.85	0.13	1%
7	Exposed Tidal Flats	2,340.17	1.45	6%
6A	Gravel Beaches	875.42	0.54	2%
6B	Riprap	8,800.16	5.47	23%
5	Mixed Sand and Gravel Beaches	2,430.91	1.51	6%
4	Coarse Grained Sand Beaches	3,543.55	2.20	9%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	1,141.66	0.71	3%
1A	Exposed, Rocky Shores	279.67	0.17	1%
1B	Exposed, Solid Man-Made Structures	5,573.09	3.46	15%

Total ESI Shoreline: 38,055.48 Total ESI Shoreline: 23.65
 Total Shoreline: 21,663.97 Total Shoreline: 13.46

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 15D
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				
4	Passerine	Seaside sparrow	General Distribution		T/C		Present													May-Aug	-	-	-
29	Raptor	Short-eared owl	General Distribution		T/E		Present													-	Oct-Apr	-	-
99	Gull/Tern	Least tern	Nesting		T/T		Present													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting		T/-		Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting		T/E	T	Present													Mar-Aug	-	-	-
	Shorebird	Semipalmated sandpiper	Migration				Highly Abundant													-	-	Jul-Oct	-
100	Gull/Tern	Black tern	Concentration Area				Present													-	-	Jul-Sep	-
	Gull/Tern	Common tern	Concentration Area		E/T		Abundant													May-Aug	-	-	-
	Gull/Tern	Forster's tern	Concentration Area				Present													Apr-Aug	-	-	-
	Gull/Tern	Laughing gull	Concentration Area				Abundant													Apr-Aug	-	-	-
	Gull/Tern	Least tern	Nesting		T/T		Present													Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	Concentration Area		E/E	E	Present													May-Aug	-	-	-
	Passerine	Seaside sparrow	General Distribution		T/C		Present													May-Aug	-	-	-
	Raptor	Short-eared owl	General Distribution		T/E		Present													-	Oct-Apr	-	-
	Shorebird	American oystercatcher	Nesting		T/-		Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting		T/E	T	Present													Mar-Aug	-	-	-
	Shorebird	Red knot	Concentration Area			T	Abundant													-	May-Jun	Sep-Nov	-
	Shorebird	Semipalmated sandpiper	Migration				Highly Abundant													-	-	Jul-Oct	-
	Shorebird	Shorebirds	Migration				Highly Abundant													-	Jan-Dec	-	-
	Waterfowl	American black duck	Concentration Area				Abundant													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	American wigeon	Concentration Area				Present													-	-	-	-
	Waterfowl	Diving ducks	Concentration Area				Common													-	-	-	-
	Waterfowl	Goldeneye	Concentration Area				Common													-	Apr-May	Nov-Dec	-
	Waterfowl	Long-tailed duck	Concentration Area				Common													-	-	-	-
101	Gull/Tern	Black tern	Concentration Area				Present													-	-	Jul-Sep	-
	Gull/Tern	Common tern	Concentration Area		E/T		Abundant													May-Aug	-	-	-
	Gull/Tern	Forster's tern	Concentration Area				Present													Apr-Aug	-	-	-
	Gull/Tern	Laughing gull	Concentration Area				Abundant													Apr-Aug	-	-	-
	Gull/Tern	Least tern	Nesting		T/T		Present													Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	Concentration Area		E/E	E	Present													May-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting		T/-		Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting		T/E	T	Present													Mar-Aug	-	-	-
	Shorebird	Red knot	Concentration Area			T	Abundant													-	May-Jun	Sep-Nov	-
	Shorebird	Semipalmated sandpiper	Migration				Highly Abundant													-	-	Jul-Oct	-
	Shorebird	Shorebirds	Migration				Highly Abundant													-	Jan-Dec	-	-
	Waterfowl	American black duck	Concentration Area				Abundant													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	American wigeon	Concentration Area				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				
	Waterfowl	Diving ducks	Concentration Area				Common										-	-	-	
	Waterfowl	Goldeneye	Concentration Area				Common										-	Apr-May	Nov-Dec	
	Waterfowl	Long-tailed duck	Concentration Area				Common										-	-	-	
102	Raptor	Osprey	Nesting	-/C			Common										Mar-Aug	Mar-Jun	Jul-Nov	
	Wading	Egrets	Concentration Area				Present										Jan-Dec	-	-	
	Wading	Hérons	Concentration Area				Present										Jan-Dec	-	-	
	Waterfowl	American wigeon	Concentration Area				Present										-	-	-	
	Waterfowl	Dabbling ducks	Migration				Present										-	Jan-Dec	-	
	Waterfowl	Green-winged teal	Concentration Area				Present										-	Mar-Apr	Sep-Oct	
103	Gull/Tern	Least tern	General Distribution	T/T			Present										Apr-Aug	-	-	
	Gull/Tern	Least tern	General Distribution	T/T			Present										Apr-Aug	-	-	
104	Passerine	Purple martin	General Distribution	C/-			10S										Apr-Aug	-	-	
	Passerine	Seaside sparrow	General Distribution	T/C			2										May-Aug	-	-	
	Wading	Glossy ibis	General Distribution	C/-			Present										Mar-Aug	-	-	
	Wading	Great egret	General Distribution	T/-			4										Mar-Aug	-	-	
	Wading	Snowy egret	General Distribution	T/-			3										Mar-Aug	-	-	
105	Gull/Tern	Black tern	Concentration Area				Present										-	-	Jul-Sep	
	Gull/Tern	Common tern	Concentration Area	E/T			Abundant										May-Aug	-	-	
	Gull/Tern	Forster's tern	Concentration Area				Present										Apr-Aug	-	-	
	Gull/Tern	Laughing gull	Concentration Area				Abundant										Apr-Aug	-	-	
	Gull/Tern	Roseate tern	Concentration Area	E/E	E		Present										May-Aug	-	-	
	Passerine	Seaside sparrow	General Distribution	T/C			Present										May-Aug	-	-	
	Raptor	Short-eared owl	General Distribution	T/E			Present										-	Oct-Apr	-	
	Shorebird	Red knot	Concentration Area	T			Abundant										-	May-Jun	Sep-Nov	
	Shorebird	Shorebirds	Migration				Highly Abundant										-	Jan-Dec	-	
	Waterfowl	American black duck	Concentration Area				Abundant										Apr-May	Mar-Apr	Sep-Nov	
	Waterfowl	American wigeon	Concentration Area				Present										-	-	-	
	Waterfowl	Diving ducks	Concentration Area				Common										-	-	-	
	Waterfowl	Goldeneye	Concentration Area				Common										-	Apr-May	Nov-Dec	
	Waterfowl	Long-tailed duck	Concentration Area				Common										-	-	-	
106	Wading	Little blue heron	General Distribution	C/-			Present										Apr-Aug	-	-	
	Wading	Snowy egret	General Distribution	T/-			3										Mar-Aug	-	-	
	Wading	YC night-heron	General Distribution	C/-			4										Mar-Aug	-	-	
107	Passerine	Savannah sparrow	General Distribution	C/-			Present										Mar-Aug	-	-	
	Wading	Snowy egret	General Distribution	T/-			Present										Mar-Aug	-	-	
108	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	-	-	
109	Diving	Horned grebe	Concentration Area				Present										-	-	-	
	Diving	Loons	Concentration Area				Present										-	Apr-May	Oct-Nov	
	Passerine	Saltmarsh sparrow	Nesting				Present										May-Aug	-	-	
	Passerine	Seaside sparrow	Nesting	T/C			Present										May-Aug	-	-	
	Shorebird	Dunlin	Wintering				Present										-	Apr-May	Oct-Nov	
	Shorebird	Sanderling	Wintering				Present										-	Sep-Jun	-	

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				
110	Wading	Clapper rail	Nesting			Present												Mar-Aug	-	-	-
	Wading	Wading birds	Concentration Area			Present												Jan-Dec	-	-	-
	Waterfowl	American black duck	Wintering			Present												Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Brant	Concentration Area			Abundant												-	Mar-May	Oct-Nov	-
	Waterfowl	Diving ducks	Concentration Area			Present												-	-	-	-
	Waterfowl	Goldeneye	Concentration Area			Present												-	Apr-May	Nov-Dec	-
111	Waterfowl	Long-tailed duck	Wintering			1000S												-	-	-	-
	Raptor	Osprey	General Distribution	-/C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Glossy ibis	General Distribution	C/-		Present												Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		4												Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		4												Mar-Aug	-	-	-
	Wading	YC night-heron	General Distribution	C/-		5												Mar-Aug	-	-	-
112	Raptor	Osprey	General Distribution	-/C		10S												Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Glossy ibis	General Distribution	C/-		Present												Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		6												Mar-Aug	-	-	-
	Wading	YC night-heron	General Distribution	C/-		Present												Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		2												May-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C		10S												Mar-Aug	Mar-Jun	Jul-Nov	-
113	Wading	Great egret	General Distribution	T/-		5												Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		2												Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		3												May-Aug	-	-	-
	Passerine	Purple martin	General Distribution	C/-		Present												Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C		3												Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Glossy ibis	General Distribution	C/-		2												Mar-Aug	-	-	-
114	Wading	Snowy egret	General Distribution	T/-		10S												Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		10S												Mar-Aug	-	-	-
	Diving	Diving birds	Wintering			Common												-	-	-	-
	Wading	BC night-heron	Nesting			Abundant												Mar-Aug	-	-	-
	Wading	Clapper rail	Nesting			Somewhat Abundant												Mar-Aug	-	-	-
	Wading	Glossy ibis	Nesting	C/-		Abundant												Mar-Aug	-	-	-
115	Wading	Great egret	Nesting	T/-		Abundant												Mar-Aug	-	-	-
	Wading	Snowy egret	Nesting	T/-		Abundant												Mar-Aug	-	-	-
	Waterfowl	Diving ducks	Wintering			Common												-	-	-	-
	Waterfowl	Waterfowl	Wintering			Common												-	Jan-Dec	-	-
	Diving	Diving birds	Wintering			Common												-	-	-	-
	Passerine	Purple martin	General Distribution	C/-		Present												Apr-Aug	-	-	-
116	Wading	BC night-heron	Nesting			Abundant												Mar-Aug	-	-	-
	Wading	Clapper rail	Nesting			Somewhat Abundant												Mar-Aug	-	-	-
	Wading	Glossy ibis	General Distribution	C/-		Present												Mar-Aug	-	-	-
	Wading	Glossy ibis	Nesting	C/-		Abundant												Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		3												Mar-Aug	-	-	-
	Wading	Great egret	Nesting	T/-		Abundant												Mar-Aug	-	-	-

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	
117	Shorebird	Red knot	Concentration Area	T	Present													-
118	Raptor	Long-eared owl	General Distribution	E/-	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	
429	Diadromous	American eel	Nursery Area		Common													-
448	Diadromous	Alewife	Nursery Area		Common													Apr-Jul
453	Diadromous	Alewife	Spawning Area		Common													Apr-Jul
515	Diadromous	Alewife	Nursery Area		Common													Apr-Jul
	Estuarine Resident	Striped killifish	Nursery Area		Abundant													May-Aug
585	Diadromous	American eel	Nursery Area		Common													-
	Estuarine Resident	Striped killifish	Nursery Area		Abundant													May-Aug
597	Diadromous	American shad	Migration		Common													May-Jul
	Diadromous	Blueback herring	Nursery Area	C/-	Common													May-Sep
	Diadromous	Sea lamprey	Migration		Common													May-Jun
	Diadromous	Striped bass	Migration		Common													-
	Estuarine Nursery	Bluefish	Nursery Area		Common													-
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul
	Estuarine Resident	Atlantic silverside	Nursery Area		Abundant													May-Aug
	Estuarine Resident	Inland silverside	Nursery Area		Common													May-Aug
	Estuarine Resident	Mummichog	Nursery Area		Common													May-Aug
	Estuarine Resident	Sheepshead minnow	Nursery Area		Common													Jun-Sep
	Freshwater	Rainbow smelt	Spawning Area	E/-	Uncommon													Feb-May
598	Marine Benthic	Atlantic tomcod	Nursery Area		Common													Nov-Feb
	Diadromous	Alewife	Spawning Area		Common													Apr-Jul
599	Estuarine Resident	Mummichog	Nursery Area		Abundant													May-Aug
	Diadromous	Striped bass	Concentration Area		Common													May-Sep
	Estuarine Nursery	Bluefish	Concentration Area		Common													-
	Estuarine Nursery	Scup	Concentration Area		Abundant													Jun-Sep
	Estuarine Nursery	Weakfish	Concentration Area		Abundant													May-Aug
	Marine Benthic	Atlantic tomcod	Nursery Area		Common													Nov-Feb
	Marine Benthic	Little skate	Nursery Area		Common													Jan-Dec

HABITATS & RARE PLANTS

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	
799	Plant	Water pygmyweed	Vulnerable Occurrence	E/-	Present													-
807	Plant	Field paspalum	Vulnerable Occurrence	E/E	Present													-
829	Plant	Bearded sprangletop	Vulnerable Occurrence	E/-	Present													-
	Plant	N. coastal violet	Vulnerable Occurrence	E/-	Present													-
	Plant	Scotland orache	Vulnerable Occurrence	C/E	Present													-
	Plant	Slimspike threewain	Vulnerable Occurrence	C/-	Present													-

HABITATS & RARE PLANTS (continued)

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					
830	Plant	Bearded sprangletop	Vulnerable Occurrence	E/-			Present													-	-	-	-	-
	Plant	Field paspalum	Vulnerable Occurrence	E/E			Present													-	-	-	-	-
831	Plant	Devil's-tongue	Vulnerable Occurrence	C/-			Present													-	-	-	-	-
	Plant	New Eng. blazing star	Vulnerable Occurrence	C/T			Present													-	-	-	-	-
832	Plant	Seaside threewain	Vulnerable Occurrence	E/-			Present													-	-	-	-	-
	Plant	Devil's-tongue	Vulnerable Occurrence	C/-			Present													-	-	-	-	-
833	Upland	Bitter panicum	Vulnerable Occurrence	T/-			Present													-	-	-	-	-
	Plant	Lizard's tail	Vulnerable Occurrence	E/-			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					
962	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-			Present													Jun-Jul	Aug-Oct	-	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					
987	Bivalve	Eastern oyster	Concentration Area				Present													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
988	Insect	Rare insect	Vulnerable Occurrence				Present													-	-	-	-	Jan-Dec
996	Insect	Threatened insect	Vulnerable Occurrence	E/-		T	Present													-	-	-	-	Jan-Dec
	Crab	Horseshoe crab	Spawning Area				Present													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec

TERRESTRIAL MAMMALS








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					
1051	Bat	Eastern red bat	Vulnerable Occurrence	C/-			Present													-	-	-	-	-

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			2													-	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
		Least tern	General Distribution	T/T			5													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					
	Diadromous	Alewife	Nursery Area	Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
		American eel	Migration	Common													-	Apr-Aug	Apr-Aug	Jan-Dec	Sep-Nov
		American shad	Nursery Area	Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
		Blueback herring	Migration	Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
		Hickory shad	Concentration Area	Common													Jun-Aug	Jun-Aug	Jun-Aug	Jul-Nov	Jun-Nov
		Striped bass	Concentration Area	Abundant													-	-	-	Jan-Dec	Jan-Dec
		Striped bass	Nursery Area	Common													-	-	-	Jan-Dec	Jan-Dec
		Atlantic herring	Nursery Area	Abundant													-	Mar-May	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	Concentration Area	Abundant													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
		Bluefish	Nursery Area	Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Hogchoker	Nursery Area	Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
		Scup	Nursery Area	Abundant													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
		Summer flounder	Nursery Area	Common													Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
		Weakfish	Nursery Area	Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
		Windowpane	Concentration Area	Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
		Winter flounder	Nursery Area	Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area	Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Atlantic moonfish	Nursery Area	Common													-	-	-	Jan-Dec	Jan-Dec
		Cunner	Nursery Area	Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Little skate	Nursery Area	Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Northern searobin	Nursery Area	Common													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
		Red hake	Nursery Area	Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Silver hake	Nursery Area	Common													-	May-Oct	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
	Marine Pelagic	Tautog	Nursery Area	Abundant													Apr-Sep	Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
		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

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY S F T E	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	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		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
			S	F		J	F	M	A	M	J	J	A	S	O	N	D																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Lobster	American lobster	Nursery Area			Common																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														



American lobster

Nursery Area

Common



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

Present



Jan-Dec

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

General Distribution

Present



Jan-Dec



Forster's tern

General Distribution

Present



Jan-Dec



Acadian flycatcher

General Distribution

Present



Jan-Dec

American crow

General Distribution

Present



Jan-Dec

American goldfinch

General Distribution

Present



Jan-Dec

American robin

General Distribution

Present



Jan-Dec

Baltimore oriole

General Distribution

Present



Jan-Dec

Barn Swallow

General Distribution

Present



Jan-Dec

Belted kingfisher

General Distribution

Present



Jan-Dec

Chimney swift

General Distribution

Present



Jan-Dec

Common grackle

General Distribution

Present



Jan-Dec

Common yellowthroat

General Distribution

Present



Jan-Dec

European starling

General Distribution

Present



Jan-Dec

Fish crow

General Distribution

Present



Jan-Dec

House finch

General Distribution

Present



Jan-Dec

House sparrow

General Distribution

Present



Jan-Dec

Marsh wren

General Distribution

Present



Jan-Dec

Mourning dove

General Distribution

Present



Jan-Dec

N. r.-winged swallow






General Distribution

Present



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				
	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Northern gannet													-	-	-	-
	Red-tailed hawk													Mar-Aug	-	-	-
	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	-
	Willet													Apr-Aug	-	-	-
	BC night-heron													Mar-Aug	-	-	-
	Clapper rail													Mar-Aug	-	-	-
	Green heron													Apr-Aug	-	-	-
	Virginia rail													Mar-Aug	-	-	-
	American black duck													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													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-Nov	-
	Scoters													-	Apr-May	Sep-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-





FISH

Monthly Presence

Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
 Diadromous	Gizzard shad													Apr-Jun	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
 Freshwater	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	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
 Bivalve	Eastern oyster													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog													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	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
	Fiddler crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Green crab													Mar-Sep	Mar-Sep	May-Oct	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
 Shrimp	Grass shrimp													May-Oct	May-Oct	May-Oct	May-Oct	Jan-Dec
	Mantis shrimp													Feb-May	Feb-May	Feb-May	Jan-Dec	Jan-Dec
	Sevenspine bay shrimp													May-Oct	May-Oct	May-Oct	Jan-Dec	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

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,103.10	1.72
10B	Freshwater Marshes	41.58	0.06
10C	Swamps	197.89	0.31
10D	Scrub and Shrub Wetlands	106.92	0.17
9A	Sheltered Tidal Flats	266.95	0.42
7	Exposed Tidal Flats	334.52	0.52

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	93,030.77	57.81	29%
10B	Freshwater Marshes	335.17	0.21	< 1%
10D	Scrub and Shrub Wetlands	238.30	0.15	< 1%
9A	Sheltered Tidal Flats	54,833.21	34.07	17%
9B	Vegetated Low Banks	113,898.90	70.77	35%
8A	Sheltered, Impermeable, Rocky Shores	81.72	0.05	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	91.70	0.06	< 1%
8A	Sheltered, Impermeable, Rocky Shores	81.72	0.05	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	91.70	0.06	< 1%
8B	Sheltered, Solid Man-Made Structures	8,952.52	5.56	3%
8C	Sheltered Riprap	4,026.80	2.50	1%
7	Exposed Tidal Flats	11,701.46	7.27	4%
6A	Gravel Beaches	1,462.10	0.91	< 1%
6B	Riprap	7,245.24	4.50	2%
5	Mixed Sand and Gravel Beaches	7,422.31	4.61	2%
4	Coarse Grained Sand Beaches	12,087.56	7.51	4%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	69.93	0.04	< 1%
1B	Exposed, Solid Man-Made Structures	6,346.14	3.94	2%

Total ESI Shoreline: 321,823.83 Total ESI Shoreline: 199.97
 Total Shoreline: 155,040.92 Total Shoreline: 96.34

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 16
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	AIRPORT	IGOR I SIKORSKY MEMORIAL AIRPORT	FEDERAL AVIATION ADMINISTRATION	
2	AQUACULTURE	BRIDGEPORT REG SCI AND TECH UPWELLER (CT025AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
3	AQUACULTURE	BRIDGEPORT REG SCI AND TECH LONGLINES (CT025AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
4	AQUACULTURE	GARCIA AQUACULTURE BOTTOM CAGES (CT083AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
5	AQUACULTURE	CHARLES ISLAND OYSTER FARM, LLC (CT080BAO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
6	AQUACULTURE	CHARLES ISLAND OYSTER FARM, LLC (CT080BAO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
7	AQUACULTURE	AEROS CULTURED OYSTER COMPANY (CT097AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
8	BOAT RAMP	ASH CREEK BOAT RAMP		
9	BOAT RAMP	MILL RIVER BOAT RAMP		
10	BOAT RAMP	BREWSTER STREET BOAT RAMP		
11	BOAT RAMP	BRIDGEPORT BOAT RAMP		
12	BOAT RAMP	BREWER STRATFORD MARINA BOAT RAMP		
13	EPA FACILITY	5N PLUS, INC.	MIKE MAURUTIS, PLANT MANAGER	203-384-0331
14	EPA FACILITY	BRIDGEPORT ENERGY, LLC	PAUL WARREN, PLANT MANAGER	203-332-8684
15	EPA FACILITY	DOMINION BRIDGEPORT FUEL CELL PARK	MARK BENEDICT, RMP COORD. PROC. ENG/PR. EHS	203-830-7429
16	FERRY	BRIDGEPORT FERRY TERMINAL		
17	HELIPORT	CAPTAINS COVE HELIPORT	CAPTAINS COVE SEAPORT	203-335-1433
18	MARINA	SOUTH BENSON MARINA		
19	MARINA	CAPTAINS COVE SEAPORT MARINA		
20	MARINA	DOLPHIN COVE MARINA		
21	PORT	PORT OF BRIDGEPORT	JAMES D. SCHINE	203-336-3841
22	REPEATED MEASUREMENT SITE	NWLON - BRIDGEPORT HARBOR	HUA YANG	301-713-2890
23	WATER INTAKE	PSE&G WATER INTAKE		

DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
24	PARK	BEARDSLEY STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION	860-424-3016
25	PARK	SHERWOOD ISLAND STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION	860-424-3016
26	WILDLIFE REFUGE	STEWART B. MCKINNEY NATIONAL WILDLIFE REFUGE	RICK POTVIN	860-399-2513
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	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	

JURISDICTIONS		
COUNTY:	FAIRFIELD COUNTY, NEW COUNTY	FEMA: REGION I
COAST GUARD:	DISTRICT 1, SECTOR LONG ISLAND SOUND	EPA: REGION 1
USACE:	NORTH ATLANTIC DIVISION, NEW ENGLAND DISTRICT	

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	763.27	1.19
10B	Freshwater Marshes	118.79	0.19
10C	Swamps	649.91	1.02
10D	Scrub and Shrub Wetlands	89.07	0.14
9A	Sheltered Tidal Flats	101.98	0.16
7	Exposed Tidal Flats	431.72	0.67



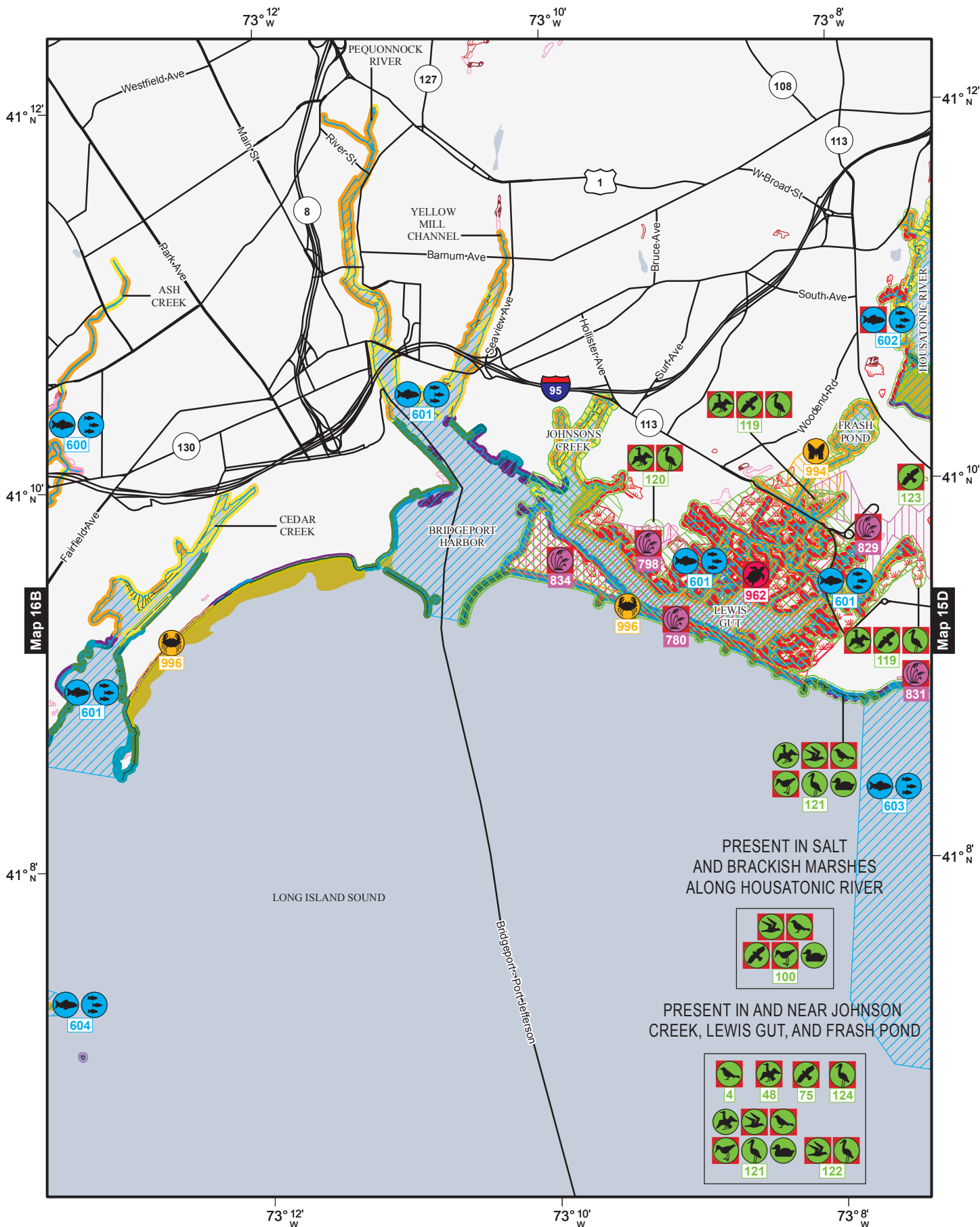
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	85,147.49	52.91	26%
10B	Freshwater Marshes	4,106.97	2.55	1%
10C	Swamps	1,546.51	0.96	< 1%
10D	Scrub and Shrub Wetlands	201.52	0.13	< 1%
9A	Sheltered Tidal Flats	9,412.85	5.85	3%
9B	Vegetated Low Banks	126,165.70	78.40	39%
8A	Sheltered, Impermeable, Rocky Shores	54.87	0.03	< 1%
8B	Sheltered, Solid Man-Made Structures	22,700.55	14.11	7%
8C	Sheltered Riprap	5,342.86	3.32	2%
7	Exposed Tidal Flats	15,917.89	9.89	5%
6A	Gravel Beaches	442.74	0.28	< 1%
6B	Riprap	18,494.85	11.49	6%
5	Mixed Sand and Gravel Beaches	4,626.64	2.87	1%
4	Coarse Grained Sand Beaches	17,986.26	11.18	6%
3A	Fine to Medium Grained Sand Beaches	1,473.01	0.92	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	441.87	0.27	< 1%
1B	Exposed, Solid Man-Made Structures	11,904.04	7.40	4%
Total ESI Shoreline:		325,966.60	202.55	
Total Shoreline:		199,648.87	124.06	

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

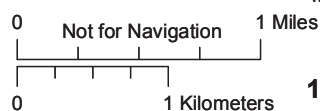




Map 16A
Long Island Sound



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 16A
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				
4	Passerine	Seaside sparrow	General Distribution	T/C			Present													May-Aug	-	-	-
48	Diving	Pied-billed grebe	General Distribution	E/T			Present													-	-	-	-
75	Raptor	Northern harrier	General Distribution	E/T			Present													Mar-Aug	-	-	-
100	Gull/Tern	Black tern	Concentration Area	E/T			Present													-	-	Jul-Sep	-
	Gull/Tern	Common tern	Concentration Area	E/T			Abundant													May-Aug	-	-	-
	Gull/Tern	Forster's tern	Concentration Area				Present													Apr-Aug	-	-	-
	Gull/Tern	Laughing gull	Concentration Area				Abundant													Apr-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	Concentration Area	E/E		E	Present													May-Aug	-	-	-
	Passerine	Seaside sparrow	General Distribution	T/C			Present													May-Aug	-	-	-
	Raptor	Short-eared owl	General Distribution	T/E			Present													-	Oct-Apr	-	-
	Shorebird	American oystercatcher	Nesting	T/-			Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E		T	Present													Mar-Aug	-	-	-
	Shorebird	Red knot	Concentration Area	T			Abundant													-	May-Jun	Sep-Nov	-
	Shorebird	Semipalmated sandpiper	Migration				Highly Abundant													-	-	Jul-Oct	-
	Shorebird	Shorebirds	Migration				Highly Abundant													-	Jan-Dec	-	-
	Waterfowl	American black duck	Concentration Area				Abundant													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	American wigeon	Concentration Area				Present													-	-	-	-
	Waterfowl	Diving ducks	Concentration Area				Common													-	-	-	-
	Waterfowl	Goldeneye	Concentration Area				Common													-	Apr-May	Nov-Dec	-
	Waterfowl	Long-tailed duck	Concentration Area				Common													-	-	-	-
119	Diving	Pied-billed grebe	General Distribution	E/T			Present													-	-	-	-
	Raptor	Northern harrier	General Distribution	E/T			Present													Mar-Aug	-	-	-
	Wading	American bittern	General Distribution	E/C			Present													Mar-Aug	-	-	-
120	Diving	Pied-billed grebe	General Distribution	E/T			Present													-	-	-	-
	Wading	Least bittern	General Distribution	T/T			Present													Apr-Aug	Apr	Aug-Sep	-
121	Diving	Horned grebe	Concentration Area				Present													-	-	-	-
	Diving	Loons	Concentration Area				Present													-	Apr-May	Oct-Nov	-
	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Passerine	Saltmarsh sparrow	Nesting				Present													May-Aug	-	-	-
	Passerine	Seaside sparrow	Nesting	T/C			Present													May-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	T/-			Present													Mar-Aug	-	-	-
	Shorebird	Dunlin	Wintering				Present													-	Apr-May	Oct-Nov	-
	Shorebird	Piping plover	Nesting	T/E		T	Present													Mar-Aug	-	-	-
	Shorebird	Sanderling	Wintering				Present													-	Sep-Jun	-	-
	Shorebird	Semipalmated sandpiper	Migration				Highly Abundant													-	-	Jul-Oct	-
	Wading	Clapper rail	Nesting				Present													Mar-Aug	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Molt		
				S	F	J	F	M	A	M	J	J	A	S	O	N	D			
	Wading	Wading birds	Concentration Area															Jan-Dec		-
	Waterfowl	American black duck	Wintering															Apr-May		-
	Waterfowl	Brant	Concentration Area															-	Mar-May	Oct-Nov
	Waterfowl	Diving ducks	Concentration Area															-	-	-
	Waterfowl	Goldeneye	Concentration Area															-	Apr-May	Nov-Dec
122	Waterfowl	Long-tailed duck	Wintering															-	-	-
	Gull/Tern	Least tern	General Distribution															Apr-Aug		-
	Wading	Least bittern	General Distribution															Apr-Aug	Apr	Aug-Sep
123	Raptor	Barn owl	General Distribution	E/-														Mar-Aug	-	-
124	Wading	American bittern	General Distribution	E/C														Mar-Aug	-	-

FISH

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				
600	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Sep-Nov
	Diadromous	Striped bass	Nursery Area		Common													-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Black sea bass	Nursery Area		Common													-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area		Common													-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Northern kingfish	Nursery Area		Common													Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
	Estuarine Nursery	Northern puffer	Nursery Area		Common													May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Nursery	Scup	Nursery Area		Common													May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Weakfish	Nursery Area		Common													May-Sep	May-Sep	Jul-Nov	May-Nov
	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	Striped killifish	Nursery Area		Abundant													May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area		Common													Apr-Sep	Apr-Sep	Apr-Nov	Apr-Nov
601	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Sep-Nov
	Estuarine Nursery	Black sea bass	Nursery Area		Common													-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area		Common													-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Northern kingfish	Nursery Area		Common													Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
	Estuarine Nursery	Northern puffer	Nursery Area		Common													May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Nursery	Scup	Nursery Area		Common													May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Weakfish	Nursery Area		Common													May-Sep	May-Sep	Jul-Nov	May-Nov
	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	Striped killifish	Nursery Area		Abundant													May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area		Common													Apr-Sep	Apr-Sep	Apr-Nov	Apr-Nov
	Marine Benthic	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
602	Diadromous	American shad	Migration		Common													May-Jul	May-Aug	Jun-Nov	Apr-Jul
	Diadromous	Blueback herring	Nursery Area	C/-	Common													May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Sea lamprey	Migration		Common													May-Jun	May-Jun	Apr-Jul	Apr-Jul
	Diadromous	Striped bass	Migration		Common													-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area		Common													-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec

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			
	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													May-Aug	May-Aug	Jan-Dec
	Estuarine Resident	Inland silverside	Nursery Area				Common													May-Aug	May-Aug	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Common													May-Aug	May-Aug	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area				Common													May-Sep	Jan-Dec	Jan-Dec
	Freshwater	Rainbow smelt	Spawning Area		E/-		Uncommon													Jun-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area				Common													Feb-May	Feb-May	Feb-May
603	Diadromous	Striped bass	Concentration Area				Common													Nov-Feb	Dec-May	Sep-May
	Estuarine Nursery	Bluefish	Concentration Area				Common													-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Scup	Concentration Area				Abundant													Jun-Sep	Jun-Sep	Apr-Nov
	Estuarine Nursery	Weakfish	Concentration Area				Abundant													May-Aug	May-Aug	May-Nov
604	Diadromous	Striped bass	Harvest Area				Common													May-Sep	May-Sep	May-Nov
	Estuarine Nursery	Bluefish	Harvest Area				Common													-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Scup	Harvest Area				Abundant													Jun-Sep	Jun-Sep	Apr-Nov
	Estuarine Nursery	Weakfish	Harvest Area				Common													May-Aug	May-Aug	May-Nov
	Marine Benthic	Tautog	Harvest Area				Common													May-Sep	May-Sep	May-Nov
																				Apr-Sep	May-Sep	Jan-Dec

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					
780	Plant	Devil's-tongue	Vulnerable Occurrence		C/-		Present													-	-	-	-	-
798	Wetland	Sea pink	Vulnerable Occurrence		E/T		Present													-	-	-	-	-
829	Plant	Bearded sprangletop	Vulnerable Occurrence		E/-		Present													-	-	-	-	-
	Plant	N. coastal violet	Vulnerable Occurrence		E/-		Present													-	-	-	-	-
	Plant	Scotland orache	Vulnerable Occurrence		C/E		Present													-	-	-	-	-
	Plant	Slimspike threeawn	Vulnerable Occurrence		C/-		Present													-	-	-	-	-
831	Plant	Devil's-tongue	Vulnerable Occurrence		C/-		Present													-	-	-	-	-
	Plant	New Eng. blazing star	Vulnerable Occurrence		C/T		Present													-	-	-	-	-
	Plant	Seaside threeawn	Vulnerable Occurrence		E/-		Present													-	-	-	-	-
834	Plant	Devil's-tongue	Vulnerable Occurrence		C/-		Present													-	-	-	-	-
	Plant	New Eng. blazing star	Vulnerable Occurrence		C/T		Present													-	-	-	-	-
	Plant	Seaside threeawn	Vulnerable Occurrence		E/-		Present													-	-	-	-	-
	Upland	Bitter panicum	Vulnerable Occurrence		T/-		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					
962	Turtle	Diamondback terrapin	Vulnerable Occurrence		C/-		Present													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec

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					
994	Insect	Rare insect	Vulnerable Occurrence				Present													-	-	-	-	Jan-Dec
996	Crab	Horseshoe crab	Spawning Area				Present													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec


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			2													-	-	-	-
	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
	Least tern	General Distribution	T/T			5													Apr-Aug	-	-	-
Shorebird 	Roseate tern	General Distribution	E/E			Present													May-Aug	-	-	-
	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	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
Estuarine Nursery 	Blueback herring	Migration				Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Striped bass	Nursery Area	C/-			Common													-	-	-	Jan-Dec	Jan-Dec
	Atlantic herring	Nursery Area				Abundant													-	-	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
	Hogchoker	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	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
	Windowpane	Nursery Area				Common													Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
Estuarine Resident Fish Marine Benthic 	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
	Atlantic moonfish	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
	Cunner	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Little skate	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Northern searobin	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov
	Red hake	Nursery Area				Common													-	-	May-Oct	Mar-Nov	Mar-Nov
	Silver hake	Nursery Area				Common													-	-	-	May-Oct	May-Oct
	Smooth dogfish	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-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		Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
			S	F	Concentration	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					
	Eastern oyster	Concentration Area			Present													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				
	Harbor porpoise	General Distribution	C/C		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				
	Red-necked grebe													-	-	-	-
	Red-throated loon													-	-	-	-
	Forster's tern													Apr-Aug	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Ring-billed gull													-	-	-	-
	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	Saltmarsh sparrow													May-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Northern gannet													-	-	-	-
	American black duck													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													-	-	-	-
	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													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Northern pintail													-	-	-	-
	Northern shoveler													-	-	-	-
	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					
	Gizzard shad													Apr-Jun	Apr-Jun	Apr-Jun	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

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
	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
	Green crab													Mar-Sep	Mar-Sep	May-Oct	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
	Sevenspine bay shrimp													May-Oct	May-Oct	May-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	501.99	0.78
10B	Freshwater Marshes	42.89	0.07
10C	Swamps	7.77	0.01
10D	Scrub and Shrub Wetlands	10.20	0.02
9A	Sheltered Tidal Flats	2.54	0.00
7	Exposed Tidal Flats	170.77	0.27

ESI SHORELINE HABITAT TYPES

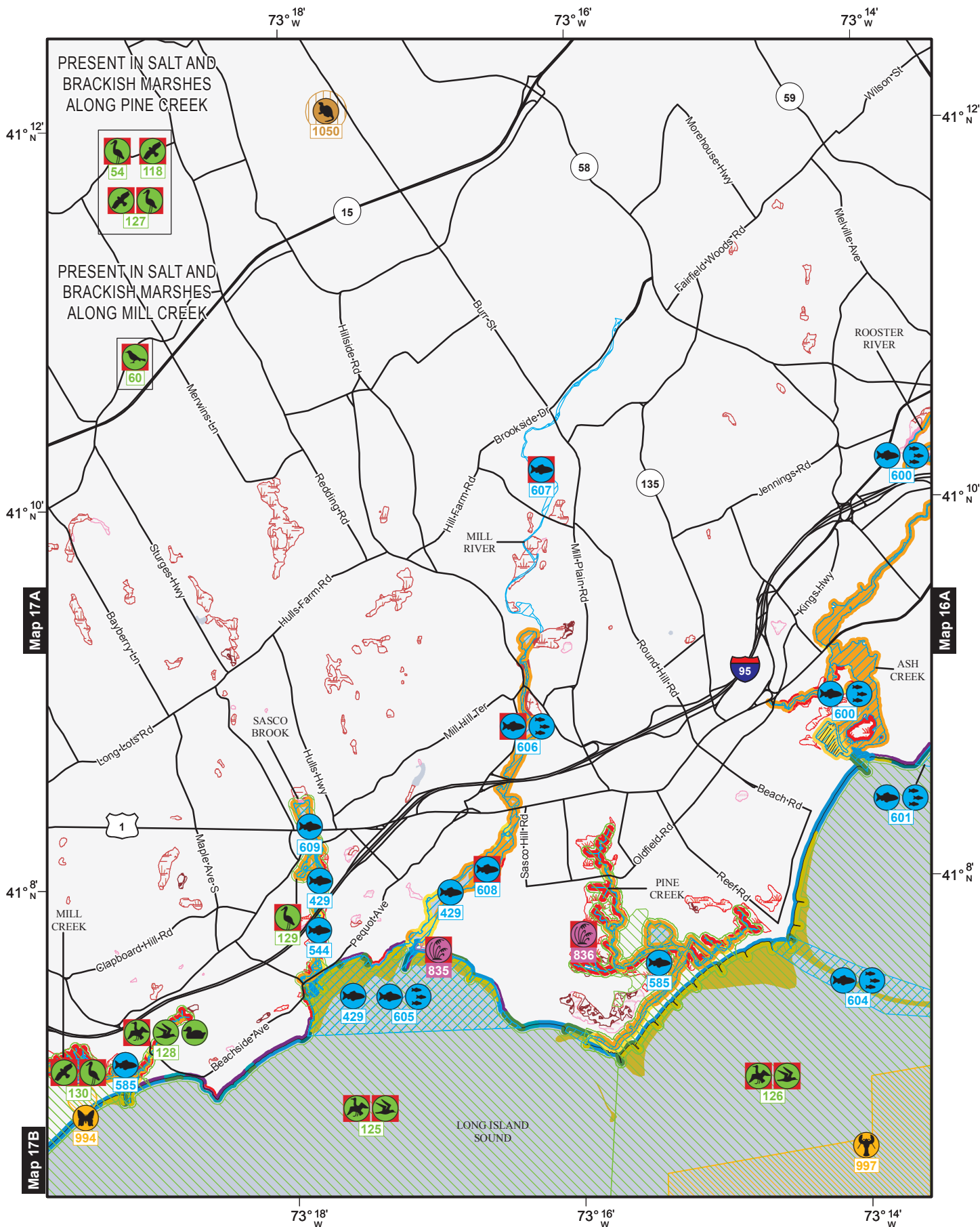
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	59,202.62	36.79	29%
10B	Freshwater Marshes	2,166.74	1.35	1%
10C	Swamps	246.07	0.15	< 1%
9A	Sheltered Tidal Flats	314.04	0.20	< 1%
9B	Vegetated Low Banks	77,347.58	48.06	38%
8B	Sheltered, Solid Man-Made Structures	17,510.39	10.88	9%
8C	Sheltered Riprap	3,410.54	2.12	2%
7	Exposed Tidal Flats	7,249.29	4.50	4%
6A	Gravel Beaches	313.89	0.20	< 1%
6B	Riprap	13,221.80	8.22	7%
5	Mixed Sand and Gravel Beaches	3,157.84	1.96	2%
4	Coarse Grained Sand Beaches	8,609.82	5.35	4%
3A	Fine to Medium Grained Sand Beaches	1,473.01	0.92	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	118.98	0.07	< 1%
1B	Exposed, Solid Man-Made Structures	7,947.00	4.94	4%

Total ESI Shoreline: 202,289.59 Total ESI Shoreline: 125.70
 Total Shoreline: 126,082.21 Total Shoreline: 78.34

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 16B
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 16B
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				
54	Wading	YC night-heron	General Distribution	C/-	Present													Mar-Aug	-	-	-
60	Passerine	Purple martin	General Distribution	C/-	Present													Apr-Aug	-	-	-
118	Raptor	Long-eared owl	General Distribution	E/-	Present													-	Jan-Mar	-	-
125	Diving	Common loon	General Distribution	C/C	10S													-	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T	Present													Apr-Aug	-	-	-
126	Diving	Common loon	General Distribution	C/C	2													-	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T	5													Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	Present													May-Aug	-	-	-
127	Raptor	Osprey	General Distribution	-/C	10S													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-	Present													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-	5													Mar-Aug	-	-	-
128	Diving	Common loon	Wintering	C/C	Present													-	-	-	-
	Diving	Horned grebe	Wintering		Present													-	-	-	-
	Diving	Red-throated loon	Wintering		Present													-	-	-	-
	Gull/Tern	Bonaparte's gull	Wintering		Abundant													-	-	-	-
	Gull/Tern	Laughing gull	Concentration Area		Highly Abundant													Apr-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering		Abundant													-	Jan-Dec	-	-
129	Wading	Great egret	General Distribution	T/-	5													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-	3													Mar-Aug	-	-	-
130	Raptor	Osprey	General Distribution	-/C	9													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-	8													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-	4													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					
429	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
544	Estuarine Resident	Mummichog	Nursery Area		Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
585	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
600	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Striped bass	Nursery Area		Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Black sea bass	Nursery Area		Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area		Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Northern kingfish	Nursery Area		Common													Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
	Estuarine Nursery	Northern puffer	Nursery Area		Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	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	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
601	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	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	Jan-Dec
	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	Black sea bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area				Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Northern kingfish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
604	Estuarine Nursery	Northern puffer	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	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 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	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
	Diadromous	Striped bass	Harvest Area				Common													-	-	-	Jan-Dec	Jan-Dec
605	Estuarine Nursery	Bluefish	Harvest Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Scup	Harvest Area				Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Nursery	Weakfish	Harvest Area				Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Marine Benthic	Tautog	Harvest Area				Common													Apr-Sep	Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Nursery	Black sea bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area				Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Northern kingfish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
	Estuarine Nursery	Northern puffer	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
606	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	Striped killifish	Nursery Area				Abundant													May-Sep	May-Aug	May-Sep	Jan-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	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
607	Estuarine Nursery	White perch	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Aug	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
	Diadromous	Blueback herring	Spawning Area				Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Sea lamprey	Spawning Area				Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	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
609	Estuarine Resident	Mummichog	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Diadromous	Alewife	Spawning Area				Abundant													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov

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
835	Plant	Sand dropseed	Vulnerable Occurrence	T/-			Present												
	Plant	Seaside threawn	Vulnerable Occurrence	E/-			Present												
	Upland	Bitter panicum	Vulnerable Occurrence	T/-			Present												
836	Plant	N. coastal violet	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
994	Insect	Rare insect	Vulnerable Occurrence				Present												
997	Lobster	American lobster	Nursery Area				Common												

TERRESTRIAL 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
1050	Small Mammal	New England cottontail	Vulnerable Occurrence				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
	Gull/Tern	Common tern		E/T		Present													May-Aug	-	-	-
	Shorebird	American oystercatcher		T/-		Present													Mar-Aug	-	-	-
		Piping plover		T/E	T	Present													Mar-Aug	-	-	-

FISH

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
	Diadromous	Alewife				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
		American eel				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
		American shad				Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
		Blueback herring		C/-		Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
		Striped bass				Common													-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Atlantic herring				Abundant													-	-	Mar-May	Jan-Dec	Jan-Dec
		Atlantic menhaden				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
		Bay anchovy				Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
		Black sea bass				Common													-	-	-	Jan-Dec	Jan-Dec
		Bluefish				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
		Hogchoker				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Scup				Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
		Summer flounder				Common													-	-	-	Mar-Nov	Mar-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				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec

FISH (continued)

Subelement		Species	Mapping Qualifier	CT/NY		Monthly Presence												Life Stages					
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Estuarine Resident	Atlantic silverside	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Fish	Atlantic moonfish	Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
		Marine Benthic	Atlantic tomcod	Nursery Area			Common												Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
		Cunner	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
		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

[illegible]

INVERTEBRATES

[illegible]

MARINE MAMMALS

[illegible]

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

[illegible]

571

BIRDS (continued)

<div><div></div></div>	Subelement	Species	Monthly Presence																Nest	Mig.(S)	Mig.(F)	Molt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
			J F M A M J J A S O N D																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
			J	F	M	A	M	J	J	A	S	O	N	D																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	Passerine	Acadian flycatcher																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	





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													-	-	-	-
	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					
	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
	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					
	Eastern oyster													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Ribbed mussel													Jun-Sep	Jun-Sep	Jun-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
	Green crab													Mar-Sep	Mar-Sep	May-Oct	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
	Sevenspine bay shrimp													May-Oct	May-Oct	May-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													-	-	-	-
	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	261.25
10B	Freshwater Marshes	50.60
10C	Swamps	210.37
10D	Scrub and Shrub Wetlands	30.39
9A	Sheltered Tidal Flats	99.44
7	Exposed Tidal Flats	260.90

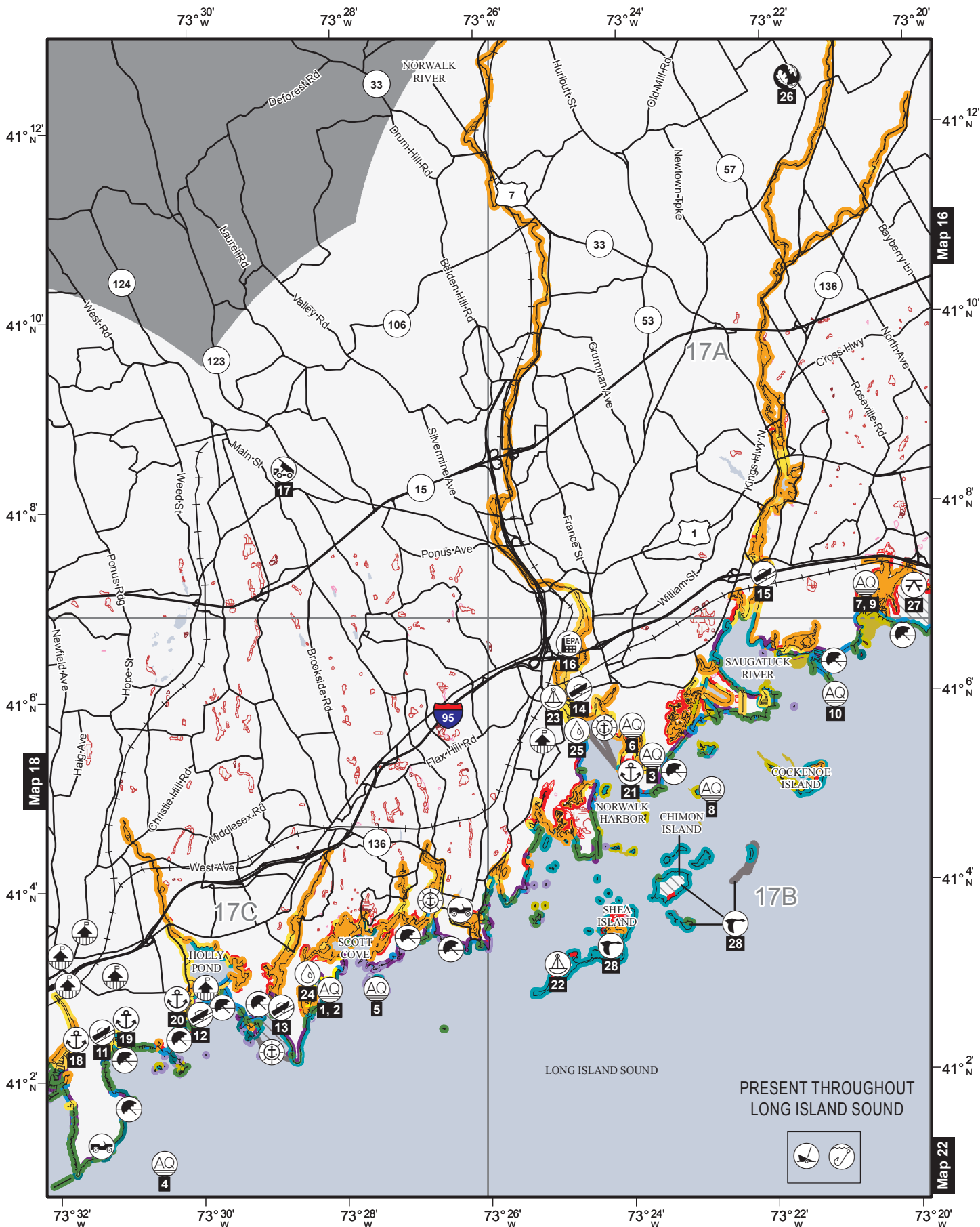
ESI SHORELINE HABITAT TYPES		
ESI Rank	Shoreline Habitat Classification	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	21%
10B	Freshwater Marshes	2%
10C	Swamps	1%
10D	Scrub and Shrub Wetlands	< 1%
9A	Sheltered Tidal Flats	7%
9B	Vegetated Low Banks	39%
8A	Sheltered, Impermeable, Rocky Shores	< 1%
8B	Sheltered, Solid Man-Made Structures	4%
8C	Sheltered Riprap	2%
7	Exposed Tidal Flats	7%
6A	Gravel Beaches	< 1%
6B	Riprap	4%
5	Mixed Sand and Gravel Beaches	1%
4	Coarse Grained Sand Beaches	8%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	< 1%
1B	Exposed, Solid Man-Made Structures	3%

Total ESI Shoreline: 123,668.92 Total ESI Shoreline: 76.84
Total Shoreline: 73,558.67 Total Shoreline: 45.71

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 17
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

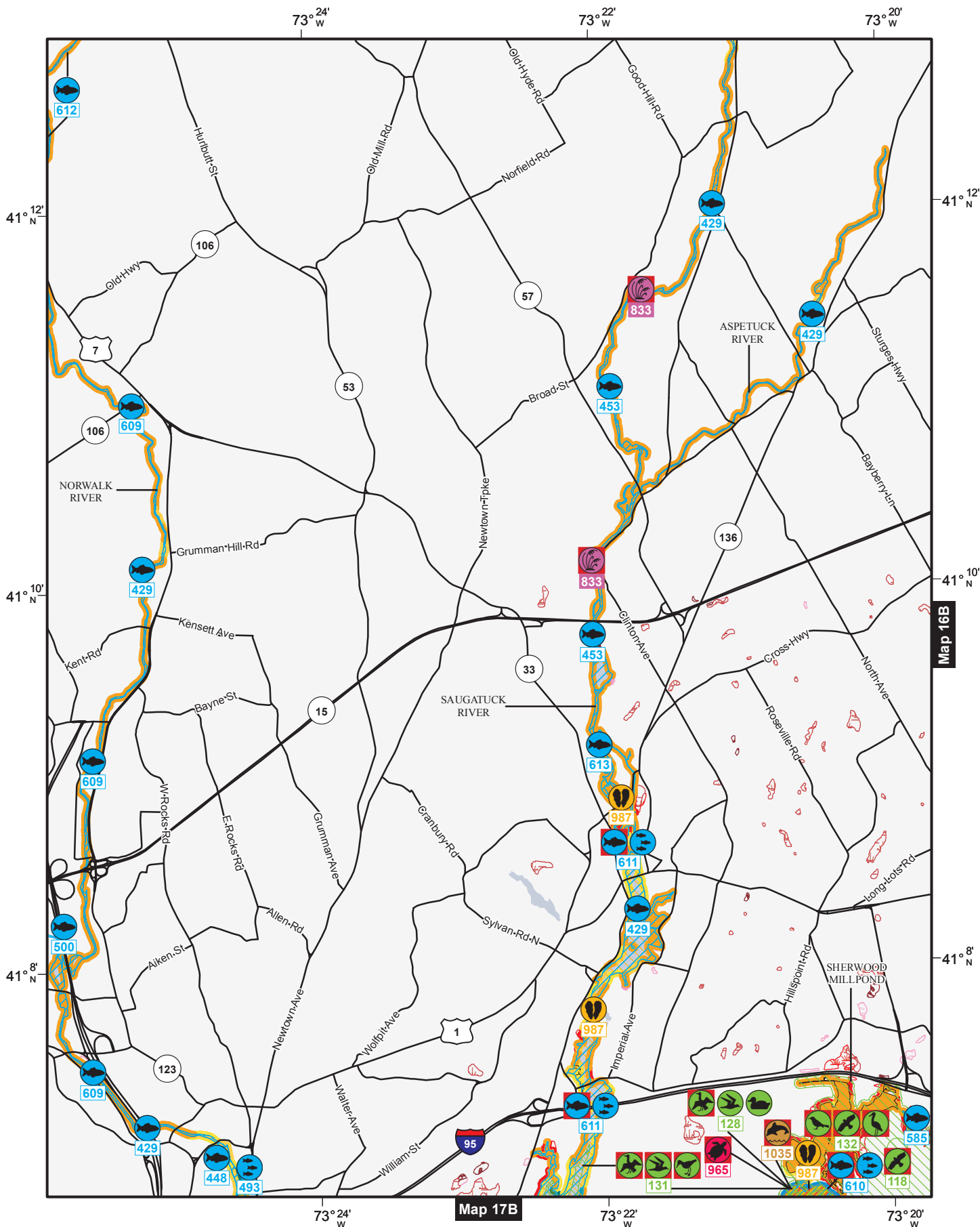
DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	AQUACULTURE	SARGENTS COVE OF CT (UPWELLER, RAFTS)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
2	AQUACULTURE	SARGENTS COVE OF CT BOTTOM CAGES (CT027	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
3	AQUACULTURE	PRAMIER OYSTER CO. (CT026AAO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
4	AQUACULTURE	HEMLOCK OYSTER CO. (CT055BAO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
5	AQUACULTURE	PRAMIER OYSTER CO. (CT026AAO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
6	AQUACULTURE	A.C. STABELL OYSTER CO. (CT084AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
7	AQUACULTURE	THIMBLE IS. OYSTER CO. (CT031BAO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
8	AQUACULTURE	SANTOS BOTTOM CAGES (CT026AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
9	AQUACULTURE	C. W. SHELLFISH COMPANY, LLC (CT031AAO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
10	AQUACULTURE	WESTPORT AQUACULTURE (CT031AAO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
11	BOAT RAMP	WEST BEACH BOAT RAMP		
12	BOAT RAMP	COVE ISLAND BOAT RAMP		
13	BOAT RAMP	PEAR TREE POINT BOAT RAMP		
14	BOAT RAMP	VETERANS MEMORIAL PARK BOAT RAMP		
15	BOAT RAMP	SAUGATUCK RIVER BOAT RAMP		
16	EPA FACILITY	KING INDUSTRIES, INC.	DENO S. GUALTIERI, VICE PRESIDENT OF MFTG.	203-866-5551
17	LANDFILL	NEW CANAAN BW LANDFILL & ASH LANDFILL	CT DEPT. OF ENERGY AND ENV. PROTECTION	
18	MARINA	CZECIK MARINA PARK		
19	MARINA	CUMMINGS PARK MARINA		
20	MARINA	COVE ISLAND PARK MARINA		
21	MARINA	NORWALK COVE MARINA		
22	REPEATED MEASUREMENT SITE	MWS - LISI	GREG PINIAK	301-713-3028
23	REPEATED MEASUREMENT SITE	NORWALK HARBOR STATION	JAMES B. EDSON	860-405-9165
24	WATER INTAKE	SARGENT'S COVE HATCHERY WATER INTAKE (CT027AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
25	WATER INTAKE	HILL BLOOM HATCHERY WATER INTAKE (CT077AO)	CT DEPT. OF AGR./BUREAU OF AQUACULTURE	203-874-0696
DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
26	NATURE CONSERVANCY	KATHARINE ORDWAY PRESERVE SITE	TNC CONNECTICUT CHAPTER OFFICE	203-568-6270
27	PARK	SHERWOOD ISLAND STATE PARK	CT DEPT. OF ENERGY AND ENV. PROTECTION	860-424-3016
28	WILDLIFE REFUGE	STEWART B. MCKINNEY NATIONAL WILDLIFE REFUGE	RICK POTVIN	860-399-2513

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	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

JURISDICTIONS

COUNTY:	FAIRFIELD COUNTY	FEMA:	REGION I
COAST GUARD:	DISTRICT 1, SECTOR LONG ISLAND SOUND	EPA:	REGION 1
USACE:	NORTH ATLANTIC DIVISION, NEW ENGLAND DISTRICT		



Map 17A
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 17A
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				
118	Raptor	Long-eared owl	General Distribution	E/-			Present													-	Jan-Mar	-	-
128	Diving	Common loon	Wintering	C/C			Present													-	-	-	-
	Diving	Horned grebe	Wintering				Present													-	-	-	-
	Diving	Red-throated loon	Wintering				Present													-	-	-	-
	Gull/Tern	Bonaparte's gull	Wintering				Abundant													-	-	-	-
	Gull/Tern	Laughing gull	Concentration Area				Highly Abundant													Apr-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering				Abundant													-	Jan-Dec	-	-
131	Diving	Common loon	General Distribution	C/C			10S													-	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		Present													Mar-Aug	-	-	-
132	Passerine	Purple martin	General Distribution	C/-			Present													Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			9													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-			8													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			4													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					
429	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
493	Estuarine Nursery	Winter flounder	Nursery Area				Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
500	Diadromous	Alewife	Spawning Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
585	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
609	Diadromous	Alewife	Spawning Area				Abundant													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
610	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	C/-			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	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	Black sea bass	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Larvae	Eggs	Spawn	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Estuarine Nursery	Bluefish	Nursery Area		Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Hogchoker	Nursery Area		Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	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
	Estuarine Nursery	Weakfish	Nursery Area		Abundant													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Estuarine Nursery	Windowpane	Nursery Area		Common													Apr-Oct	Apr-Oct	Apr-Oct	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		Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Fish	Atlantic moonfish	Nursery Area		Common													-	-	-	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area		Common													Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
	Marine Benthic	Cunner	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
	Marine Benthic	Silver hake	Nursery Area		Common													-	-	May-Oct	Mar-Nov	Mar-Nov
	Marine Benthic	Smooth dogfish	Nursery Area		Common													-	-	-	May-Oct	May-Oct
	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	Jan-Dec	Jan-Dec
	Marine Pelagic	Atlantic mackerel	Nursery Area		Common													Apr-Jun	Apr-Jun	Apr-Jun	Apr-Nov	Apr-Nov
	Marine Pelagic	Butterfish	Nursery Area		Abundant													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
611	Diadromous	Alewife	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	Blueback herring	Nursery Area	C/-	Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Brown trout (sea run)	Migration		Uncommon													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Sep-Jan
	Diadromous	Striped bass	Migration		Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area		Common													-	-	-	Jun-Oct	Jun-Oct
	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	Northern pipefish	Nursery Area		Abundant													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
612	Diadromous	Alewife	Spawning Area		Abundant													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
613	Diadromous	Alewife	Spawning Area		Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	Brown trout (sea run)	Spawning Area		Uncommon													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Sep-Jan

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Larvae	Eggs	Spawn	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
833	Plant	Lizard's tail	Vulnerable Occurrence	E/-	Present													-	-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Larvae	Eggs	Nest	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
965	Turtle	Green sea turtle	General Distribution	T/T	Present													-	-	-	Jun-Nov	-
	Turtle	K. ridley 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	Spawn	Eggs	Larvae	Juveniles	Adults
987	Bivalve	Eastern oyster	Concentration Area	S F	J F M A M J J A S O N D	Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
			Concentration	Present						

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	Monthly Presence	Mating	Calving	Pupping	Molt
1035	Dolphin	Harbor porpoise	General Distribution	S F C/C	J F M A M J J A S O N D				
			Concentration	Present					

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Monthly Presence	Nest	Mig.(S)	Mig.(F)	Molt
Diving	D. crested cormorant	J F M A M J J A S O N D	Mar-Aug	-	-	-
	Horned grebe	J F M A M J J A S O N D	-	-	-	-
	Red-throated loon	J F M A M J J A S O N D	-	-	-	-
	G. black-backed gull	J F M A M J J A S O N D	Mar-Aug	-	-	-
	Herring gull	J F M A M J J A S O N D	Mar-Aug	-	-	-
	Ring-billed gull	J F M A M J J A S O N D	-	-	-	-
	Acadian flycatcher	J F M A M J J A S O N D	Jun-Jul	May-Jun	Aug-Sep	-
	American goldfinch	J F M A M J J A S O N D	Mar-Aug	-	-	-
	Barn Swallow	J F M A M J J A S O N D	Apr-Aug	-	-	-
	Marsh wren	J F M A M J J A S O N D	Apr-Aug	-	-	-
	N. r.-winged swallow	J F M A M J J A S O N D	Apr-Aug	-	-	-
	Northern cardinal	J F M A M J J A S O N D	Mar-Aug	-	-	-
	Red-winged blackbird	J F M A M J J A S O N D	Mar-Aug	-	-	-
	Saltmarsh sparrow	J F M A M J J A S O N D	May-Aug	-	-	-
	Song sparrow	J F M A M J J A S O N D	Mar-Aug	-	-	-
	Tree swallow	J F M A M J J A S O N D	Mar-Aug	-	-	-
	Willow flycatcher	J F M A M J J A S O N D	May-Aug	-	-	-
	Yellow warbler	J F M A M J J A S O N D	Apr-Aug	-	-	-
	Black-legged kittiwake	J F M A M J J A S O N D	-	-	-	-
	Northern gannet	J F M A M J J A S O N D	-	-	-	-
	Greater yellowlegs	J F M A M J J A S O N D	-	May-Jun	Sep-Oct	-
	Killdeer	J F M A M J J A S O N D	Mar-Aug	-	-	-
	Semipalmated plover	J F M A M J J A S O N D	-	Apr-Jun	Sep-Nov	-
	Willet	J F M A M J J A S O N D	Apr-Aug	-	-	-
	BC night-heron	J F M A M J J A S O N D	Mar-Aug	-	-	-
	American black duck	J F M A M J J A S O N D	Apr-May	Mar-Apr	Sep-Nov	-
	American wigeon	J F M A M J J A S O N D	-	-	-	-
	Black brant	J F M A M J J A S O N D	-	May	Oct	-
	Black scoter	J F M A M J J A S O N D	-	-	-	-
	Bufflehead	J F M A M J J A S O N D	-	Oct-Jun	-	-
	Canada goose	J F M A M J J A S O N D	Mar-Aug	Jan-Dec	-	-
	Canvasback	J F M A M J J A S O N D	-	-	-	-
	Common eider	J F M A M J J A S O N D	Sep-May	-	-	-

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 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	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-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					
	Brown trout													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Jan-Dec
	Chain pickerel													Mar-May	Mar-May	May-May	Jan-Dec	Jan-Dec
	Largemouth bass													May-Jul	May-Jul	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
	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					
	Northern quahog													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Ribbed mussel													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
	Grass 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				
	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	75.41	0.12
10B	Freshwater Marshes	11.19	0.02
10C	Swamps	76.15	0.12
10D	Scrub and Shrub Wetlands	10.08	0.02
9A	Sheltered Tidal Flats	118.55	0.19
7	Exposed Tidal Flats	10.29	0.02

ESI SHORELINE HABITAT TYPES

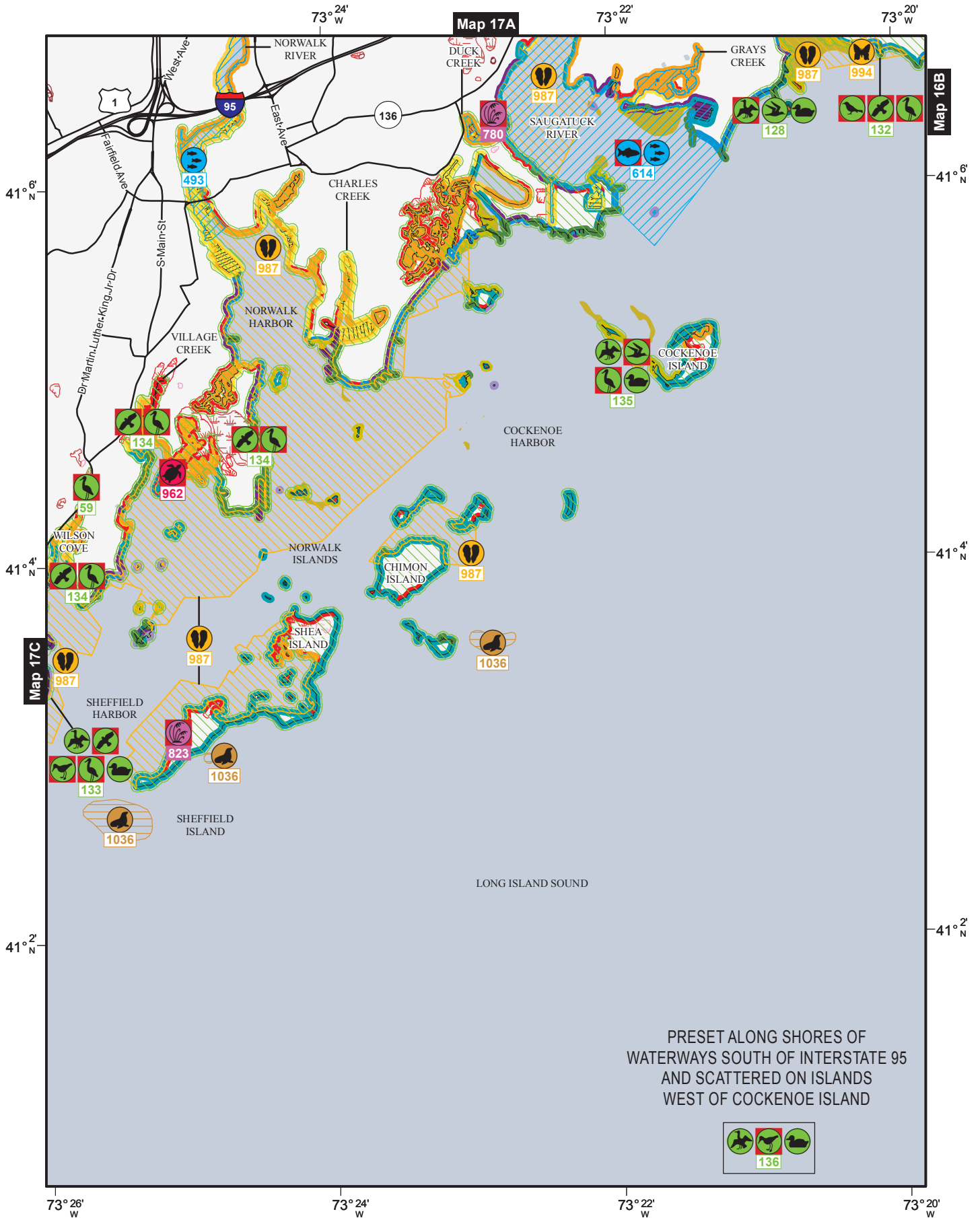
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	9,366.33	5.82	8%
10B	Freshwater Marshes	158.32	0.10	< 1%
10C	Swamps	161.52	0.10	< 1%
10D	Scrub and Shrub Wetlands	179.33	0.11	< 1%
9A	Sheltered Tidal Flats	12,327.57	7.66	11%
9B	Vegetated Low Banks	73,246.68	45.51	65%
8A	Sheltered, Impermeable, Rocky Shores	103.54	0.06	< 1%
8B	Sheltered, Solid Man-Made Structures	9,906.34	6.16	9%
8C	Sheltered Riprap	4,391.97	2.73	4%
7	Exposed Tidal Flats	795.52	0.49	1%
6A	Gravel Beaches	339.94	0.21	< 1%
6B	Riprap	617.69	0.38	1%
5	Mixed Sand and Gravel Beaches	79.75	0.05	< 1%
4	Coarse Grained Sand Beaches	645.46	0.40	1%
1B	Exposed, Solid Man-Made Structures	142.02	0.09	< 1%

Total ESI Shoreline: 112,461.99 Total ESI Shoreline: 69.88
 Total Shoreline: 86,201.47 Total Shoreline: 53.56

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 17B
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 17B
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				
59	Wading	Great egret	General Distribution	T/-			2													Mar-Aug	-	-	-
128	Diving	Common loon	Wintering	C/C			Present													-	-	-	-
	Diving	Horned grebe	Wintering				Present													-	-	-	-
	Diving	Red-throated loon	Wintering				Present													-	-	-	-
	Gull/Tern	Bonaparte's gull	Wintering				Abundant													-	-	-	-
	Gull/Tern	Laughing gull	Concentration Area				Highly Abundant													Apr-Aug	-	-	-
132	Waterfowl	Waterfowl	Wintering				Abundant													-	Jan-Dec	-	-
	Passerine	Purple martin	General Distribution	C/-			Present													Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C			9													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-			8													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			4													Mar-Aug	-	-	-
133	Diving	Horned grebe	Concentration Area				Highly Abundant													-	-	-	-
	Raptor	Osprey	General Distribution	-/C			6													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	Nesting	T/-			100S													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			9													Mar-Aug	-	-	-
	Wading	Little blue heron	General Distribution	C/-			Present													Apr-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			4													Mar-Aug	-	-	-
	Wading	YC night-heron	General Distribution	C/-			2													Mar-Aug	-	-	-
	Waterfowl	Brant	Concentration Area				Abundant													-	Mar-May	Oct-Nov	-
	Waterfowl	Goldeneye	Concentration Area				Highly Abundant													-	Apr-May	Nov-Dec	-
	Waterfowl	Greater scaup	Concentration Area				Somewhat Abundant													-	-	-	-
134	Waterfowl	Long-tailed duck	Concentration Area				Present													-	-	-	-
	Raptor	Osprey	General Distribution	-/C			6													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-			9													Mar-Aug	-	-	-
	Wading	Little blue heron	General Distribution	C/-			Present													Apr-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			4													Mar-Aug	-	-	-
135	Wading	YC night-heron	General Distribution	C/-			2													Mar-Aug	-	-	-
	Diving	Horned grebe	Concentration Area				High													-	-	-	-
	Gull/Tern	Common tern	Nesting	E/T			Common													May-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T			Occasional													Apr-Aug	-	-	-
	Wading	BC night-heron	Nesting				Abundant													Mar-Aug	-	-	-
	Wading	Great egret	Nesting	T/-			Abundant													Mar-Aug	-	-	-
	Wading	Snowy egret	Nesting	T/-			Abundant													Mar-Aug	-	-	-
	Waterfowl	Goldeneye	Concentration Area				High													-	Apr-May	Nov-Dec	-
	Waterfowl	Greater scaup	Concentration Area				Low													-	-	-	-
	Waterfowl	Long-tailed duck	Concentration Area				Present													-	-	-	-
	Waterfowl	White-winged scoter	Migration				Present													-	Sep-May	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
136	Diving	Horned grebe	Concentration Area		Highly Abundant													-	-	-	-	-
	Shorebird	American oystercatcher	Nesting	T/-	100S													Mar-Aug	-	-	-	-
	Waterfowl	Brant	Concentration Area		Abundant													-	Mar-May	Oct-Nov	-	-
	Waterfowl	Goldeneye	Concentration Area		Highly Abundant													-	Apr-May	Nov-Dec	-	-
	Waterfowl	Greater scaup	Concentration Area		Somewhat Abundant													-	-	-	-	-
	Waterfowl	Long-tailed duck	Concentration Area		Present													-	-	-	-	-

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					
493	Estuarine Nursery	Winter flounder	Nursery Area		Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
614	Diadromous	Blueback herring	Nursery Area	C/-	Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Brown trout (sea run)	Migration		Uncommon													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Sep-Jan
	Diadromous	Striped bass	Migration		Common													-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bluefish	Nursery Area		Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec

HABITATS & RARE PLANTS

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					
780	Plant	Devil's-tongue	Vulnerable Occurrence	C/-	Present													-	-	-	-	-
823	Upland	Bitter panicum	Vulnerable Occurrence	T/-	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					
962	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-	Present													Jun-Jul	Aug-Oct	-	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					
987	Bivalve	Eastern oyster	Concentration Area		Present													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
994	Insect	Rare insect	Vulnerable Occurrence		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				
1036	Pinniped	Harbor seal	Haul Out		Varies (1 - 15)													-	-	-	-

BIRDS

Subelement	Species	Mapping Qualifier	CT/NY	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D		
 Diving	Common loon	General Distribution	C/C			10S														
 Gull/Tern	Common tern	General Distribution	E/T			Present														
	Least tern	General Distribution	T/T			Present														
 Shorebird	American oystercatcher	General Distribution	T/-			Present														
	Piping plover	General Distribution	T/E			Present														

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
	American eel	Nursery Area				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
	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	Atlantic herring	Nursery Area				Abundant													-	-	Mar-May	Jan-Dec	Jan-Dec
	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
	Black sea bass	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Bluefish	Concentration Area				Common													-	-	-	Jun-Oct	Jun-Oct
	Bluefish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Hogchoker	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Northern puffer	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Scup	Concentration Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-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
 Estuarine Resident	Weakfish	Nursery Area				Abundant													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
	Atlantic silverside	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Grubby	Nursery Area				Common													Dec-Apr	Dec-Apr	Jan-May	Jan-Dec	Jan-Dec
	Naked goby	Nursery Area				Common													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Northern pipefish	Nursery Area				Abundant													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Atlantic moonfish	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
	Cunner	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
	Northern searobin	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Red hake	Nursery Area				Common													-	-	-	Mar-Nov	Mar-Nov

FISH (continued)

Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
Marine Pelagic	Silver hake	Nursery Area		Common														May-Oct	Mar-Nov	Mar-Nov
	Smooth dogfish	Nursery Area		Common														May-Oct	May-Oct	May-Oct
	Striped searobin	Nursery Area		Common													May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Tautog	Concentration Area		Common													Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	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
	Butterfish	Nursery Area		Abundant													May-Aug	May-Oct	May-Dec	May-Dec

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY S F T T/T E/E T/T	Concentration	Monthly Presence												Hatch	Internest	Juveniles	Adults
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	-

INVERTEBRATES

Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
Lobster	American lobster	Nursery Area		Common													Jan-Dec	May-Aug	Jan-Dec	Jan-Dec

MARINE MAMMALS

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

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

Subelement	Species	Mapping Qualifier	CT/NY S F C/C	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
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	-
	American goldfinch																Mar-Aug	-	-	-
	American robin																Mar-Aug	-	-	-
	Barn Swallow																Apr-Aug	-	-	-
	Belted kingfisher																Mar-Aug	-	-	-
	Cedar waxwing																Mar-Aug	-	-	-
	Chimney swift																Jun-Jul	Apr-May	Aug-Sep	-
	Common grackle																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				
	Common yellowthroat													Apr-Aug	-	-	-
	European starling													Mar-Aug	-	-	-
	Fish crow													Mar-Aug	-	-	-
	House sparrow													Mar-Aug	-	-	-
	Marsh wren													Apr-Aug	-	-	-
	Mourning dove													Mar-Aug	-	-	-
	N. r.-winged swallow													Apr-Aug	-	-	-
	Northern cardinal													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													-	-	-	-
	Northern gannet													-	-	-	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Killdeer													Mar-Aug	-	-	-
	Semipalmated plover													-	Apr-Jun	Sep-Nov	-
	Willet													Apr-Aug	-	-	-
	BC night-heron													Mar-Aug	-	-	-
	Clapper rail													Mar-Aug	-	-	-
	Great blue heron													Mar-Aug	-	-	-
	Green heron													Mar-Aug	-	-	-
	American black duck													Apr-Aug	-	-	-
	American wigeon													Apr-May	Mar-Apr	Sep-Nov	-
	Black brant													-	-	-	-
	Black scoter													-	May	Oct	-
	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	-	-	-
	Red-breasted merganser													-	-	-	-
														-	-	-	-
														-	-	-	-
														-	-	-	-
														-	-	-	-
														-	-	-	-
														-	-	-	-


BIRDS (continued)

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Redhead												
	Ring-necked duck												
	Ruddy duck												
	Scaup												
	Surf scoter												
	White-winged scoter												

INVERTEBRATES

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Eastern oyster												
	Northern quahog												
	Longfin squid												
	Blue crab												
	Green crab												
	Horseshoe crab												
	Lady crab												
	Spider crabs												
	Mantis shrimp												
	Sevenspine bay shrimp												

MARINE MAMMALS

Subelement	Species	Monthly Presence											
		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	208.63	0.33
10B	Freshwater Marshes	7.72	0.01
10C	Swamps	58.10	0.09
10D	Scrub and Shrub Wetlands	3.15	0.00
9A	Sheltered Tidal Flats	113.90	0.18
7	Exposed Tidal Flats	159.30	0.25
2A	Exposed Wave-Cut Platforms In Bedrock	0.18	0.00

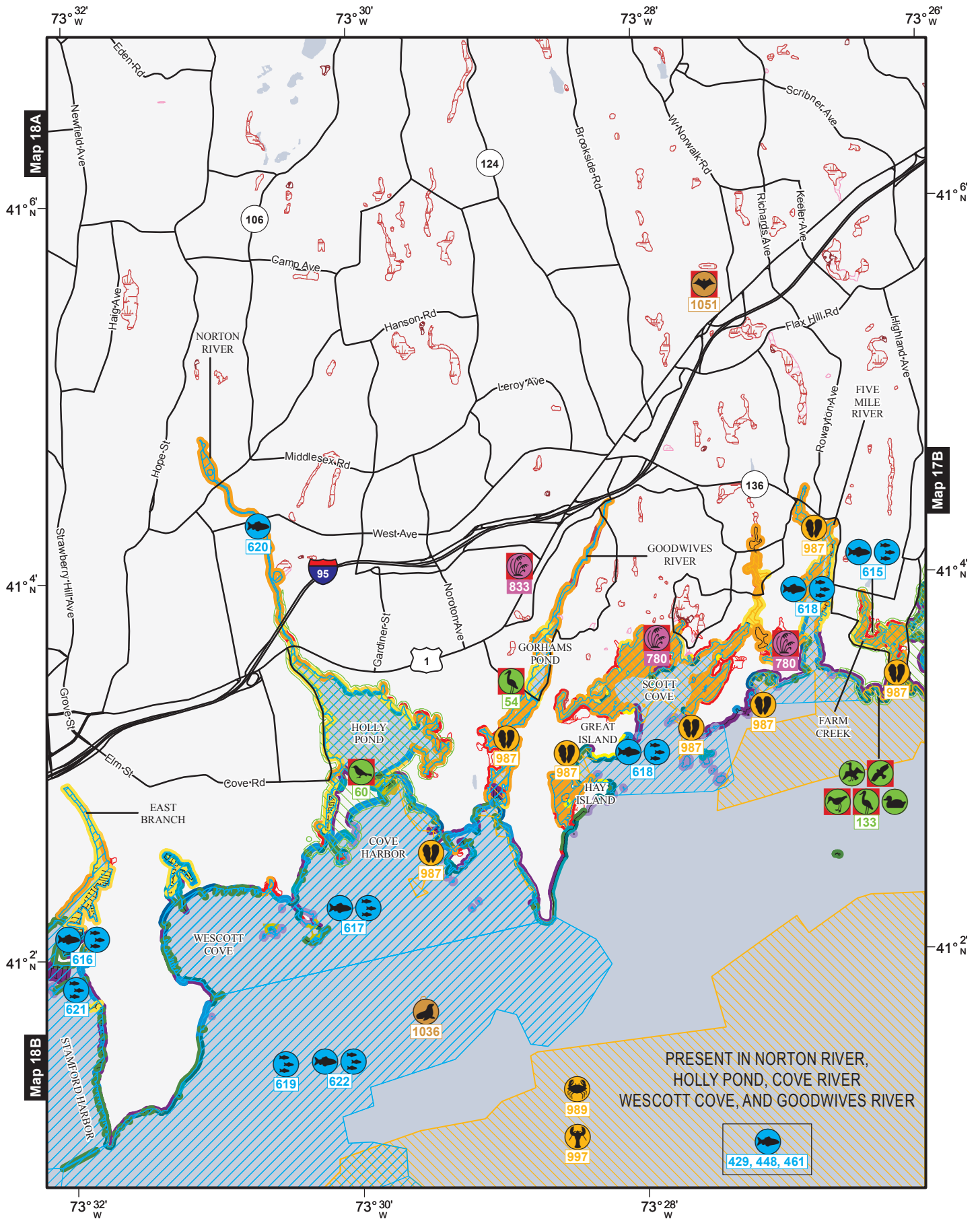
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	35,734.41	22.20	18%
10B	Freshwater Marshes	37.40	0.02	< 1%
9A	Sheltered Tidal Flats	21,055.31	13.08	11%
9B	Vegetated Low Banks	37,283.67	23.17	19%
8B	Sheltered, Solid Man-Made Structures	15,134.51	9.40	8%
8C	Sheltered Riprap	3,975.15	2.47	2%
7	Exposed Tidal Flats	10,570.82	6.57	5%
6A	Gravel Beaches	1,779.03	1.11	1%
6B	Riprap	12,081.81	7.51	6%
5	Mixed Sand and Gravel Beaches	34,150.60	21.22	18%
4	Coarse Grained Sand Beaches	9,167.49	5.70	5%
3A	Fine to Medium Grained Sand Beaches	43.91	0.03	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	1,325.61	0.82	1%
1A	Exposed, Rocky Shores	48.48	0.03	< 1%
1B	Exposed, Solid Man-Made Structures	12,590.23	7.82	6%
Total ESI Shoreline:		194,978.44	Total ESI Shoreline:	121.15
		Total Shoreline:	Total Shoreline:	69.21

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 17C
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 17C
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				
54	Wading	YC night-heron	General Distribution	C/-			Present													Mar-Aug	-	-	-
60	Passerine	Purple martin	General Distribution	C/-			Present													Apr-Aug	-	-	-
133	Diving	Horned grebe	Concentration Area				Highly Abundant													-	-	-	-
	Raptor	Osprey	General Distribution	-/C			6													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	Nesting	T/-			100S													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			9													Mar-Aug	-	-	-
	Wading	Little blue heron	General Distribution	C/-			Present													Apr-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			4													Mar-Aug	-	-	-
	Wading	YC night-heron	General Distribution	C/-			2													Mar-Aug	-	-	-
	Waterfowl	Brant	Concentration Area				Abundant													-	Mar-May	Oct-Nov	-
	Waterfowl	Goldeneye	Concentration Area				Highly Abundant													-	Apr-May	Nov-Dec	-
	Waterfowl	Greater scaup	Concentration Area				Somewhat Abundant													-	-	-	-
	Waterfowl	Long-tailed duck	Concentration Area				Present													-	-	-	-

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
448	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
461	Diadromous	Sea lamprey	Migration				Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
615	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	Bluefish	Concentration Area				Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Northern puffer	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Nursery	Scup	Concentration 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	Jul-Nov
	Estuarine Resident	Grubby	Nursery Area				Common													Dec-Apr	Dec-Apr	Jan-May	Jan-Dec	Jan-Dec
	Estuarine Resident	Naked goby	Nursery Area				Common													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area				Abundant													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	Tautog	Concentration Area				Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
616	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	Bluefish	Nursery Area				Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Northern puffer	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Resident	Atlantic silverside	Nursery Area				Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Fourspine stickleback	Nursery Area				Common													Apr-Jul	Apr-Jul	May-Aug	May-Dec	Jan-Dec

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Larvae	Eggs	Spawn	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Estuarine Resident	Grubby	Nursery Area		Common													Dec-Apr	Dec-Apr	May-Aug	Jan-May	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	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
617	Estuarine Nursery	Bluefish	Nursery Area		Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Scup	Nursery Area		Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Estuarine Resident	Atlantic silverside	Nursery Area		Abundant													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Forsyphine stickleback	Nursery Area		Common													Apr-Jul	Apr-Jul	May-Aug	May-Dec	Jan-Dec
	Estuarine Resident	Grubby	Nursery Area		Common													Dec-Apr	Dec-Apr	Jan-May	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	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
618	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	Bluefish	Nursery Area		Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Resident	Grubby	Nursery Area		Common													Dec-Apr	Dec-Apr	Jan-May	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish	Nursery Area		Abundant													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area		Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
619	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
620	Diadromous	Alewife	Spawning Area		Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Diadromous	Sea lamprey	Spawning Area		Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
621	Estuarine Nursery	Northern kingfish	Nursery Area		Common													Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
622	Diadromous	Striped bass	Concentration Area		Common													-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Concentration Area		Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Scup	Concentration Area		Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov

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
780	Plant	Devil's-tongue	Vulnerable Occurrence	C/-	Present												
833	Plant	Lizard's tail	Vulnerable Occurrence	E/-	Present												

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY S F	Concentration	Monthly Presence												Larvae	Eggs	Spawn	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
997	Lobster	American lobster	Nursery Area		Common													Jun-Nov	Jan-Dec	May-Aug	Jan-Dec	Jan-Dec

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
1036	Pinniped	Harbor seal	Haul Out				Varies (1 - 15)	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-

TERRESTRIAL MAMMALS

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

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
Diving	Common loon	General Distribution		C/C		10S	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
	Pied-billed grebe	General Distribution		E/T		Present													-	-	-	-
Gull/Tern	Common tern	General Distribution		E/T		Present													May-Aug	-	-	-
	Least tern	General Distribution		T/T		Present													Apr-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
Diadromous	Alewife	Nursery Area				Common	J	F	M	A	M	J	J	A	S	O	N	D	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				Abundant													-	-	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
	Hogchoker	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	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
	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
Fish	Atlantic moonfish	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
Marine Benthic	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
	Cunner	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

Long Island Sound: Map 17C

FISH (continued)

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				
	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
	Striped searobin	Nursery Area		Common													May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Tautog	Nursery Area		Common													Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
	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 S F T/T	Concentration	Monthly Presence												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	-

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				
	Harbor porpoise	General Distribution		Present													-	-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)





BIRDS

Subelement	Species	Mapping Qualifier	CT/NY S F T/T	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
					J	F	M	A	M	J	J	A	S	O	N	D				
	D. crested cormorant	General Distribution															Mar-Aug	-	-	-
	Great cormorant	General Distribution															-	-	-	-
	Horned grebe	General Distribution															-	-	-	-
	Red-throated loon	General Distribution															-	-	-	-
	G. black-backed gull	General Distribution															Mar-Aug	-	-	-
	Herring gull	General Distribution															Mar-Aug	-	-	-
	Ring-billed gull	General Distribution															-	-	-	-
	Acadian flycatcher	General Distribution															Jun-Jul	May-Jun	Aug-Sep	-
	American goldfinch	General Distribution															Mar-Aug	-	-	-
	Barn Swallow	General Distribution															Apr-Aug	-	-	-
	Belted kingfisher	General Distribution															Mar-Aug	-	-	-
	Chimney swift	General Distribution															Jun-Jul	Apr-May	Aug-Sep	-
	Common grackle	General Distribution															Mar-Aug	-	-	-
	European starling	General Distribution															Mar-Aug	-	-	-
	Fish crow	General Distribution															Mar-Aug	-	-	-
	House sparrow	General Distribution															Mar-Aug	-	-	-
	Red-winged blackbird	General Distribution															Mar-Aug	-	-	-
	Song sparrow	General Distribution															Mar-Aug	-	-	-
	Tree swallow	General Distribution															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				
	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Northern gannet													-	-	-	-
	BC night-heron													-	-	-	-
	Clapper rail													Mar-Aug	-	-	-
	American black duck													Mar-Aug	-	-	-
	American wigeon													Apr-May	Mar-Apr	Sep-Nov	-
	Barrow's goldeneye													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	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													-	-	-	-
	King eider													-	-	-	-
	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													-	-	-	-

INVERTEBRATES

	Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
			J	F	M	A	M	J	J	A	S	O	N	D				
	Bivalve	Eastern oyster													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
		Northern quahog													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Cephalopod	Softshell clam													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Crab	Longfin squid													May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Blue crab													May-Sep	May-Sep	Jan-Dec	Jan-Dec
		Green crab													Mar-Sep	May-Oct	Jan-Dec	Jan-Dec
		Horseshoe crab													May-Jun	-	Jan-Dec	Jan-Dec
		Lady crab													Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
		Spider crabs													May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Shrimp	Mantis shrimp													Feb-May	Feb-May	Jan-Dec	Jan-Dec
		Sevenspine bay shrimp													May-Oct	May-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	79.71	0.12
10B	Freshwater Marshes	20.15	0.03
10C	Swamps	244.58	0.38
10D	Scrub and Shrub Wetlands	10.34	0.02
9A	Sheltered Tidal Flats	207.63	0.32
7	Exposed Tidal Flats	13.19	0.02
2A	Exposed Wave-Cut Platforms In Bedrock	10.92	0.02

ESI SHORELINE HABITAT TYPES

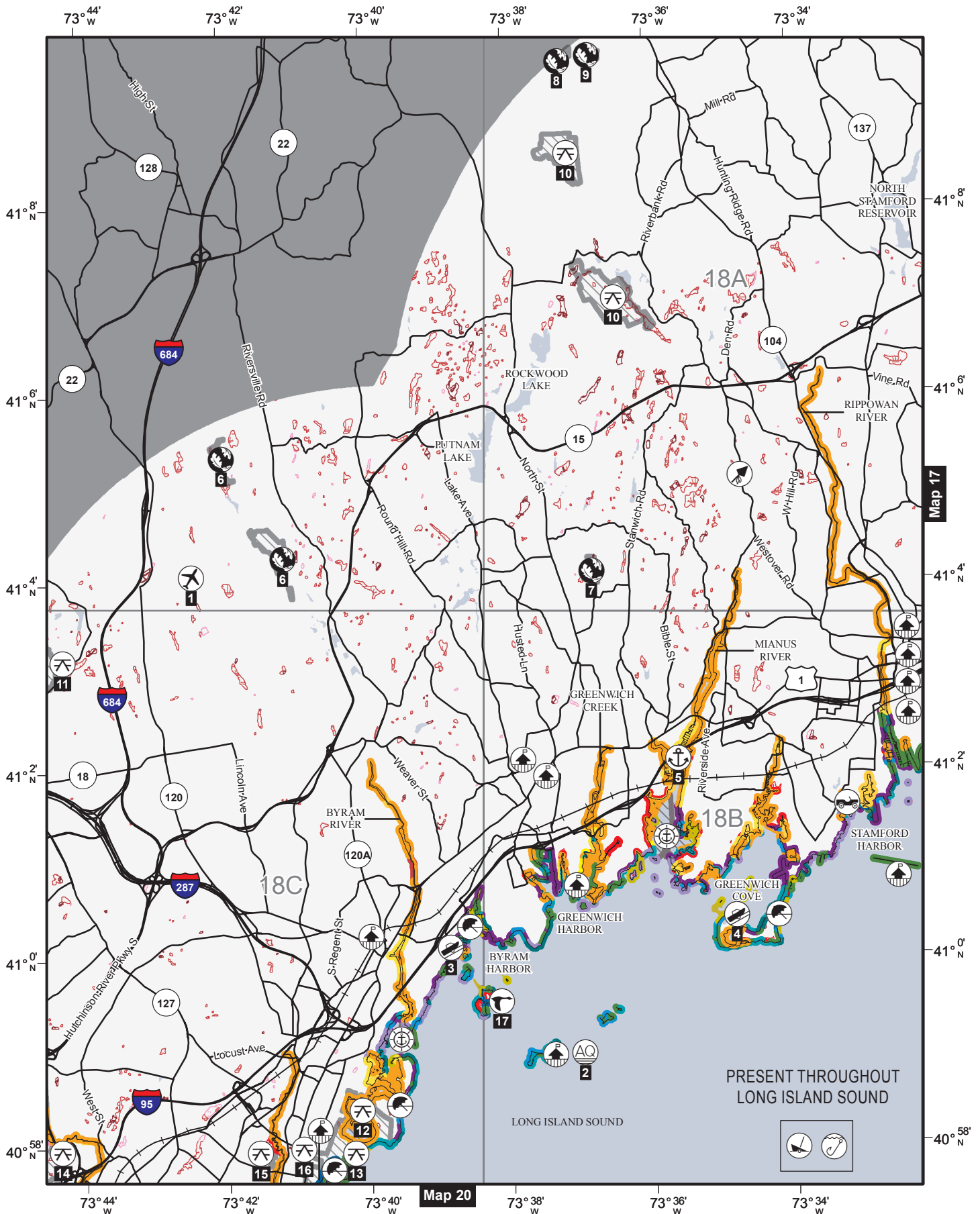
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	14,202.68	8.83	9%
10B	Freshwater Marshes	237.21	0.15	< 1%
10C	Swamps	1,174.03	0.73	1%
10D	Scrub and Shrub Wetlands	51.88	0.03	< 1%
9A	Sheltered Tidal Flats	21,814.35	13.55	13%
9B	Vegetated Low Banks	34,369.34	21.36	21%
8A	Sheltered, Impermeable, Rocky Shores	1,760.37	1.09	1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	369.68	0.23	< 1%
8A	Sheltered, Impermeable, Rocky Shores	1,760.37	1.09	1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	369.68	0.23	< 1%
8B	Sheltered, Solid Man-Made Structures	19,338.91	12.02	12%
8C	Sheltered Riprap	3,627.58	2.25	2%
7	Exposed Tidal Flats	1,022.98	0.64	1%
6A	Gravel Beaches	6,820.33	4.24	4%
6B	Riprap	15,074.75	9.37	9%
5	Mixed Sand and Gravel Beaches	7,195.61	4.47	4%
4	Coarse Grained Sand Beaches	8,512.23	5.29	5%
3A	Fine to Medium Grained Sand Beaches	1,547.77	0.96	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	6,188.32	3.85	4%
1A	Exposed, Rocky Shores	1,480.07	0.92	1%
1B	Exposed, Solid Man-Made Structures	18,340.53	11.40	11%

Total ESI Shoreline: 163,128.63 Total ESI Shoreline: 101.36
 Total Shoreline: 99,361.26 Total Shoreline: 61.74

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 18
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	WESTCHESTER COUNTY AIRPORT	203-251-8432
2	AQUACULTURE	KELP FARM OFF OF GREENWICH	
3	BOAT RAMP	BYRAM PARK BOAT RAMP	
4	BOAT RAMP	GREENWICH POINT BOAT RAMP	
5	MARINA	PALMER POINT MARINA	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
6	NATURE CONSERVANCY	BYRAM RIVER GORGE	203-568-6270
7	NATURE CONSERVANCY	STILL POND	203-568-6270
8	NATURE CONSERVANCY	MIANUS RIVER GORGE	518-690-7850
9	NATURE CONSERVANCY	MIANUS RIVER GORGE	518-690-7850
10	PARK	MIANUS RIVER STATE PARK SCENIC RESERVE	860-424-3016
11	PARK	SILVER LAKE PRESERVE (COUNTY PARK)	
12	PARK	EDITH READ PARK WILDLIFE SANCTUARY (CNTY)	860-399-2513
13	PARK	PLAYLAND COUNTY PARK	
14	PARK	SAXON WOODS COUNTY PARK	
15	PARK	DISBROW PARK (MUNICIPAL)	
16	PARK	RYE TOWN PARK (MUNICIPAL)	
17	WILDLIFE REFUGE	STEWART B. MCKINNEY NATIONAL WILDLIFE REFUGE	
		RICK POTVIN	

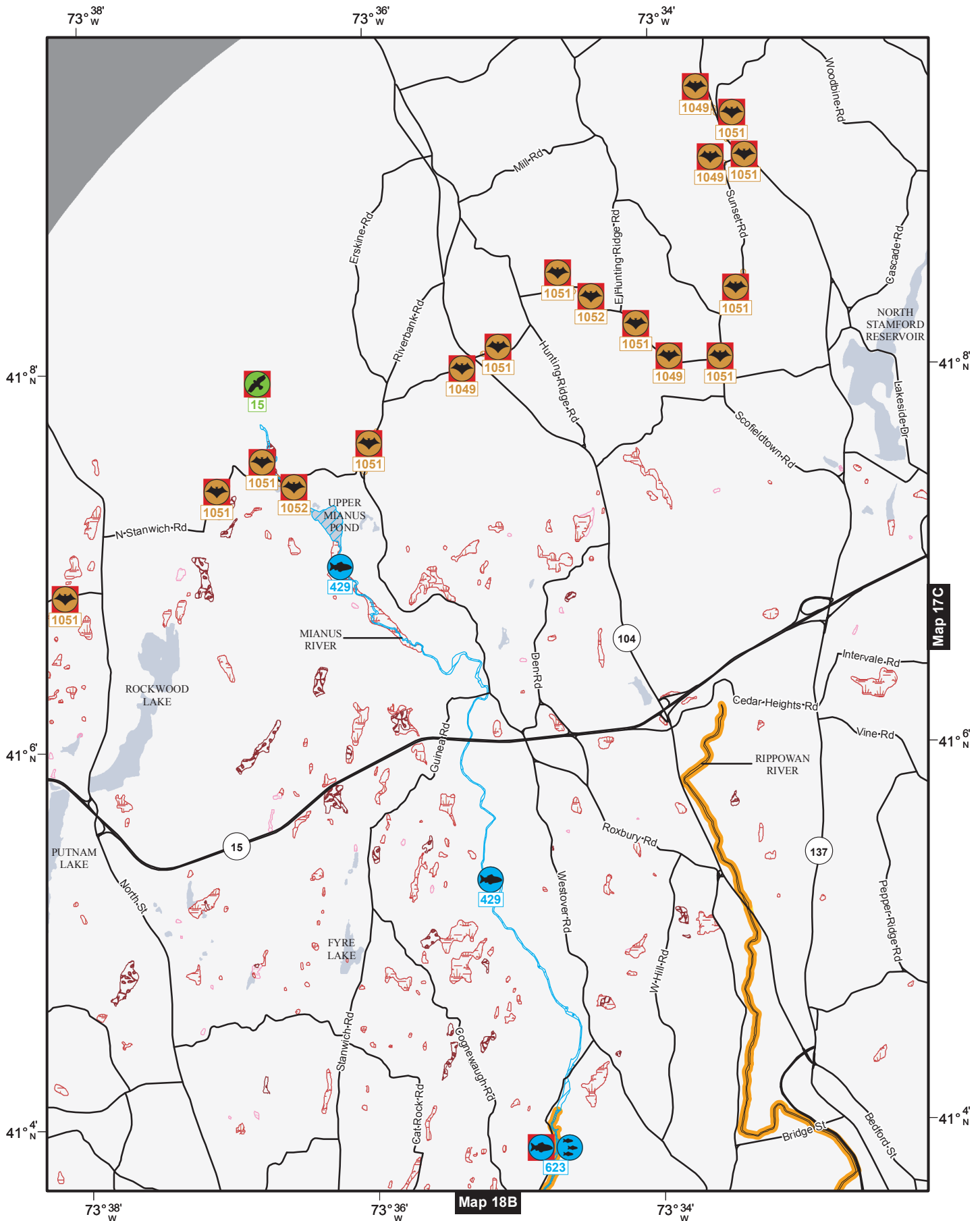
ALSO PRESENT IN MAPPED AREA (POLYGONS)

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	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	PLAYLAND LAKE & MANURSING ISLAND FLATS (SH)	JEFFREY L. HERTER	518-486-7942

JURISDICTIONS

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

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



Map 18A
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 18A
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 T/T	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
15	Raptor	Bald eagle	General Distribution		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					
429	Diadromous	American eel	Nursery Area		Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
623	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	Brown trout (sea run)	Migration		Uncommon													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Sep-Jan
	Estuarine Nursery	White perch	Nursery Area		Common													Apr-Jul	Apr-Jul	Apr-Aug	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					
1049	Bat	Silver-haired bat	Vulnerable Occurrence	C/-	Present													-	-	-	-	-
1051	Bat	Eastern red bat	Vulnerable Occurrence	C/-	Present													-	-	-	-	-
1052	Bat	Hoary bat	Vulnerable Occurrence	C/-	Present													-	-	-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

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					
Freshwater	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
	Yellow perch																Mar-May	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

ESI POLYGON HABITAT TYPES



<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10B	Freshwater Marshes	16.16	0.03
10C	Swamps	332.13	0.52
10D	Scrub and Shrub Wetlands	92.52	0.14

ESI SHORELINE HABITAT TYPES

<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>
9B	Vegetated Low Banks
8B	Sheltered, Solid Man-Made Structures
8C	Sheltered Riprap

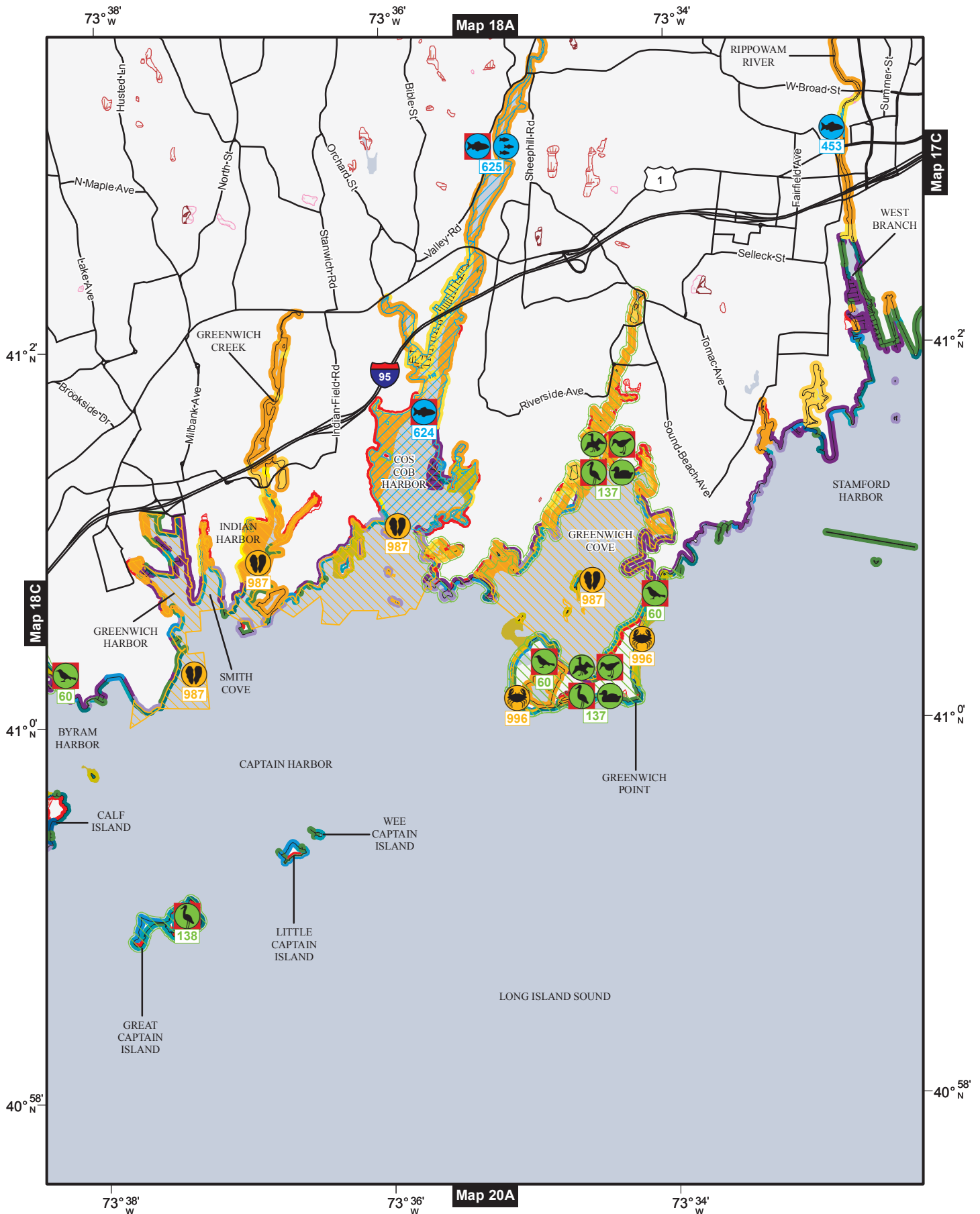
<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
14,996.56	9.32	99%
197.03	0.12	1%
29.65	0.02	< 1%

Total ESI Shoreline: 15,223.24 Total ESI Shoreline: 9.46
 Total Shoreline: 15,223.24 Total Shoreline: 9.46

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 18B
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 18B
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				
60	Passerine	Purple martin	General Distribution	C/-			Present													Apr-Aug	-	-	-
137	Diving	Diving birds	Wintering				Present													-	-	-	-
	Diving	Horned grebe	Wintering				Abundant													-	-	-	-
	Shorebird	American oystercatcher	Concentration Area	T/-			Low													Mar-Aug	-	-	-
	Shorebird	Shorebirds	Migration				Low													-	Jan-Dec	-	-
	Wading	BC night-heron	Concentration Area				Present													Mar-Aug	-	-	-
	Wading	Great egret	Concentration Area	T/-			Present													Mar-Aug	-	-	-
	Wading	Snowy egret	Concentration Area	T/-			Present													Mar-Aug	-	-	-
	Waterfowl	American black duck	Concentration Area				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Diving ducks	Concentration Area				Present													-	-	-	-
	Waterfowl	Waterfowl	Concentration Area				Somewhat Abundant													-	Jan-Dec	-	-
138	Wading	BC night-heron	Nesting				Abundant													Mar-Aug	-	-	-
	Wading	Great egret	Nesting	T/-			Abundant													Mar-Aug	-	-	-
	Wading	Snowy egret	Nesting	T/-			Abundant													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					
453	Diadromous	Alewife	Spawning Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
624	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	Blueback herring	Nursery Area				Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Brown trout (sea run)	Migration	C/-			Common													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Sep-Jan
	Diadromous	Striped bass	Migration				Uncommon													-	-	-	Apr-Nov	Apr-Nov
625	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	Blueback herring	Nursery Area				Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Diadromous	Brown trout (sea run)	Migration	C/-			Uncommon													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Sep-Jan
	Estuarine Nursery	White perch	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Aug	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					
987	Bivalve	Eastern oyster	Concentration Area				Present													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
996	Crab	Horseshoe crab	Spawning Area				Present													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec

BIRDS

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Nest	Eggs	Larvae	Juveniles	Adults
							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		Present													-	-	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		Present													Apr-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					
	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 eel	Nursery Area			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													-	-	-	Apr-Nov	Apr-Nov
		Striped bass	Nursery Area			Common													-	-	-	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
		Bluefish	Nursery Area			Common													-	-	-	Jun-Oct	Jun-Oct
		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
		Northern puffer	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Scup	Nursery Area			Common													May-Aug	May-Aug	May-Aug	May-Nov	May-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
		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
		Atlantic silverside	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Fourspine stickleback	Nursery Area			Common													Apr-Jul	Apr-Jul	May-Aug	May-Dec	Jan-Dec
		Grubby	Nursery Area			Common													Dec-Apr	Dec-Apr	Jan-May	Jan-Dec	Jan-Dec
		Mummichog	Nursery Area			Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
		Northern pipefish	Nursery Area			Common													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
		Striped killifish	Nursery Area			Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
		Atlantic tomcod	Nursery Area			Common													Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
		Cunner	Nursery Area			Common													May-Aug	May-Aug	May-Aug	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
		Smooth dogfish	Nursery Area			Common													-	-	-	May-Oct	May-Oct
		Striped searobin	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov

FISH (continued)

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				
	Tautog	Nursery Area		Common													Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
	Tautog	Nursery Area		Common													Apr-Sep	May-Sep	Apr-Nov	Apr-Nov

REPTILES & AMPHIBIANS

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

MARINE MAMMALS

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

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

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				
	D. crested cormorant																Mar-Aug	-	-	-
	Great cormorant																-	-	-	-
	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	-
	Northern gannet																-	-	-	-
	American black duck																Apr-May	Mar-Apr	Sep-Nov	-
	American wigeon																-	-	-	-
	Barrow's goldeneye																-	-	-	-
	Black brant																-	May	Oct	-
	Black scoter																-	-	-	-
	Bufflehead																-	Oct-Jun	-	-
	Canada goose																Mar-Aug	Jan-Dec	-	-
	Canvasback																-	-	-	-
	Common goldeneye																-	Nov-Apr	-	-




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													-	-	-	-
	King eider													-	-	-	-
	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					
Freshwater	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
	White sucker													Apr-May	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
	Yellow perch													Mar-May	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	Eastern oyster													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
		Northern quahog													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Cephalopod	Softshell clam													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Crab	Longfin squid													May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Blue crab													May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Crab	Green crab													Mar-Sep	May-Oct	Jan-Dec	Jan-Dec
		Horseshoe crab													May-Jun	-	Jan-Dec	Jan-Dec
		Lady crab													Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
		Spider crabs													May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Shrimp	Mantis shrimp													Feb-May	Feb-May	Jan-Dec	Jan-Dec
		Sevenspine bay shrimp													May-Oct	May-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	74.11	0.12
10B	Freshwater Marshes	12.00	0.02
10C	Swamps	39.32	0.06
10D	Scrub and Shrub Wetlands	11.01	0.02
9A	Sheltered Tidal Flats	185.69	0.29
7	Exposed Tidal Flats	74.72	0.12
2A	Exposed Wave-Cut Platforms In Bedrock	15.25	0.02

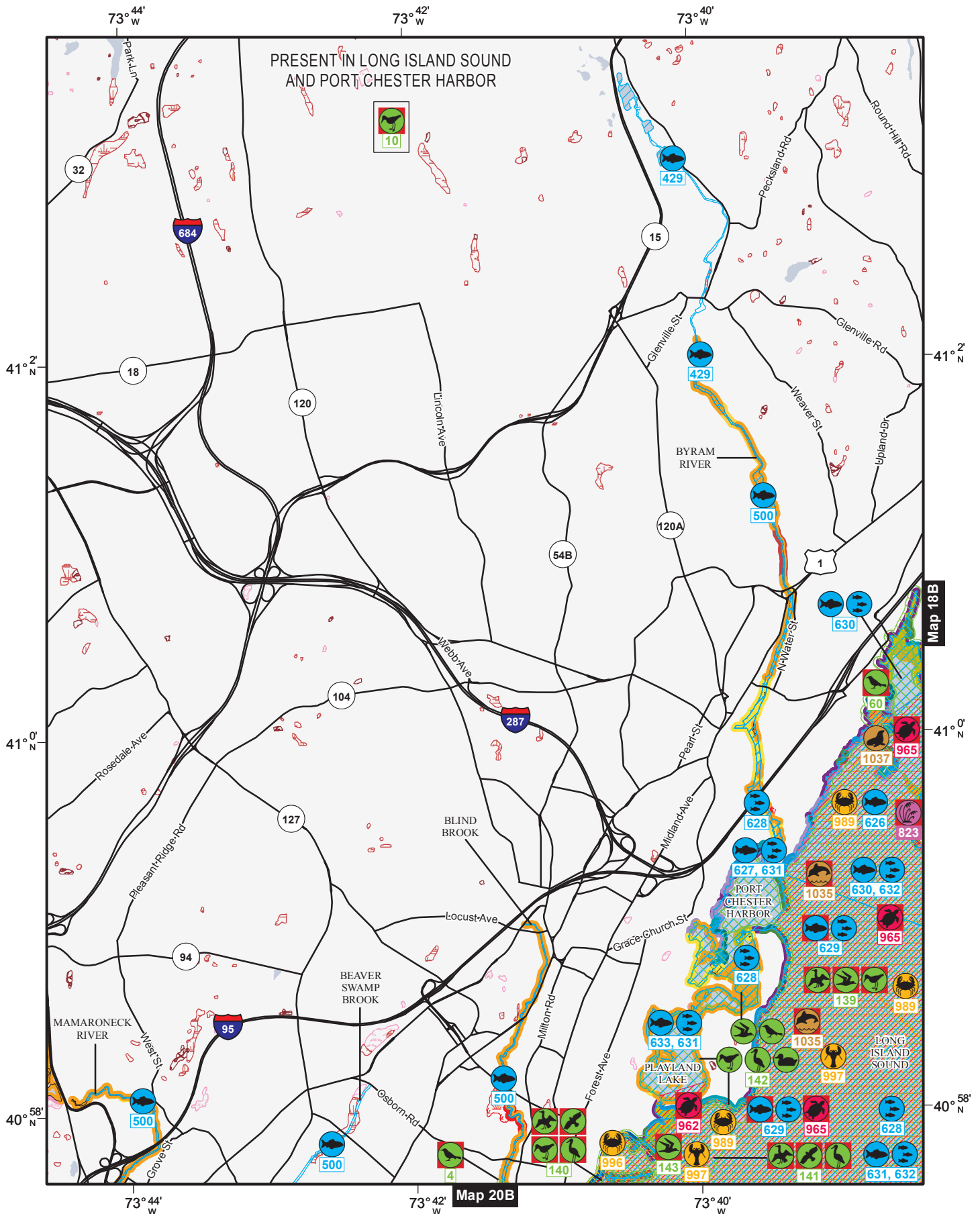
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	19,999.23	12.43	11%
10B	Freshwater Marshes	272.51	0.17	< 1%
10D	Scrub and Shrub Wetlands	37.76	0.02	< 1%
9A	Sheltered Tidal Flats	16,566.54	10.29	9%
9B	Vegetated Low Banks	38,582.56	23.97	22%
8A	Sheltered, Impermeable, Rocky Shores	1,009.05	0.63	1%
8B	Sheltered, Solid Man-Made Structures	13,526.17	8.40	8%
8C	Sheltered Riprap	6,859.53	4.26	4%
7	Exposed Tidal Flats	6,291.61	3.91	4%
6A	Gravel Beaches	5,556.78	3.45	3%
6B	Riprap	14,760.11	9.17	8%
5	Mixed Sand and Gravel Beaches	13,532.37	8.41	8%
4	Coarse Grained Sand Beaches	5,409.19	3.36	3%
3A	Fine to Medium Grained Sand Beaches	1,059.92	0.66	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	10,000.08	6.21	6%
1B	Exposed, Solid Man-Made Structures	25,282.59	15.71	14%
Total ESI Shoreline:		178,746.00	Total ESI Shoreline: 111.07	
Total Shoreline:		109,042.42	Total Shoreline: 67.76	

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 18C
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 18C
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				
4	Passerine	Seaside sparrow	General Distribution	T/C			Present													May-Aug	-	-	-
10	Shorebird	Piping plover	General Distribution	T/E		T	Present													Mar-Aug	-	-	-
60	Passerine	Purple martin	General Distribution	C/-			Present													Apr-Aug	-	-	-
139	Diving	Common loon	General Distribution	C/C			10S													-	-	-	-
	Diving	Pied-billed grebe	General Distribution	E/T			Present													-	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			Present													Mar-Aug	-	-	-
140	Diving	Common loon	General Distribution	C/C			6													-	-	-	-
	Diving	Pied-billed grebe	General Distribution	E/T			2													-	-	-	-
	Raptor	Peregrine falcon	General Distribution	T/E			Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E		T	Present													Mar-Aug	-	-	-
	Wading	BC night-heron	Nesting				Present													Mar-Aug	-	-	-
	Wading	Egrets	Nesting				Present													Jan-Dec	-	-	-
	Wading	Herons	Nesting				Present													Jan-Dec	-	-	-
	Wading	Snowy egret	Nesting	T/-			Present													Mar-Aug	-	-	-
141	Diving	Common loon	General Distribution	C/C			6													-	-	-	-
	Diving	Pied-billed grebe	General Distribution	E/T			2													-	-	-	-
	Raptor	Peregrine falcon	General Distribution	T/E			Present													Mar-Aug	-	-	-
	Wading	BC night-heron	Nesting				Present													Mar-Aug	-	-	-
	Wading	Egrets	Nesting				Present													Jan-Dec	-	-	-
	Wading	Herons	Nesting				Present													Jan-Dec	-	-	-
	Wading	Snowy egret	Nesting	T/-			Present													Mar-Aug	-	-	-
142	Gull/Tern	Terns	Concentration Area				Present													-	-	-	-
	Passerine	Marsh wren	Nesting				Present													Apr-Aug	-	-	-
	Passerine	Red-winged blackbird	Nesting				Present													Mar-Aug	-	-	-
	Shorebird	Shorebirds	Concentration Area				Present													-	Jan-Dec	-	-
	Wading	Green heron	Nesting				Present													Apr-Aug	-	-	-
	Wading	Herons	Concentration Area				Present													Jan-Dec	-	-	-
	Waterfowl	American black duck	Nesting				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Mallard	Nesting				Present													Mar-Aug	-	-	-
	Waterfowl	Waterfowl	Migration				Present													-	Jan-Dec	-	-
143	Gull/Tern	Common tern	General Distribution	E/T			Present													May-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					
429	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Larvae	Eggs	Spawn	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
626	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
627	Diadromous	Alewife	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area				Common													-	-	-	Jan-Dec	Apr-Nov
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
	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
628	Estuarine Nursery	Bluefish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
629	Diadromous	Alewife	Nursery Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Diadromous	American eel	Migration				Common													-	-	-	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	Bay anchovy	Nursery Area				Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	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
	Estuarine Nursery	Weakfish	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
	Marine Benthic	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	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	Smooth dogfish	Nursery Area				Common													-	-	-	May-Oct	May-Oct
	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	Jan-Dec	Jan-Dec
630	Diadromous	American eel	Nursery Area				Common													-	-	-	Jan-Dec	Sep-Nov
	Estuarine Nursery	Bluefish	Nursery Area				Common													-	-	-	Jun-Oct	Jun-Oct
	Estuarine Nursery	Northern kingfish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Apr-Nov	Apr-Nov
	Estuarine Nursery	Northern puffer	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Nursery	Scup	Nursery Area				Common													May-Aug	May-Aug	May-Aug	May-Nov	May-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	Fourspine stickleback	Nursery Area				Common													Apr-Jul	Apr-Jul	May-Aug	May-Dec	Jan-Dec
	Estuarine Resident	Grubby	Nursery Area				Common													Dec-Apr	Dec-Apr	Jan-May	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	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
631	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
632	Estuarine Nursery	Atlantic menhaden	Nursery Area				Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Windowpane	Nursery Area				Common													Apr-Oct	Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
	Marine Benthic	Cunner	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
633	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

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	
823	Upland	Bitter panicum	Vulnerable Occurrence	T/-		Present													

823	Upland	Bitter panicum	Vulnerable Occurrence		Present													
-----	--------	----------------	-----------------------	--	---------	--	--	--	--	--	--	--	--	--	--	--	--	--

REPTILES & AMPHIBIANS

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

962	Turtle	Diamondback terrapin	Vulnerable Occurrence		Present													
965	Turtle	Green sea turtle	General Distribution		Present													
	Turtle	K. ridley sea turtle	General Distribution		Present													
	Turtle	Loggerhead sea turtle	General Distribution		Present													

INVERTEBRATES

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

989	Crab	Horseshoe crab	Nursery Area		Common													
996	Crab	Horseshoe crab	Spawning Area		Present													
997	Lobster	American lobster	Nursery Area		Common													

MARINE MAMMALS






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

1035	Dolphin	Harbor porpoise	General Distribution		Present													
1037	Pinniped	Harbor seal	Haul Out		Varies (3 - 30)													

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	-	-	-
		Great cormorant												-	-	-	-
		Horned grebe												-	-	-	-
		Red-throated loon												-	-	-	-
	Gull/Tern	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												-	-	-	-
	Waterfowl	American black duck												Apr-May	Mar-Apr	Sep-Nov	-
		American coot												-	-	-	-
		American wigeon												-	-	-	-
		Barrow's goldeneye												-	-	-	-
		Black brant												-	May	Oct	-
		Black scoter												-	-	-	-
		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 goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													Mar-Apr	Sep-Oct	-	-
	Hooded merganser													-	-	-	-
	King eider													-	-	-	-
	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					
	Freshwater													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Bluegill													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Brown bullhead													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Largemouth bass													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
	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												Eggs	Larvae	Juveniles	Adults
			J	F	M	A	M	J	J	A	S	O	N	D				
	Bivalve	Eastern oyster													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
		Northern quahog													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
 	Cephalopod Crab	Ribbed mussel													Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
		Softshell clam													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
		Longfin squid													May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Blue crab													May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Fiddler crab	Fiddler crab													Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
		Green crab													Mar-Sep	May-Oct	Jan-Dec	Jan-Dec
		Horseshoe crab													May-Jun	-	Jan-Dec	Jan-Dec
		Lady crab													Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Shrimp	Spider crabs													May-Sep	May-Sep	Jan-Dec	Jan-Dec
		Mantis shrimp													Feb-May	Feb-May	Jan-Dec	Jan-Dec
		Sevenspine bay shrimp													May-Oct	May-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 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	21.62	0.03
10B	Freshwater Marshes	38.68	0.06
10C	Swamps	164.21	0.26
10D	Scrub and Shrub Wetlands	26.47	0.04
9A	Sheltered Tidal Flats	41.47	0.06
7	Exposed Tidal Flats	60.13	0.09
2A	Exposed Wave-Cut Platforms In Bedrock	3.84	0.01

ESI SHORELINE HABITAT TYPES

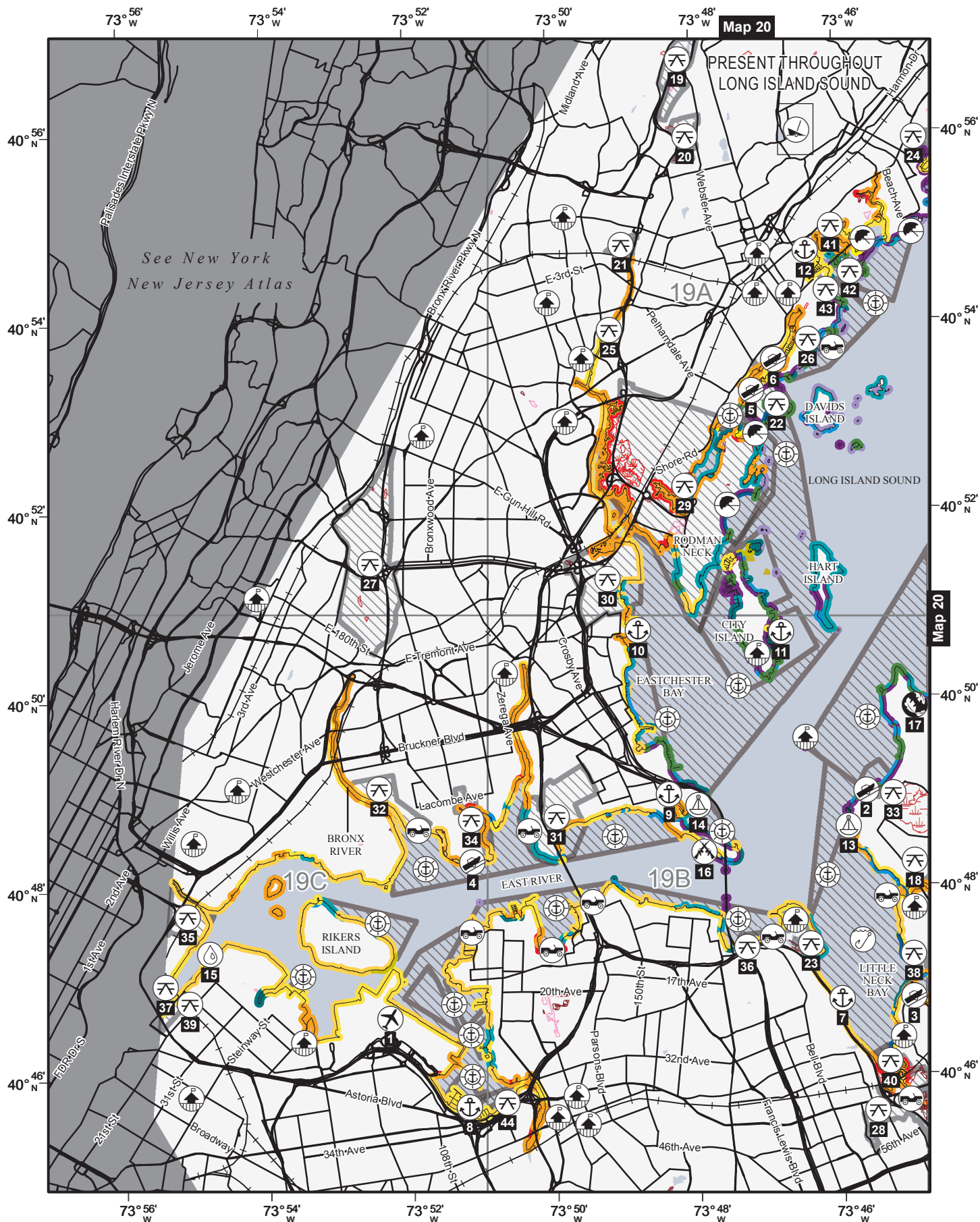
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	2,468.22	1.53	3%
10B	Freshwater Marshes	634.98	0.39	1%
10C	Swamps	1,172.43	0.73	2%
10D	Scrub and Shrub Wetlands	86.45	0.05	< 1%
9A	Sheltered Tidal Flats	2,572.12	1.60	4%
9B	Vegetated Low Banks	28,190.46	17.52	39%
8A	Sheltered, Impermeable, Rocky Shores	52.33	0.03	< 1%
8B	Sheltered, Solid Man-Made Structures	6,330.10	3.93	9%
8C	Sheltered Riprap	1,457.74	0.91	2%
7	Exposed Tidal Flats	4,532.90	2.82	6%
6A	Gravel Beaches	2,050.57	1.27	3%
6B	Riprap	3,670.51	2.28	5%
5	Mixed Sand and Gravel Beaches	2,737.50	1.70	4%
4	Coarse Grained Sand Beaches	3,205.41	1.99	4%
3A	Fine to Medium Grained Sand Beaches	776.59	0.48	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	4,888.37	3.04	7%
1B	Exposed, Solid Man-Made Structures	8,378.53	5.21	11%

Total ESI Shoreline: 73,205.22 Total ESI Shoreline: 45.49
 Total Shoreline: 56,191.35 Total Shoreline: 34.92

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 19
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 19
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AIRPORT	LA GUARDIA AIRPORT	FEDERAL AVIATION ADMINISTRATION
2	BOAT RAMP	STEPPING STONE PARK BOAT RAMP	
3	BOAT RAMP	WATERFRONT PARK BOAT RAMP	
4	BOAT RAMP	CLASON POINT BOAT RAMP	
5	BOAT RAMP	GLEN ISLAND BOAT RAMP	
6	BOAT RAMP	WRIGHT ISLAND MARINA	
7	MARINA	BAYSIDE MARINA	
8	MARINA	WORLD FAIR MARINAS	
9	MARINA	HAMMONDS COVE MARINA	
10	MARINA	EVERS MARINA	
11	MARINA	MINIFORD MARINA	
12	MARINA	NEW ROCHELLE MUNICIPAL MARINA	
13	REPEATED MEASUREMENT SITE	PORTS - KINGS POINT LONG ISLAND SOUND	
14	REPEATED MEASUREMENT SITE	MWS - LITN	
15	WATER INTAKE	CONSOLIDATED EDISON CO OF NY ASTORIA FACILITY	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
16	MILITARY	NAVY OPERATIONAL SUPPORT CENTER NEW YORK	718-892-2145
17	NATURE CONSERVANCY	KINGS POINT POND	TNC NEW YORK STATE OFFICE
18	PARK	GRIST MILL POND COUNTY PRESERVE	NEW YORK CITY DEPARTMENT OF PARKS & REC.
19	PARK	TWIN LAKES COUNTY PARK (UNDEVELOPED)	
20	PARK	NATURE STUDY WOODS COUNTY PARK	
21	PARK	WILSON WOODS COUNTY PARK	
22	PARK	GLEN ISLAND COUNTY PARK	
23	PARK	FORT TOTTEN PARK	
24	PARK	FLINT PARK (MUNICIPAL)	
25	PARK	HUTCHINSON FIELD (MUNICIPAL)	
26	PARK	DAVENPORT PARK (MUNICIPAL)	
27	PARK	BRONX PARK (MUNICIPAL)	
28	PARK	ALLEY POND PARK (MUNICIPAL)	
29	PARK	PELHAM BAY PARK (MUNICIPAL)	
30	PARK	PELHAM BAY PARK (MUNICIPAL)	
31	PARK	FERRY POINT PARK (MUNICIPAL)	
32	PARK	SOUND VIEW PARK (MUNICIPAL)	
33	PARK	STEPPING STONE TOWN PARK (MUNICIPAL)	212-639-9675
34	PARK	PUGSLEY CREEK PARK (MUNICIPAL)	
35	PARK	RANDALLS ISLAND PARK (MUNICIPAL)	
36	PARK	LITTLE BAY PARK (MUNICIPAL)	
37	PARK	WARDS ISLAND PARK (MUNICIPAL)	

DISPLAYED ON MAP (POLYGONS) (continued)	
38	PARK WATERFRONT PARK (MUNICIPAL)
39	PARK ASTORIA PARK (MUNICIPAL)
40	PARK ALLEY POND PARK (MUNICIPAL)
41	PARK FIVE ISLANDS PARK (MUNICIPAL)
42	PARK FIVE ISLANDS PARK (MUNICIPAL)
43	PARK HUDSON PARK (MUNICIPAL)
44	PARK FLUSHING MEADOWS CORONA 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	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	SANDBAR SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	HUCKLEBERRY ISLAND (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	LITTLE NECK BAY (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	MANHASSET BAY (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	PREMIUM RIVER - PINE BROOK WETLANDS (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	UDALLS COVE (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	ALLEY POND PARK (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	NORTH AND SOUTH BROTHER ISLANDS (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	PELHAM BAY PARK WETLANDS (SH)	JEFFREY L. HERTER	518-486-7942
STATE PROTECTED AREA	TITUS MILL POND STATE TIDAL WETLAND	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465
STATE PROTECTED AREA	STATE TIDAL WETLANDS NEAR LITTLE NECK BAY	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465
JURISDICTIONS			
COUNTY:	BRONX COUNTY, NASSAU COUNTY, QUEENS COUNTY, WESTCHESTER COUNTY	FEMA:	REGION 1
COAST GUARD:	DISTRICT 1, SECTOR NEW YORK	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	251.29	0.39
10B	Freshwater Marshes	34.28	0.05
10C	Swamps	180.25	0.28
10D	Scrub and Shrub Wetlands	56.09	0.09
9A	Sheltered Tidal Flats	226.79	0.35
7	Exposed Tidal Flats	15.47	0.02

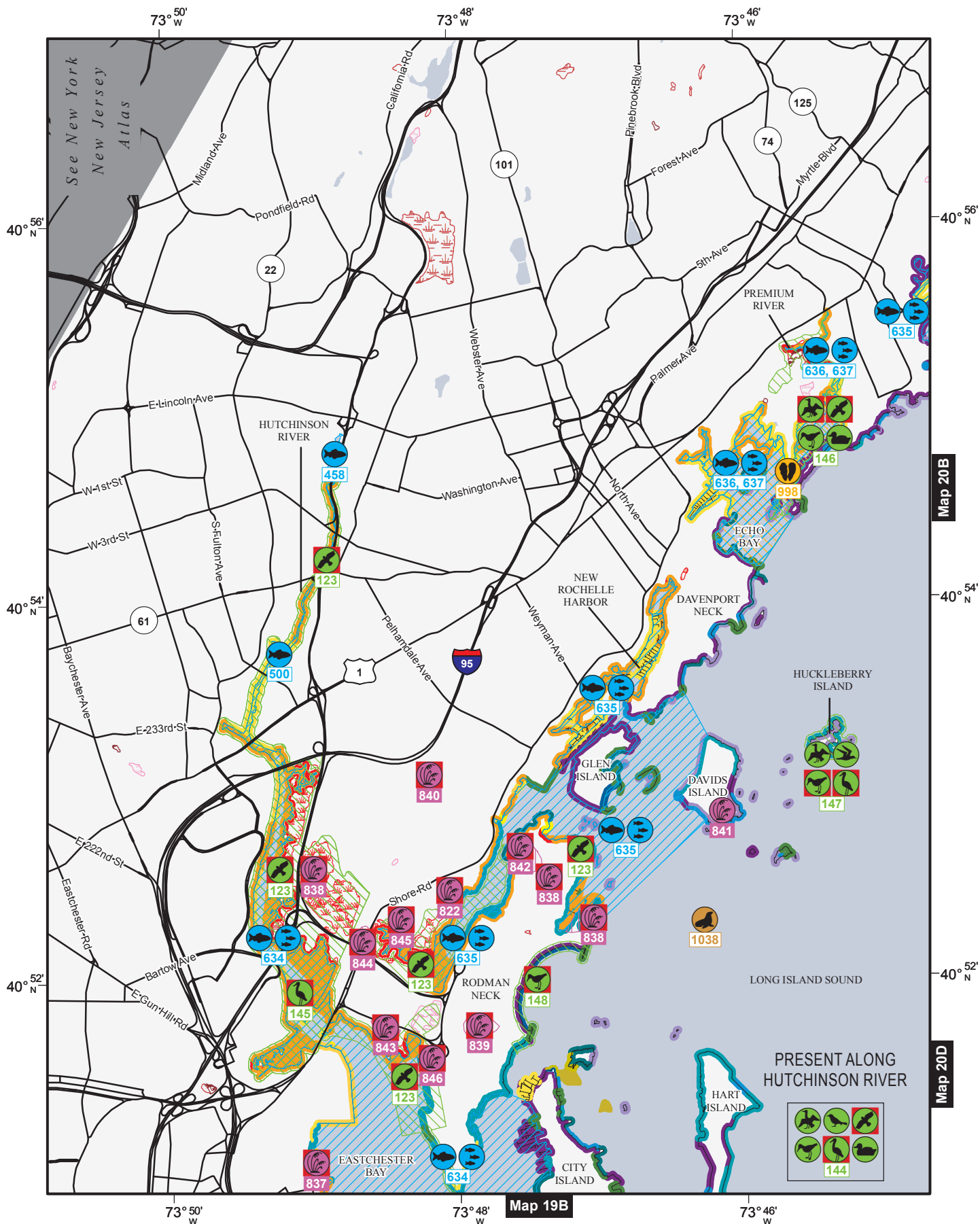
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	21,007.67	13.05	6%
10B	Freshwater Marshes	11.59	0.01	< 1%
10C	Swamps	136.06	0.08	< 1%
10D	Scrub and Shrub Wetlands	1,084.52	0.67	< 1%
9A	Sheltered Tidal Flats	26,455.21	16.44	7%
9B	Vegetated Low Banks	65,981.32	41.00	19%
8A	Sheltered, Impermeable, Rocky Shores	830.39	0.52	< 1%
8B	Sheltered, Solid Man-Made Structures	69,605.78	43.25	20%
8C	Sheltered Riprap	53,220.49	33.07	15%
7	Exposed Tidal Flats	1,147.95	0.71	< 1%
6A	Gravel Beaches	6,756.14	4.20	2%
6B	Riprap	13,283.62	8.25	4%
5	Mixed Sand and Gravel Beaches	28,226.96	17.54	8%
4	Coarse Grained Sand Beaches	14,164.44	8.80	4%
3A	Fine to Medium Grained Sand Beaches	3,263.16	2.03	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	12,079.03	7.51	3%
1A	Exposed, Rocky Shores	389.13	0.24	< 1%
1B	Exposed, Solid Man-Made Structures	37,645.47	23.39	11%
Total ESI Shoreline:		355,288.93	220.77	
Total Shoreline:		247,324.81	153.68	

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

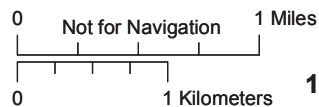




Map 19A
Long Island Sound



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 19A
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				
123	Raptor	Barn owl	General Distribution		E/-		Present													Mar-Aug	-	-	-
144	Diving	Grebes	Migration				Present													-	Jan-Dec	-	-
	Diving	Loons	Migration				Present													-	Apr-May	Oct-Nov	-
	Passerine	Passerine birds	Migration				Present													Jan-Dec	-	-	-
	Raptor	Barn owl	Nesting		E/-		Present													Mar-Aug	-	-	-
	Raptor	Northern harrier	Concentration Area		E/T		Present													Mar-Aug	-	-	-
	Raptor	Osprey	Migration		-/C		Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Raptor	Raptors	Migration				Present													-	Jan-Dec	-	-
	Shorebird	Shorebirds	Migration				Present													-	Jan-Dec	-	-
	Wading	BC night-heron	Concentration Area				Present													Mar-Aug	-	-	-
	Wading	Herons	Concentration Area				Present													Jan-Dec	-	-	-
	Wading	Snowy egret	Concentration Area		T/-		Present													Mar-Aug	-	-	-
	Waterfowl	Brant	Migration				Present													-	Mar-May	Oct-Nov	-
	Waterfowl	Bufflehead	Migration				Present													-	Oct-Jun	-	-
	Waterfowl	Canada goose	Migration				Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Common goldeneye	Migration				Present													-	Nov-Apr	-	-
	Waterfowl	Mergansers	Migration				Present													-	Apr-May	Oct-Nov	-
	Waterfowl	Scaup	Migration				Present													-	Mar-Apr	Oct-Nov	-
	Waterfowl	Snow goose	Migration				Present													-	Mar-Apr	Oct-Nov	-
	Waterfowl	Waterfowl	Migration				Present													-	Jan-Dec	-	-
145	Wading	Glossy ibis	General Distribution		C/-		Present													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution		T/-		100S													Mar-Aug	-	-	-
	Wading	Little blue heron	General Distribution		C/-		Present													Apr-Aug	-	-	-
	Wading	Snowy egret	General Distribution		T/-		100S													Mar-Aug	-	-	-
	Wading	YC night-heron	General Distribution		C/-		Present													Mar-Aug	-	-	-
146	Diving	Common loon	Wintering		C/C		Present													-	-	-	-
	Raptor	Osprey	Migration		-/C		Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Killdeer	Nesting				Present													Mar-Aug	-	-	-
	Waterfowl	American black duck	Migration				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	American coot	Wintering				Present													-	-	-	-
	Waterfowl	Canada goose	Nesting				Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Canvasback	Wintering				Present													-	-	-	-
	Waterfowl	Common merganser	Wintering				Present													-	-	-	-
	Waterfowl	Hooded merganser	Wintering				Present													-	-	-	-
	Waterfowl	Mallard	Nesting				Present													-	-	-	-
	Waterfowl	Mute swan	Nesting				Present													Mar-Aug	-	-	-
	Waterfowl	Red-breasted merganser	Wintering				Present													Mar-Sep	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Mig.		Molt
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N		(S)	(F)	
147	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			10												Mar-Aug	-	-	-
	Wading	Glossy ibis	General Distribution			Present												Mar-Aug	-	-	-
	Wading	Great egret	General Distribution			8												Mar-Aug	-	-	-
	Wading	Great egret	Nesting			Present												Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution			2												Mar-Aug	-	-	-
	Wading	YC night-heron	General Distribution			Present												Mar-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution			2												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		Mar-Jun	Mar-Jun			
458	Diadromous	Alewife	Spawning Area			Common												Mar-Jun	Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Diadromous	American eel	Nursery Area			Common												-	-	Apr-Jul	Apr-Jul	Jan-Dec	Sep-Nov
500	Diadromous	Alewife	Spawning Area			Common												Mar-Jun	Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Diadromous	Alewife	Nursery Area			Common												Apr-Jul	Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
634	Diadromous	Striped bass	Nursery Area			Common												-	-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area			Common												May-Oct	May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Resident	Mummichog	Nursery Area			Common												May-Aug	May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area			Common												May-Aug	May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Diadromous	Striped bass	Nursery Area			Common												-	-	-	-	Apr-Nov	Apr-Nov
635	Estuarine Nursery	Atlantic menhaden	Nursery Area			Common												May-Oct	May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Resident	Mummichog	Nursery Area			Common												May-Aug	May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area			Common												May-Aug	May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Diadromous	Alewife	Nursery Area			Common												Apr-Jul	Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area			Common												-	-	-	-	Apr-Nov	Apr-Nov
636	Diadromous	Striped bass	Nursery Area			Common												May-Oct	May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area			Common												May-Aug	May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area			Common												May-Aug	May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area			Common												Apr-Jul	Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	Alewife	Nursery Area			Common												-	-	-	-	Apr-Nov	Apr-Nov
637	Diadromous	Atlantic menhaden	Nursery Area			Common												May-Oct	May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area			Common												May-Aug	May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Striped killifish	Nursery Area			Common												May-Aug	May-Aug	May-Aug	May-Sep	May-Nov	May-Nov
	Estuarine Nursery	Scup	Nursery Area			Common												Apr-Sep	Apr-Sep	Apr-Sep	May-Aug	Apr-Nov	Apr-Nov
	Marine Benthic	Tautog	Nursery Area			Common												Apr-Sep	Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	Occurrence	Vulnerable	Occurrence	Vulnerable	Occurrence
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N						
822	Plant	Common persimmon	Vulnerable Occurrence			150												-	-	-	-	-	-
	Plant	Slender blue flag	Vulnerable Occurrence			15												-	-	-	-	-	-
837	Plant	Slender spikerush	Vulnerable Occurrence			100S												-	-	-	-	-	-
	Wetland	Northern gamma grass	Vulnerable Occurrence			Present												-	-	-	-	-	-
838	Wetland	Northern gamma grass	Vulnerable Occurrence			Present												-	-	-	-	-	-
	Plant	Purple milkweed	Vulnerable Occurrence			40												-	-	-	-	-	-
839	Plant	Slender blue flag	Vulnerable Occurrence			50												-	-	-	-	-	-
	Plant	Slender blue flag	Vulnerable Occurrence			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
	Wetland	Northern gamma grass	Vulnerable Occurrence	-T			100S												
	Wetland	Short-fruited rush	Vulnerable Occurrence	-E			80 - 100												
840	Plant	Yellow giant hyssop	Vulnerable Occurrence	-T			Present												
841	Plant	Hyss. thoroughwort	Vulnerable Occurrence				Present												
842	Plant	Purple milkweed	Vulnerable Occurrence	C/-			40												
843	Plant	Common persimmon	Vulnerable Occurrence	C/T			100 - 150												
	Plant	Field paspalum	Vulnerable Occurrence	E/E			1000S												
844	Plant	Common persimmon	Vulnerable Occurrence	C/T			100 - 150												
	Plant	Field paspalum	Vulnerable Occurrence	E/E			1000S												
	Plant	Pennsylvania catchfly	Vulnerable Occurrence	-T			60												
845	Plant	Common persimmon	Vulnerable Occurrence	C/T			100 - 150												
	Plant	Field paspalum	Vulnerable Occurrence	E/E			1000S												
	Plant	Slender blue flag	Vulnerable Occurrence	-T			1000S												
846	Plant	Field paspalum	Vulnerable Occurrence	E/E			1000S												

INVERTEBRATES





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

MARINE MAMMALS




Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence											
1038	Pinniped	Harbor seal	Haul Out				Varies (1 - 20)	J	F	M	A	M	J	J	A	S	O	N	D

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

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										
	Diving	Common loon	General Distribution	C/C		Present													-	-	-	-						
		Common loon	General Distribution	C/C		6													-	-	-	-						
		Pied-billed grebe	General Distribution	E/T		2													-	-	-	-						
	Gull/Tern	Common tern	General Distribution	E/T		Present													May-Aug	-	-	-						
	Raptor	Peregrine falcon	General Distribution	T/E		Present													Mar-Aug	-	-	-						
	Shorebird	Piping plover	General Distribution	T/E	T	Present													Mar-Aug	-	-	-						
	Wading	BC night-heron	Nesting			Present													Mar-Aug	-	-	-						
		Egrets	Nesting			Present													Jan-Dec	-	-	-						
		Herons	Nesting			Present													Jan-Dec	-	-	-						
		Snowy egret	Nesting	T/-		Present													Mar-Aug	-	-	-						

FISH

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				
	Diadromous	Alewife				Common													Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
		American eel				Common													-	Apr-Aug	Jan-Dec	Sep-Nov
		American shad				Common													May-Jul	May-Aug	Jun-Nov	Apr-Jul
		Blueback herring			C/-	Common													May-Sep	May-Oct	Apr-Nov	Apr-Nov
	Estuarine Nursery	Striped bass				Common													-	-	Jan-Dec	Jan-Dec
		Atlantic menhaden				Abundant													May-Oct	May-Nov	Apr-Nov	Apr-Nov
		Bay anchovy				Common													May-Sep	May-Nov	Jan-Dec	Jan-Dec
		Bluefish				Common													Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
		Scup				Abundant													May-Aug	May-Aug	May-Nov	May-Nov
		Summer flounder				Common													-	-	Mar-Nov	Mar-Nov
		Weakfish				Common													May-Sep	May-Sep	Jul-Nov	May-Nov
		Windowpane				Common													Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
	Winter flounder					Common													Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside				Common													May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Marine Benthic	Nursery Area				Common													Nov-Feb	Dec-May	Jan-Dec	Jan-Dec
		Nursery Area				Common													May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Cunner				Common													May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Northern searobin				Common													-	-	Mar-Nov	Mar-Nov
		Red hake				Common													-	-	May-Oct	May-Oct
		Smooth dogfish				Common													May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Striped searobin				Common													Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
		Tautog				Common													Apr-Sep	May-Sep	Jan-Dec	Jan-Dec

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	Monthly Presence												Hatch	Internest	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/NY	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
	Crab	Blue crab				Common													May-Sep	May-Sep	Jan-Dec	Jan-Dec
		Horseshoe crab				Common													Jun-Jul	-	Jan-Dec	Jan-Dec


MARINE MAMMALS

	Subelement	Species	Mapping Qualifier	CT/NY		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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</



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	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	BC night-heron													Mar-Aug	-	-	-
	Cattle egret													Jun-Aug	-	-	-
	Green heron													Apr-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	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 shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-



FISH

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Freshwater												
	Bluegill												
	Largemouth bass												
	Pumpkinseed												

INVERTEBRATES

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Bivalve												
	Blue mussel												
	Eastern oyster												
	Northern quahog												
	Ribbed mussel												
	Softshell clam												
	Fiddler crab												

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

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	178.12	0.28
10B	Freshwater Marshes	18.07	0.03
10C	Swamps	58.59	0.09
10D	Scrub and Shrub Wetlands	11.67	0.02
9A	Sheltered Tidal Flats	179.17	0.28
7	Exposed Tidal Flats	13.56	0.02

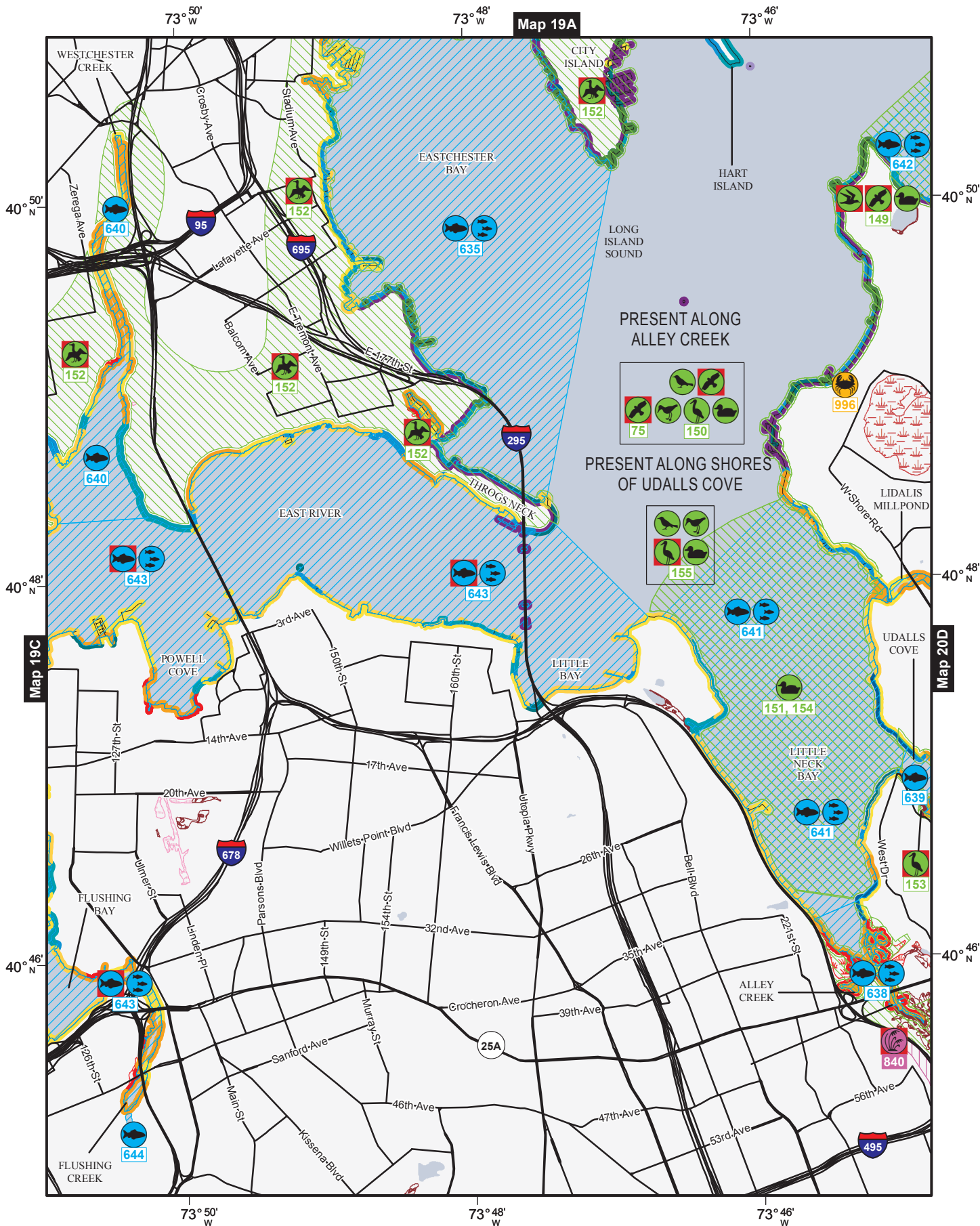
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	11,840.19	7.36	8%
10C	Swamps	136.06	0.08	< 1%
10D	Scrub and Shrub Wetlands	247.90	0.15	< 1%
9A	Sheltered Tidal Flats	16,838.90	10.46	11%
9B	Vegetated Low Banks	35,312.62	21.94	22%
8A	Sheltered, Impermeable, Rocky Shores	830.39	0.52	1%
8B	Sheltered, Solid Man-Made Structures	20,473.37	12.72	13%
8C	Sheltered Riprap	4,661.08	2.90	3%
7	Exposed Tidal Flats	518.92	0.32	< 1%
6A	Gravel Beaches	4,083.22	2.54	3%
6B	Riprap	6,321.88	3.93	4%
5	Mixed Sand and Gravel Beaches	16,971.22	10.55	11%
4	Coarse Grained Sand Beaches	4,658.76	2.89	3%
3A	Fine to Medium Grained Sand Beaches	1,661.93	1.03	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	11,984.09	7.45	8%
1A	Exposed, Rocky Shores	389.13	0.24	< 1%
1B	Exposed, Solid Man-Made Structures	20,698.54	12.86	13%
Total ESI Shoreline:		157,628.21	97.95	
Total Shoreline:		105,353.62	65.46	

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

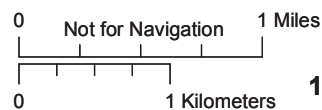




Map 19B
Long Island Sound



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 19B
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	-	-	-
149	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Raptor	Osprey	Nesting	-C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Waterfowl	Greater scaup	Wintering				Present													-	-	-	-
	Waterfowl	Lesser scaup	Wintering				Present													-	-	-	-
150	Passerine	Fish crow	Nesting				Present													Mar-Aug	-	-	-
	Passerine	Marsh wren	Nesting				Present													Apr-Aug	-	-	-
	Passerine	Passerine birds	Migration				Present													Jan-Dec	Jan-Dec	-	-
	Passerine	Red-winged blackbird	Nesting				Present													Mar-Aug	-	-	-
	Passerine	Saltmarsh sparrow	Nesting				Present													May-Aug	-	-	-
	Raptor	Northern harrier	Wintering	E/T			Present													Mar-Aug	-	-	-
	Raptor	Raptors	Migration				Present													-	Jan-Dec	-	-
	Shorebird	Killdeer	Nesting				Present													Mar-Aug	-	-	-
	Shorebird	Shorebirds	Migration				Present													-	Jan-Dec	-	-
	Wading	Green heron	Nesting				Present													Apr-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	Canada goose	Nesting				Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Canada goose	Wintering				Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Mallard	Nesting				Present													Mar-Aug	-	-	-
	Waterfowl	Mallard	Wintering				Present													Mar-Aug	-	-	-
	Waterfowl	Waterfowl	Migration				Present													-	Jan-Dec	-	-
	Waterfowl	Waterfowl	Wintering				Present													-	Jan-Dec	-	-
	Waterfowl	American black duck	Wintering				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Canvasback	Wintering				Present													-	-	-	-
151	Waterfowl	Waterfowl	Wintering				Present													-	Jan-Dec	-	-
	Diving	Common loon	General Distribution	C/C			Present													-	-	-	-
	Wading	Least bittern	General Distribution	T/T			Present													Apr-Aug	Apr	Aug-Sep	-
	Wading	Snowy egret	General Distribution	T/-			Present													Mar-Aug	-	-	-
154	Waterfowl	Common goldeneye	Wintering				Present													-	Nov-Apr	-	-
	Waterfowl	Red-breasted merganser	Wintering				Present													-	-	-	-
	Waterfowl	Scaup	Wintering				Present													-	-	-	-
	Waterfowl	Marsh wren	Concentration Area				Present													Mar-Apr	Oct-Nov	-	-
155	Passerine	Shorebirds	Migration				Present													Apr-Aug	-	-	-
	Shorebird	BC night-heron	Concentration Area				Present													-	Jan-Dec	-	-
	Wading	Green heron	Concentration Area				Present													Mar-Aug	-	-	-
	Wading	Snowy egret	Concentration Area	T/-			Present													Mar-Aug	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Eggs	Larvae	Mig. (F)	Molt
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N					
	Waterfowl	American black duck	Nesting			Present												Apr-May	Mar-Apr	Sep-Nov	-	-
	Waterfowl	Mallard	Nesting			Present												Mar-Aug	-	-	-	-
	Waterfowl	Waterfowl	Migration			Present												-	Jan-Dec	-	-	-
	Waterfowl	Wood duck	Nesting			Present												Mar-Aug	-	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier
--------	------------	---------	-------------------	-------	--	------------------	--	--	--	--	--	--	--	--	--	--	--	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------

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			

644	Diadromous	Marine Pelagic Alewife	Nursery Area Migration			Common Uncommon													Mar-Jun	Mar-Jun	May-Nov Mar-Oct	May-Nov Mar-Oct
-----	------------	---------------------------	---------------------------	--	--	--------------------	--	--	--	--	--	--	--	--	--	--	--	--	---------	---------	--------------------	--------------------

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				

840	Plant	Yellow giant hyssop	Vulnerable Occurrence	-	T	Present													-	-	-	-
-----	-------	---------------------	-----------------------	---	---	---------	--	--	--	--	--	--	--	--	--	--	--	--	---	---	---	---

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				

996	Crab	Horseshoe crab	Spawning Area			Present													May-Jun	-	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		2													-	-	-	-
	Common loon	General Distribution	C/C		6													-	-	-	-
	Pied-billed grebe	General Distribution	E/T		2													-	-	-	-
Gull/Tern	Common tern	General Distribution	E/T		Present													May-Aug	-	-	-
Raptor	Peregrine falcon	General Distribution	T/E		Present													Mar-Aug	-	-	-
Shorebird	Piping plover	General Distribution	T/E	T	Present													Mar-Aug	-	-	-
Wading	BC night-heron	Nesting			Present													Mar-Aug	-	-	-
	Egrets	Nesting			Present													Jan-Dec	-	-	-
	Herons	Nesting			Present													Jan-Dec	-	-	-
	Snowy egret	Nesting	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	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
	American eel	Migration			Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American eel	Nursery Area			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 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
	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

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				
	Scup	Nursery Area			Common												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	Jul-Nov	May-Nov
	Windowpane	Nursery Area			Common												Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area			Abundant												Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area			Common												Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside	Nursery Area			Common												May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Atlantic tomcod	Nursery Area			Common												Nov-Feb	Dec-May	Jan-Dec	Jan-Dec
	Cunner	Nursery Area			Common												May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Northern searobin	Nursery Area			Common												May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Red hake	Nursery Area			Common												-	-	Mar-Nov	Mar-Nov
	Smooth dogfish	Nursery Area			Common												-	-	May-Oct	May-Oct
	Striped searobin	Nursery Area			Common												May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Tautog	Nursery Area			Common												Apr-Sep	May-Sep	Jan-Dec	Jan-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						
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		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
				S	F		J	F	M	A	M	J	J	A	S	O	N						
	Crab	Blue crab	Nursery Area			Common												May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec	
		Horseshoe crab	Nursery Area			Common												May-Jun	Jun-Jul	-	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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	Harbor porpoise	General Distribution	C/C		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. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													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				
	Passerine	Marsh wren													Apr-Aug	-	-	-
	Wading	BC night-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													-	-	-	-
		Bufflehead													-	Oct-Jun	-	-
		Canada goose													Mar-Aug	Jan-Dec	-	-
		Canvasback													-	-	-	-
		Common goldeneye													-	Nov-Apr	-	-
		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 shoveler													Mar-Sep	-	-	-
		Red-breasted merganser													-	-	-	-
		Ring-necked duck													-	-	-	-
		Ruddy duck													-	-	-	-
		Scaup													-	-	-	-
		Surf scoter													-	Mar-Apr	Oct-Nov	-
		White-winged scoter													-	-	-	-
		Wood duck													-	Sep-May	-	-
															Mar-Aug	-	-	-


FISH

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Estuarine Nursery												
	Freshwater												
	Bluegill												
	Brown bullhead												
	Chain pickerel												
	Common carp												
	Largemouth bass												
	Pumpkinseed												
	Yellow perch												

INVERTEBRATES

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Bivalve												
	Blue mussel												
	Eastern oyster												
	Northern quahog												
	Ribbed mussel												
	Softshell clam												
	Fiddler crab												
	Green crab												
	Lady crab												
	Spider crabs												
	Grass shrimp												
	Sevenspine bay shrimp												

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

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	70.53	0.11
10B	Freshwater Marshes	15.24	0.02
10C	Swamps	116.57	0.18
10D	Scrub and Shrub Wetlands	43.37	0.07
9A	Sheltered Tidal Flats	24.64	0.04

ESI SHORELINE HABITAT TYPES

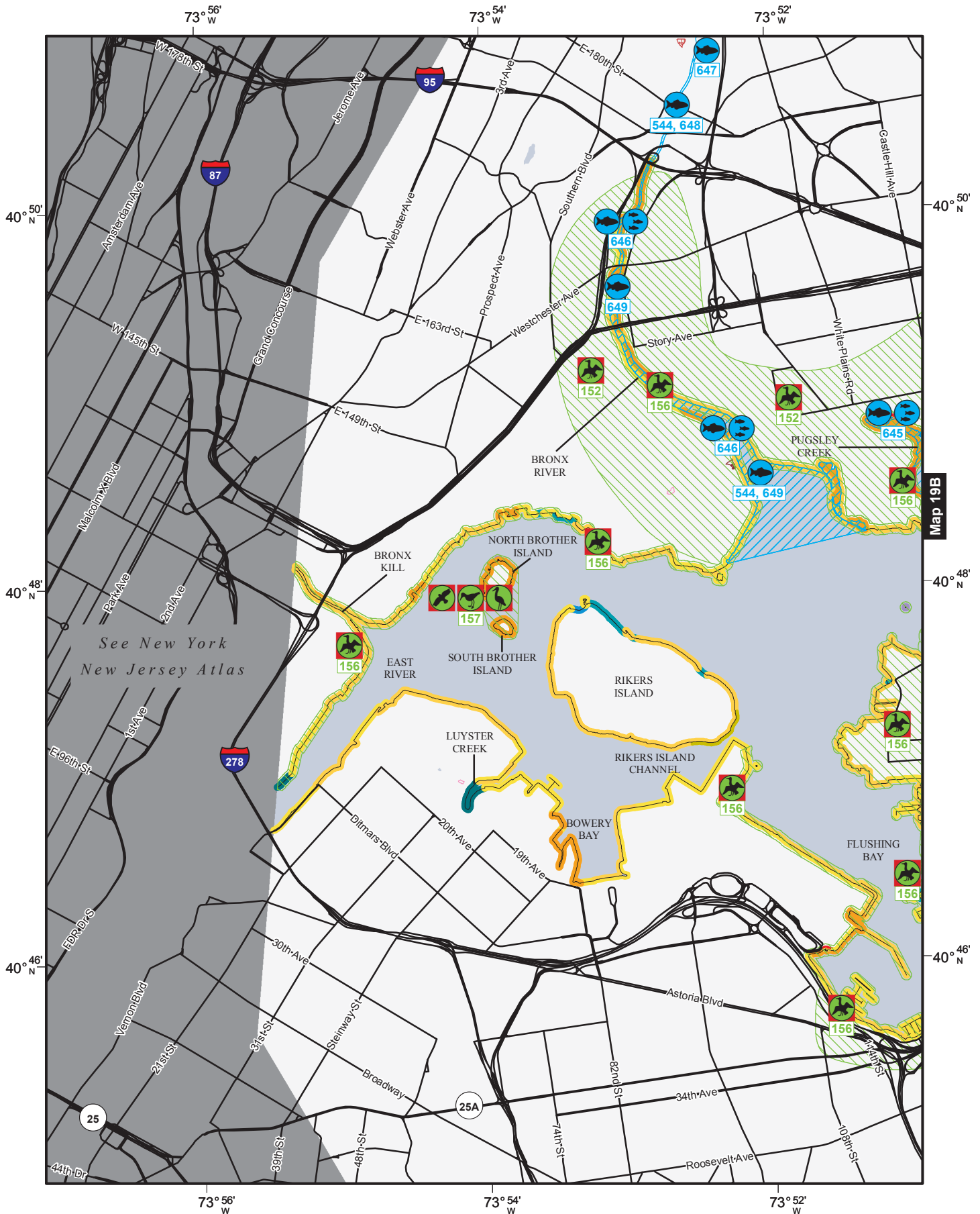
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	8,689.37	5.40	7%
10B	Freshwater Marshes	11.34	0.01	< 1%
10D	Scrub and Shrub Wetlands	836.62	0.52	1%
9A	Sheltered Tidal Flats	5,931.98	3.69	5%
9B	Vegetated Low Banks	19,780.76	12.29	15%
8B	Sheltered, Solid Man-Made Structures	27,738.39	17.24	21%
8C	Sheltered Riprap	20,533.43	12.76	16%
6A	Gravel Beaches	1,855.81	1.15	1%
6B	Riprap	6,961.74	4.33	5%
5	Mixed Sand and Gravel Beaches	10,009.64	6.22	8%
4	Coarse Grained Sand Beaches	9,241.00	5.74	7%
3A	Fine to Medium Grained Sand Beaches	1,601.23	0.99	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	43.63	0.03	< 1%
1B	Exposed, Solid Man-Made Structures	16,945.52	10.53	13%

Total ESI Shoreline: 130,180.46 Total ESI Shoreline: 80.89
 Total Shoreline: 85,923.24 Total Shoreline: 53.39

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

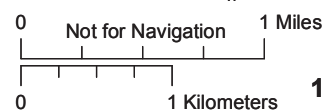




Map 19C
Long Island Sound



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 19C
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)	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
152	Diving	Common loon	General Distribution	C/C			Present													-	-	-	-	-
156	Diving	Common loon	General Distribution	C/C			2													-	-	-	-	-
157	Raptor	Barn owl	General Distribution	El-			Present													Mar-Aug	-	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			6													Mar-Aug	-	-	-	-
	Wading	Glossy ibis	General Distribution	C/-			10S													Mar-Aug	-	-	-	-
	Wading	Great egret	General Distribution	T/-			100S													Mar-Aug	-	-	-	-
	Wading	Little blue heron	General Distribution	C/-			Present													Apr-Aug	-	-	-	-
	Wading	Snowy egret	General Distribution	T/-			100S													Mar-Aug	-	-	-	-
	Wading	YC night-heron	General Distribution	C/-			10S													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					
544	Estuarine Resident	Mummichog	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
645	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-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
	Marine Benthic	Cunner	Nursery Area				Common													Apr-Sep	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area				Common													-	-	-	Apr-Nov	Apr-Nov
646	Diadromous	Striped bass	Nursery Area				Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Nursery	Winter flounder	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area				Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Marine Benthic	Cunner	Nursery Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Jan-Dec	Jan-Dec
647	Diadromous	Alewife	Spawning Area				Uncommon													Apr-Jul	Apr-Jul	May-Aug	May-Dec	Jan-Dec
	Estuarine Resident	Fourspine stickleback	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Jan-Dec	Jan-Dec
648	Diadromous	Alewife	Nursery Area				Uncommon													Apr-Jul	Apr-Jul	May-Aug	May-Dec	Jan-Dec
	Estuarine Resident	Fourspine stickleback	Nursery Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Jan-Dec	Jan-Dec
649	Diadromous	Alewife	Migration				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct

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			6													-	-	-	-
	Pied-billed grebe	General Distribution	E/T			2													-	-	-	-
 Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
 Raptor	Peregrine falcon	General Distribution	T/E			Present													Mar-Aug	-	-	-
 Shorebird	Piping plover	General Distribution	T/E			Present													Mar-Aug	-	-	-
	BC night-heron	Nesting				Present													Mar-Aug	-	-	-
 Wading	Egrets	Nesting				Present													Jan-Dec	-	-	-
	Herons	Nesting				Present													Jan-Dec	-	-	-
	Snowy egret	Nesting	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	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Atlantic sturgeon	Migration	E/-			Rare													May-Jun	May-Jun	May-Jun	Jan-Dec	Jan-Dec
	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
	Bay anchovy	Nursery Area				Abundant													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	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				Common													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
	Winter flounder	Nursery Area				Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
 Marine Benthic	Little skate	Nursery Area				Abundant													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	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	Spiny dogfish	Nursery Area				Common													-	-	-	May-Nov	May-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					
 Crab	Blue crab	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab	Nursery Area				Common													May-Jun	Jun-Jul	-	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				
	D. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	BC night-heron													Mar-Aug	-	-	-
	Cattle egret													Jun-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	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 shoveler													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-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-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Bluegill													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Brown bullhead													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													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 mussel													Apr-Oct	Apr-Oct	Apr-Oct	Jan-Dec	Jan-Dec
	Eastern oyster													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Grass shrimp													May-Oct	May-Oct	May-Oct	May-Oct	Jan-Dec
	Sevenspine bay shrimp													May-Oct	May-Oct	May-Oct	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

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	2.63	0.00
10B	Freshwater Marshes	0.97	0.00
10C	Swamps	0.92	0.00
10D	Scrub and Shrub Wetlands	0.96	0.00
9A	Sheltered Tidal Flats	22.98	0.04
7	Exposed Tidal Flats	1.90	0.00

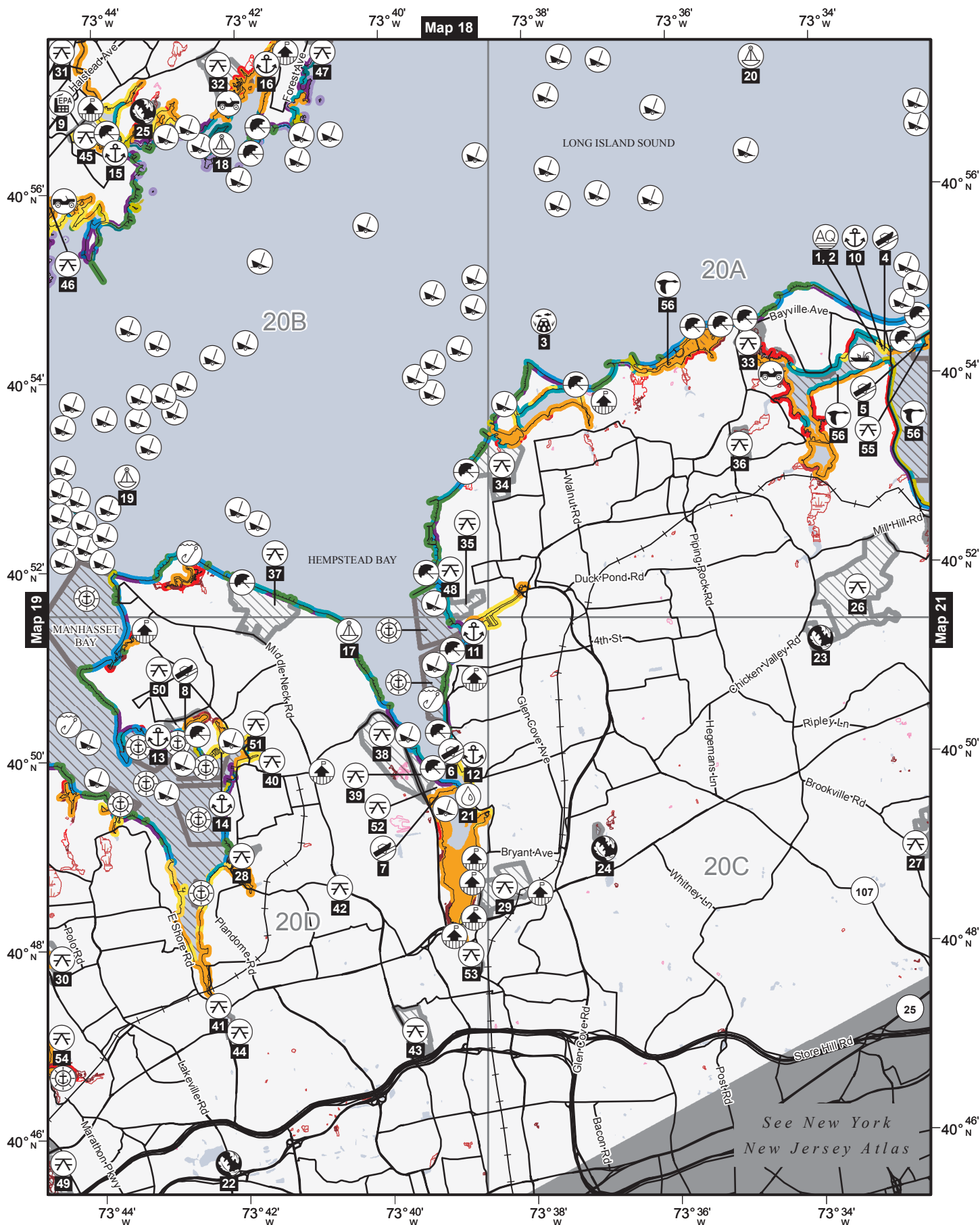
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	477.64	0.30	1%
9A	Sheltered Tidal Flats	3,684.33	2.29	5%
9B	Vegetated Low Banks	10,886.57	6.76	16%
8B	Sheltered, Solid Man-Made Structures	21,393.81	13.29	32%
8C	Sheltered Riprap	28,025.98	17.41	42%
7	Exposed Tidal Flats	629.03	0.39	1%
6A	Gravel Beaches	817.10	0.51	1%
5	Mixed Sand and Gravel Beaches	1,246.11	0.77	2%
4	Coarse Grained Sand Beaches	264.31	0.16	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	50.82	0.03	< 1%
Total ESI Shoreline:		67,475.69	41.93	
Total Shoreline:		56,044.95	34.82	

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 20
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 20
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	AQUACULTURE	TOWN OF OYSTER BAY MILL NECK CREEK (04-T)	WADE CARDEN	631-444-0481
2	AQUACULTURE	FLOWER & SONS MILL NECK CREEK (02-P)	WADE CARDEN	631-444-0481
3	ARTIFICIAL REEF	MATINECOCK REEF	NY STATE DEPARTMENT OF ENV. CONSERVATION	
4	BOAT RAMP	BRIDGE MARINA BOAT RAMP		
5	BOAT RAMP	WEST HARBOR BEACH BOAT RAMP		
6	BOAT RAMP	TAPPEN BOAT RAMP		
7	BOAT RAMP	NORTH HEMPTHEAD BEACH BOAT RAMP		
8	BOAT RAMP	MANOR HAVEN BOAT RAMP		
9	EPA FACILITY	ARCTIC GLACIER	CHRI DICARLANTONIO, PLANT MANAGER	914-698-8808
10	MARINA	BRIDGE MARINA		
11	MARINA	BREWER YACHT YARD		
12	MARINA	TAPPEN MARINA		
13	MARINA	CAPRI MARINA		
14	MARINA	TOMS POINT MARINA		
15	MARINA	HARBOR ISLAND MARINA COMPLEX		
16	MARINA	RYE CITY BOAT BASIN		
17	REPEATED MEASUREMENT SITE	MWS - LIHH	GREG PINIAK	301-713-3028
18	REPEATED MEASUREMENT SITE	MWS - LIMR	GREG PINIAK	301-713-3028
19	REPEATED MEASUREMENT SITE	STATION 44022 - EXECUTION ROCKS	JAMES B. EDSON	860-405-9165
20	REPEATED MEASUREMENT SITE	STATION 44040 - WESTERN LONG ISLAND SOUND	JAMES B. EDSON	860-405-9165
21	WATER INTAKE	KEYSPAN ENERGY GLENWOOD LANDING ENERGY CO		

DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
22	NATURE CONSERVANCY	HARBOR HILL PRESERVE	TNC NEW YORK STATE OFFICE	518-690-7850
23	NATURE CONSERVANCY	HOPE G. ISELIN PRESERVE	TNC NEW YORK STATE OFFICE	518-690-7850
24	NATURE CONSERVANCY	JAMES PRESERVE	TNC NEW YORK STATE OFFICE	518-690-7850
25	NATURE CONSERVANCY	OTTER CREEK	TNC NEW YORK STATE OFFICE	518-690-7850
26	PARK	PLANTING FIELDS ARBORETUM	CHRISTINA CROLL	518-473-7787
27	PARK	MUTTONTOWN COUNTY PRESERVE		
28	PARK	LEEDS POND COUNTY PRESERVE		
29	PARK	WILLIAM CULLEN BRYANT COUNTY PRESERVE		
30	PARK	GRIST MILL POND COUNTY PRESERVE		
31	PARK	SAXON WOODS COUNTY PARK		
32	PARK	MARSHLANDS CONSERVANCY (COUNTY PARK)		
33	PARK	MILL NECK COUNTY PRESERVE		
34	PARK	WELWYN COUNTY PRESERVE		
35	PARK	GARVIES POINT COUNTY PRESERVE		
36	PARK	BAILEY ARBORETUM COUNTY PARK		
37	PARK	SANDS POINT COUNTY PARK		
38	PARK	HEMPSTEAD HARBOR COUNTY PARK		
39	PARK	HEMPSTEAD HARBOR COUNTY BEACH		
40	PARK	BAXTER POND COUNTY PARK (UNDEVELOPED)		
41	PARK	MANHASSET VALLEY COUNTY PARK		
42	PARK	FLOWER HILL COUNTY PARK		
43	PARK	MORLEY COUNTY PARK		
44	PARK	WHITNEY POND COUNTY PARK		
45	PARK	HARBOR ISLAND PARK (MUNICIPAL)		
46	PARK	FLINT PARK (MUNICIPAL)		
47	PARK	RYE TOWN PARK (MUNICIPAL)		
48	PARK	MORGAN MEMORIAL PARK (MUNICIPAL)		
49	PARK	ALLEY POND PARK (MUNICIPAL)		
50	PARK	MANORHAVEN TOWN PARK (MUNICIPAL)		
51	PARK	MILL POND PARK (MUNICIPAL)		
52	PARK	BAR BEACH TOWN PARK (MUNICIPAL)		
53	PARK	ROSLYN POND TOWN PARK (MUNICIPAL)		
54	PARK	WATERFRONT PARK (MUNICIPAL)		
55	PARK	CENTRE ISLAND BEACH VILLAGE PARK (MUNICI		
56	WILDLIFE REFUGE	OYSTER BAY NATIONAL WILDLIFE REFUGE	MICHELLE POTTER	631-286-0485

ALSO PRESENT IN MAPPED AREA (POLYGONS)

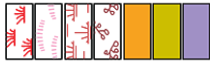
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SUMMER FLOUNDER - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLACK SEA BASS - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
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	SANDBAR SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	HEMPSTEAD HARBOR (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	LITTLE NECK BAY (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	MANHASSET BAY (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	MARSHLANDS CONSERVANCY (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	MILL NECK CREEK BEAVER BROOK AND FROST CR (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	OYSTER BAY AND COLD SPRING HARBOR (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	PROSPECT POINT (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	UDALLS COVE (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	ALLEY POND PARK (SH)	JEFFREY L. HERTER	518-486-7942
STATE PROTECTED AREA	STATE TIDAL WETLANDS NEAR LITTLE NECK BAY	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465
STATE PROTECTED AREA	STATE TIDAL WETLANDS IN UDALLS COVE PARK	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465
STATE PROTECTED AREA	STATE TIDAL WETLANDS NEAR 243RD STREET	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465

JURISDICTIONS

COUNTY:	FAIRFIELD COUNTY, NASSAU COUNTY, QUEENS COUNTY, WESTCHESTER COUNTY	FEMA:	REGION I, REGION II
COAST GUARD:	DISTRICT 1, SECTOR LONG ISLAND SOUND, SECTOR NEW YORK	EPA:	REGION 1, REGION 2
USACE:	NORTH ATLANTIC DIVISION, NEW ENGLAND DISTRICT, NEW YORK DISTRICT		

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	253.49	0.40
10B	Freshwater Marshes	39.67	0.06
10C	Swamps	254.15	0.40
10D	Scrub and Shrub Wetlands	155.72	0.24
9A	Sheltered Tidal Flats	487.53	0.76
7	Exposed Tidal Flats	63.65	0.10
2A	Exposed Wave-Cut Platforms In Bedrock	25.51	0.04



ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	33,427.77	20.77	10%
10B	Freshwater Marshes	334.56	0.21	< 1%
10C	Swamps	1,018.86	0.63	< 1%
10D	Scrub and Shrub Wetlands	8,157.95	5.07	2%
9A	Sheltered Tidal Flats	34,182.10	21.24	10%
9B	Vegetated Low Banks	70,689.35	43.92	21%
8A	Sheltered, Impermeable, Rocky Shores	403.23	0.25	< 1%
8B	Sheltered, Solid Man-Made Structures	32,970.13	20.49	10%
8C	Sheltered Riprap	3,942.52	2.45	1%
7	Exposed Tidal Flats	8,112.85	5.04	2%
6A	Gravel Beaches	6,433.36	4.00	2%
6B	Riprap	20,960.90	13.02	6%
5	Mixed Sand and Gravel Beaches	38,239.41	23.76	11%
4	Coarse Grained Sand Beaches	30,884.85	19.19	9%
3A	Fine to Medium Grained Sand Beaches	195.39	0.12	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	9,693.65	6.02	3%
1A	Exposed, Rocky Shores	787.40	0.49	< 1%
1B	Exposed, Solid Man-Made Structures	40,581.34	25.22	12%
Total ESI Shoreline:		341,015.61	211.90	
Total Shoreline:		203,371.51	126.37	

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 20A
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		Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N				
158	Waterfowl	American black duck	Wintering			Present												Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Canada goose	Wintering			Present												Mar-Aug	Jan-Dec	-	-
	Waterfowl	Canvasback	Wintering			Present												-	-	-	-
	Waterfowl	Common goldeneye	Wintering			Present												-	Nov-Apr	-	-
	Waterfowl	Greater scaup	Wintering			Present												-	-	-	-
	Waterfowl	Lesser scaup	Wintering			Present												-	-	-	-
159	Waterfowl	Waterfowl	Wintering			Present												-	Jan-Dec	-	-
	Gull/Tern	Least tern	Concentration Area	T/T		Present												Apr-Aug	-	-	-
	Waterfowl	American black duck	Wintering			Present												Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Canada goose	Wintering			Present												Mar-Aug	Jan-Dec	-	-
	Waterfowl	Canvasback	Wintering			Present												-	-	-	-
	Waterfowl	Common goldeneye	Wintering			Present												-	Nov-Apr	-	-
	Waterfowl	Greater scaup	Wintering			Present												-	-	-	-
	Waterfowl	Lesser scaup	Wintering			Present												-	-	-	-
	Waterfowl	Waterfowl	Wintering			Present												-	Jan-Dec	-	-
	Waterfowl	Waterfowl	Wintering			Present												-	-	-	-
160	Gull/Tern	Common tern	General Distribution	E/T		Present												May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		100S												Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C		10S												Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	General Distribution	T/-		2												Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		4												Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		Present												Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		10S												May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		2												Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C		10S												Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-		9												Mar-Aug	-	-	-
162	Wading	Snowy egret	General Distribution	T/-		2												Mar-Aug	-	-	-
	Raptor	Bald eagle	Nesting	T/T		Present												Feb-Aug	-	-	-
	Raptor	Osprey	Nesting	-/C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-
163	Gull/Tern	Least tern	General Distribution	T/T		10S												Apr-Aug	-	-	-
	Raptor	Northern harrier	General Distribution	E/T		Present												Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C		2												Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	General Distribution	T/-		2												Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	7												Mar-Aug	-	-	-
164	Wading	Great egret	General Distribution	T/-		5												Mar-Aug	-	-	-
	Gull/Tern	Least tern	Concentration Area	T/T		Present												Apr-Aug	-	-	-
165	Raptor	Bald eagle	General Distribution	T/T		Present												Feb-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N					
166	Raptor	Osprey	General Distribution	-C		2												Mar-Aug	Mar-Jun	Jul-Nov	-	-
	Wading	Great egret	General Distribution	T/-		10S												Mar-Aug	-	-	-	-
	Wading	Snowy egret	General Distribution	T/-		10S												Mar-Aug	-	-	-	-
167	Shorebird	Piping plover	General Distribution	T/E	T	4												Mar-Aug	-	-	-	-
168	Gull/Tern	Least tern	General Distribution	T/T		10S												Apr-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						
429	Diadromous	American eel	Nursery Area			Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
581	Freshwater	Brook trout	Nursery Area			Common												Sep-Dec	Sep-Apr	Feb-May	Jan-Dec	Jan-Dec	
637	Estuarine Nursery	Scup	Nursery Area			Common												May-Aug	May-Aug	May-Aug	May-Nov	May-Nov	
650	Marine Benthic	Tautog	Nursery Area			Common												Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov	
	Diadromous	Blueback herring	Nursery Area	C/-		Common												May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov	
	Diadromous	Striped bass	Nursery Area			Common												-	-	-	Apr-Nov	Apr-Nov	
	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	Bluefish	Nursery Area			Abundant												Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov	
	Estuarine Nursery	Northern kingfish	Nursery Area			Common												Jun-Sep	Jun-Sep	Jun-Sep	Apr-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			Abundant												Feb-May	Feb-May	Mar-Jun	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	Striped killifish	Nursery Area			Abundant												May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec		
651	Marine Benthic	American sand lance	Nursery Area			Common												Nov-Mar	Nov-Mar	Dec-Jun	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	Striped bass	Nursery Area			Common												-	-	-	Apr-Nov	Apr-Nov	
	Estuarine Nursery	Bay anchovy	Nursery Area			Abundant												May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec	
	Estuarine Nursery	Bluefish	Nursery Area			Abundant												Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov	
	Estuarine Nursery	Northern puffer	Nursery Area			Common												May-Aug	May-Aug	May-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		
	Freshwater	Rainbow smelt	Nursery Area			Uncommon												Feb-May	Feb-May	Feb-May	Feb-May	Feb-May	
	Marine Benthic	Pollock	Nursery Area	E/-		Common												-	-	Mar-Apr	Jan-Apr	Jan-Apr	
	Diadromous	American eel	Nursery Area			Common												-	-	Apr-Aug	Jan-Dec	Sep-Nov	
652	Estuarine Resident	Mummichog	Nursery Area			Common												May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec	
653	Diadromous	Alewife	Migration			Uncommon												Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct	
	Diadromous	Brown trout (sea run)	Migration			Uncommon												Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Sep-Jan	

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			
654	Estuarine Nursery	Atlantic menhaden	Nursery Area			Common												May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Diadromous	Alewife	Spawning Area			Uncommon												Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Freshwater	Brook trout	Nursery Area			Common												Sep-Dec	Feb-May	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				
847	Plant	Mitchell's sedge	Vulnerable Occurrence	-IE		Present													-	-	-	-
	Plant	Sweetbay	Vulnerable Occurrence	-IE		25													-	-	-	-
	Plant	White edge sedge	Vulnerable Occurrence	-T		20 - 40													-	-	-	-
848	Plant	Sweetbay	Vulnerable Occurrence	-IE		25													-	-	-	-

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				
999	Bivalve	Eastern oyster	Harvest Area			Low													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area			Moderate													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec

TERRESTRIAL MAMMALS

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				
1054	Small Mammal	Northern river otter	Vulnerable Occurrence			Present													-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)



BIRDS

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				
	Diving	Common loon	General Distribution	C/C		10S													-	-	-	-
		Pied-billed grebe	General Distribution	E/T		Present													-	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		Present													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-		Present													Mar-Aug	-	-	-
		Piping plover	General Distribution	T/E	T	Present													Mar-Aug	-	-	-


FISH

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				
	Diadromous	Alewife	Nursery Area			Common													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-Aug	Jun-Nov	Apr-Jul
		Blueback herring	Migration	C/-		Common													May-Sep	May-Oct	Apr-Nov	Apr-Nov
		Striped bass	Nursery Area			Common													-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Atlantic menhaden	Nursery Area			Abundant													May-Oct	May-Nov	Apr-Nov	Apr-Nov
		Bay anchovy	Nursery Area			Common													May-Sep	May-Nov	Jan-Dec	Jan-Dec




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				
	Bluefish	Nursery Area			Common												Jun-Sep	Jun-Sep	May-Nov	Apr-Nov
	Scup	Nursery Area			Abundant												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	Jul-Nov	May-Nov
	Windowpane	Nursery Area			Common												Apr-Oct	May-Nov	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area			Common												Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside	Nursery Area			Common												May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Atlantic tomcod	Nursery Area			Common												Nov-Feb	Dec-May	Jan-Dec	Jan-Dec
	Cunner	Nursery Area			Common												May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Northern searobin	Nursery Area			Common												May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Red hake	Nursery Area			Common												-	-	Mar-Nov	Mar-Nov
	Smooth dogfish	Nursery Area			Common												-	-	May-Oct	May-Oct
	Striped searobin	Nursery Area			Common												May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Tautog	Nursery Area			Common												Apr-Sep	May-Sep	Jan-Dec	Jan-Dec

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Hatch	Internet	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N						
	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		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
				S	F		J	F	M	A	M	J	J	A	S	O	N						
	Bivalve	Eastern oyster	Harvest Area			High											Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec		
		Northern quahog	Harvest Area			High											Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec		
		Softshell clam	Harvest Area			Low											Apr-Sep	Apr-Sep	Apr-Sep	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		
	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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	Harbor porpoise	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				
	D. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
	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	-	-	-
	Baltimore oriole													Apr-Aug	-	-	-
	Bank swallow													Apr-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Blue jay													Apr-Aug	Mar-May	Sep-Oct	-
	Boat-tailed grackle													Apr-Jun	-	-	-
	Carolina wren													Apr-Jul	-	-	-
	Cedar waxwing													Mar-Aug	-	-	-
	Chipping sparrow													Mar-Aug	-	-	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Eastern kingbird													Apr-Aug	-	-	-
	Eastern phoebe													May-Jul	Apr-May	Sep-Nov	-
	European starling													Mar-Aug	-	-	-
	GC flycatcher													Apr-Aug	-	-	-
	Gray catbird													Mar-Aug	-	-	-
	House sparrow													Mar-Aug	-	-	-
	Kentucky warbler													-	May	-	-
	Marsh wren													Apr-Aug	-	-	-
	Mourning dove													Mar-Aug	-	-	-
	N. r.-winged swallow													Apr-Aug	-	-	-
	Northern cardinal													Mar-Aug	-	-	-
	Northern flicker													Mar-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Red-bellied woodpecker													Mar-Aug	-	-	-
	Red-winged blackbird													Jun-Jul	Apr-May	Aug-Nov	-
	Saltmarsh sparrow													Mar-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-
	Willow flycatcher													May-Aug	-	-	-
	Yellow warbler													Apr-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				
	Pelagic	Northern gannet													-	-	-	-
	Shorebird	Black-bellied plover													-	Aug-May	-	-
		Dunlin													-	Apr-May	Oct-Nov	-
		Greater yellowlegs													-	May-Jun	Sep-Oct	-
		Killdeer													Mar-Aug	-	-	-
		Least sandpiper													-	Apr-Jun	Aug-Oct	-
		Ruddy turnstone													-	Mar-May	Aug-Nov	-
		Sanderling													-	Sep-Jun	-	-
		Semipalmated plover													-	Apr-Jun	Sep-Nov	-
		Semipalmated sandpiper													-	-	Jul-Oct	-
		Willet													Apr-Aug	-	-	-
	Wading	BC night-heron													Mar-Aug	-	-	-
		Clapper rail													Mar-Aug	-	-	-
		Green heron													Apr-Aug	-	-	-
	Waterfowl	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
		American wigeon													-	-	-	-
		Barrow's goldeneye													-	-	-	-
		Black brant													-	May	Oct	-
		Black scoter													-	-	-	-
		Bufflehead													-	Oct-Jun	-	-
		Canada goose													Mar-Aug	Jan-Dec	-	-
		Canvasback													-	-	-	-
		Common goldeneye													-	Nov-Apr	-	-
		Common merganser													-	-	-	-
		Eurasian wigeon													-	-	-	-
		Gadwall													Jan-Dec	-	-	-
		Greater scaup													-	-	-	-
		Green-winged teal													-	Mar-Apr	Sep-Oct	-
		Hooded merganser													-	-	-	-
		King eider													-	-	-	-
		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													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Jan-Dec
	Brown trout																	
	Estuarine Nursery													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Rainbow trout																	
	Freshwater													May-Jul	May-Jul	Jun-Aug	Jan-Dec	Jan-Dec
	Northern puffer																	
	Brown bullhead													May-Jun	May-Jun	May-Jul	Jan-Dec	Jan-Dec
	Common carp																	
	Largemouth bass													May-Jul	May-Jul	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													Apr-Oct	Apr-Oct	Apr-Oct	Jan-Dec	Jan-Dec
	Blue mussel																	
	Cephalopod													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Ribbed mussel																	
	Crab													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Longfin squid																	
	Fiddler crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Blue crab																	
	Green crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Lady crab													Mar-Sep	Mar-Sep	May-Oct	Jan-Dec	Jan-Dec
	Spider crabs													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Shrimp													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Grass 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																
	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	99.70	0.16
10B	Freshwater Marshes	3.91	0.01
10C	Swamps	132.79	0.21
10D	Scrub and Shrub Wetlands	43.70	0.07
9A	Sheltered Tidal Flats	120.73	0.19
7	Exposed Tidal Flats	28.89	0.05

ESI SHORELINE HABITAT TYPES

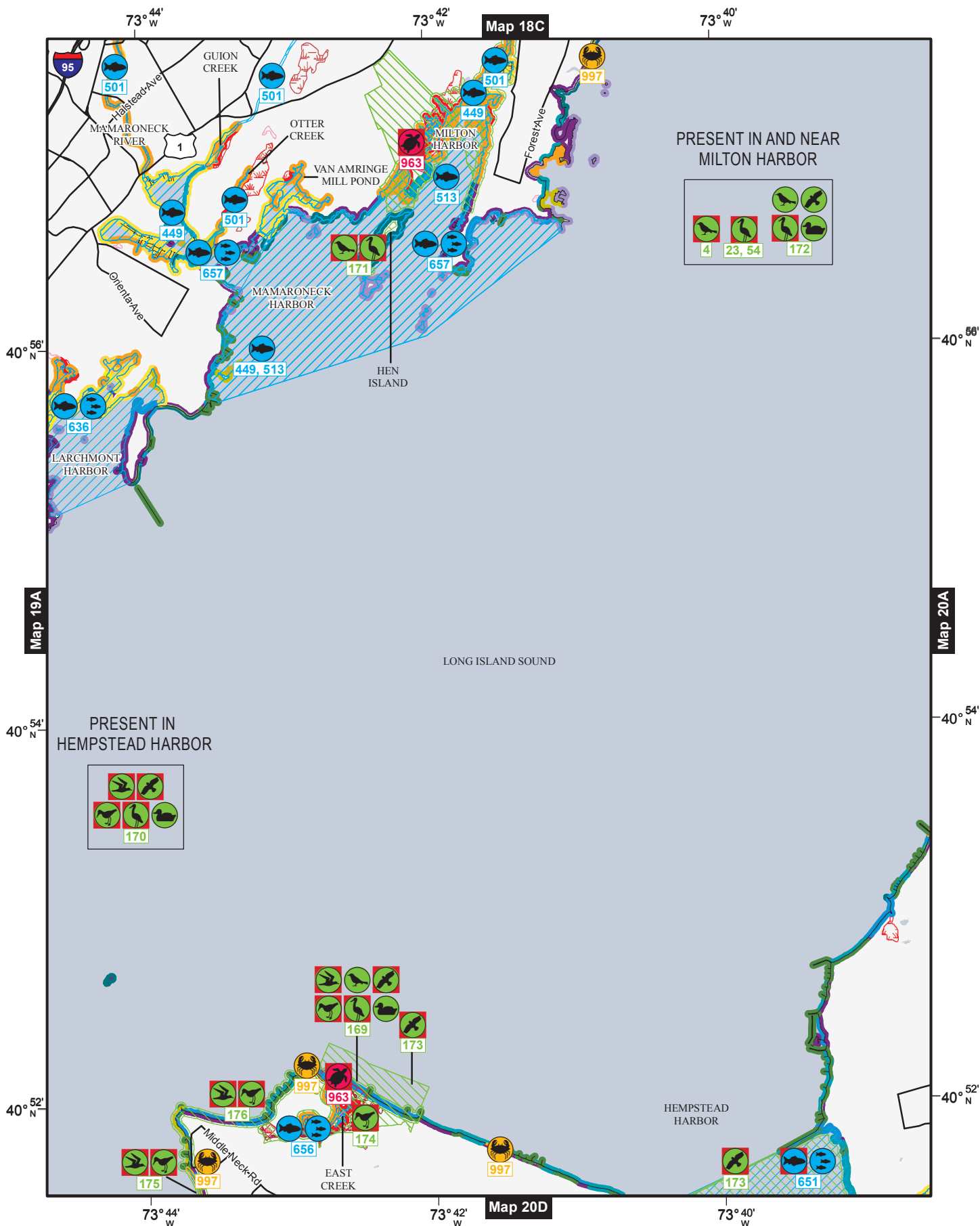
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	16,927.73	10.52	17%
10C	Swamps	871.29	0.54	1%
10D	Scrub and Shrub Wetlands	726.71	0.45	1%
9A	Sheltered Tidal Flats	10,776.33	6.70	11%
9B	Vegetated Low Banks	25,995.81	16.15	27%
8A	Sheltered, Impermeable, Rocky Shores	114.57	0.07	< 1%
8B	Sheltered, Solid Man-Made Structures	3,507.24	2.18	4%
8C	Sheltered Riprap	647.21	0.40	1%
7	Exposed Tidal Flats	3,939.20	2.45	4%
6B	Riprap	3,580.35	2.22	4%
5	Mixed Sand and Gravel Beaches	15,243.49	9.47	16%
4	Coarse Grained Sand Beaches	7,914.04	4.92	8%
1B	Exposed, Solid Man-Made Structures	6,561.81	4.08	7%

Total ESI Shoreline: 96,805.79 Total ESI Shoreline: 60.15
Total Shoreline: 53,213.99 Total Shoreline: 33.07

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 20B
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	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
4	Passerine	Seaside sparrow	General Distribution	T/C			Present													May-Aug	-	-	-
23	Wading	Least bittern	General Distribution	T/T			Present													Apr-Aug	Apr	Aug-Sep	-
54	Wading	YC night-heron	General Distribution	C/-			Present													Mar-Aug	-	-	-
169	Gull/Tern	Common tern	Concentration Area	E/T			Present													May-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Passerine	Barn Swallow	Nesting				Present													Apr-Aug	-	-	-
	Passerine	Belted kingfisher	Nesting				Present													Mar-Aug	-	-	-
	Passerine	Red-winged blackbird	Nesting				Present													Mar-Aug	-	-	-
	Passerine	Saltmarsh sparrow	Nesting				Present													May-Aug	-	-	-
	Passerine	Tree swallow	Nesting				Present													Mar-Aug	-	-	-
	Raptor	Eastern screech owl	Nesting				Present													Jan-Apr	-	-	-
	Raptor	Osprey	Nesting	-C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	Nesting	T/-			Present													Mar-Aug	-	-	-
	Shorebird	Black-bellied plover	Migration				Present													-	Aug-May	-	-
	Shorebird	Dunlin	Migration				Present													-	Apr-May	Oct-Nov	-
	Shorebird	Greater yellowlegs	Migration				Present													-	May-Jun	Sep-Oct	-
	Shorebird	Least sandpiper	Migration				Present													-	Apr-Jun	Aug-Oct	-
	Shorebird	Lesser yellowlegs	Migration				Present													-	Apr-Jun	Aug-Oct	-
	Shorebird	Piping plover	Nesting	T/E			Present													Mar-Aug	-	-	-
	Shorebird	Red knot	Migration	T			Present													-	May-Jun	Sep-Nov	-
	Shorebird	Ruddy turnstone	Migration				Present													-	Mar-May	Aug-Nov	-
	Shorebird	Sanderling	Migration				Present													-	Sep-Jun	-	-
	Shorebird	Semipalmated plover	Migration				Present													-	Apr-Jun	Sep-Nov	-
	Shorebird	Semipalmated sandpiper	Concentration Area				Present													-	-	Jul-Oct	-
	Shorebird	Shorebirds	Migration				Present													-	Jan-Dec	-	-
	Shorebird	Short-billed dowitcher	Migration				Present													-	-	Aug-Oct	-
	Shorebird	Spotted sandpiper	Migration				Present													-	Apr-Jun	Jul-Oct	-
	Wading	BC night-heron	Concentration Area				Present													Mar-Aug	-	-	-
	Wading	Great blue heron	Concentration Area				Present													Mar-Aug	-	-	-
	Wading	Great egret	Concentration Area	T/-			Present													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			5													Mar-Aug	-	-	-
	Wading	Green heron	Nesting				Present													Apr-Aug	-	-	-
	Wading	Little blue heron	Concentration Area	C/-			Present													Apr-Aug	-	-	-
	Wading	Snowy egret	Concentration Area	T/-			Present													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			8													Mar-Aug	-	-	-
	Waterfowl	American black duck	Wintering				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Canada goose	Nesting				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				
170	Waterfowl	Greater scaup	Wintering			Present												-	-	-	-
	Waterfowl	Lesser scaup	Wintering			Present												-	-	-	-
	Waterfowl	Mallard	Nesting			Present												Mar-Aug	-	-	-
	Waterfowl	Mallard	Wintering			Present												Mar-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering			Present												-	Jan-Dec	-	-
	Gull/Tern	Black skimmer	Vulnerable Occurrence	-/C		Present												Mar-Aug	-	-	-
	Gull/Tern	Black tern	Wintering			Present												-	-	Jul-Sep	-
	Gull/Tern	Common tern	Vulnerable Occurrence	E/T		Present												May-Aug	-	-	-
	Gull/Tern	Least tern	Vulnerable Occurrence	T/T		Present												Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	Vulnerable Occurrence	E/E E		Present												May-Aug	-	-	-
	Raptor	Northern harrier	Vulnerable Occurrence	E/T		Present												Mar-Aug	-	-	-
	Raptor	Osprey	Nesting	-/C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	Vulnerable Occurrence	T/E T		Present												Mar-Aug	-	-	-
	Wading	BC night-heron	Vulnerable Occurrence			Present												Mar-Aug	-	-	-
	Wading	Great egret	Vulnerable Occurrence	T/-		Present												Mar-Aug	-	-	-
	Wading	Green heron	Vulnerable Occurrence			Present												Apr-Aug	-	-	-
	Wading	Herons	Concentration Area			Present												Jan-Dec	Jan-Dec	-	-
	Wading	Snowy egret	Vulnerable Occurrence	T/-		Present												Mar-Aug	-	-	-
	Waterfowl	American black duck	Wintering			Present												Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Greater scaup	Wintering			Present												-	-	-	-
171	Waterfowl	Lesser scaup	Wintering			Present												-	Jan-Dec	-	-
	Waterfowl	Waterfowl	Migration			Present												-	Jan-Dec	-	-
	Waterfowl	Waterfowl	Wintering			Present												-	Jan-Dec	-	-
	Passerine	Seaside sparrow	General Distribution	T/C		Present												May-Aug	-	-	-
	Wading	Least bittern	General Distribution	T/T		Present												Apr-Aug	Apr	Aug-Sep	-
	Wading	YC night-heron	General Distribution	C/-		Present												Mar-Aug	-	-	-
	Passerine	Fish crow	Nesting			Present												Mar-Aug	-	-	-
	Passerine	Marsh wren	Nesting			Present												Apr-Aug	-	-	-
	Passerine	Passerine birds	Migration			Present												Jan-Dec	Jan-Dec	-	-
	Raptor	Raptors	Migration			Present												-	Jan-Dec	-	-
172	Wading	Clapper rail	Nesting			Present												Mar-Aug	-	-	-
	Wading	Green heron	Nesting			Present												Apr-Aug	-	-	-
	Wading	Herons	Migration			Present												Jan-Dec	Jan-Dec	-	-
	Wading	YC night-heron	Nesting	C/-		Present												Mar-Aug	-	-	-
	Waterfowl	American black duck	Nesting			Present												Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Canada goose	Nesting			Present												Mar-Aug	Jan-Dec	-	-
	Waterfowl	Mallard	Nesting			Present												Mar-Aug	-	-	-
	Waterfowl	Waterfowl	Migration			Present												-	Jan-Dec	-	-
	Raptor	Osprey	General Distribution	-/C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Red knot	General Distribution	T		Present												-	May-Jun	Sep-Nov	-
173	Waterfowl	Greater scaup	Wintering			Present												-	-	-	-
	Waterfowl	Lesser scaup	Wintering			Present												-	-	-	-
	Waterfowl	Mallard	Nesting			Present												Mar-Aug	-	-	-
	Waterfowl	Mallard	Wintering			Present												Mar-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering			Present												-	Jan-Dec	-	-
174	Gull/Tern	Black skimmer	Vulnerable Occurrence	-/C		Present												Mar-Aug	-	-	-
	Gull/Tern	Black tern	Wintering			Present												-	-	Jul-Sep	-
	Gull/Tern	Common tern	Vulnerable Occurrence	E/T		Present												May-Aug	-	-	-
	Gull/Tern	Least tern	Vulnerable Occurrence	T/T		Present												Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	Vulnerable Occurrence	E/E E		Present												May-Aug	-	-	-
175	Raptor	Northern harrier	Vulnerable Occurrence	E/T		Present												Mar-Aug	-	-	-
	Raptor	Osprey	Nesting	-/C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	Vulnerable Occurrence	T/E T		Present												-	-	-	-
	Wading	BC night-heron	Vulnerable Occurrence			Present												Mar-Aug	-	-	-
	Wading	Great egret	Vulnerable Occurrence	T/-		Present												Mar-Aug	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N					
176	Gull/Tern	Least tern	General Distribution	T/T		100S												Apr-Aug	-	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	8												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						
449	Diadromous	Alewife	Nursery Area			Common													Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
501	Diadromous	Alewife	Spawning Area			Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
513	Estuarine Resident	Striped killifish	Nursery Area			Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
636	Diadromous	Striped bass	Nursery Area			Common													-	-	-	Apr-Nov	Apr-Nov
	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
	Estuarine Resident	Striped killifish	Nursery Area			Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
651	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	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	Bluefish	Nursery Area			Abundant													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Northern kingfish	Nursery Area			Common													Jun-Sep	Jun-Sep	Jun-Sep	Apr-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			Abundant													Feb-May	Feb-May	Mar-Jun	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	Striped killifish	Nursery Area			Abundant													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
	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
656	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
	Marine Benthic	Tautog	Nursery Area			Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
657	Diadromous	Striped bass	Nursery Area			Common													-	-	-	Apr-Nov	Apr-Nov
	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





REPTILES & AMPHIBIANS

Map ID	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						
963	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-		Present													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec







INVERTEBRATES

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						
997	Crab	Horseshoe crab	Spawning Area			Present													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec


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			6													-	-	-	-
	Common loon	General Distribution	C/C			10S													-	-	-	-
	Pied-billed grebe	General Distribution	E/T			Present													-	-	-	-
	Pied-billed grebe	General Distribution	E/T			2													-	-	-	-
	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
	Peregrine falcon	General Distribution	T/E			Present													Mar-Aug	-	-	-
	American oystercatcher	General Distribution	T/-			Present													Mar-Aug	-	-	-
	Piping plover	General Distribution	T/E			Present													Mar-Aug	-	-	-
	BC night-heron	Nesting				Present													Mar-Aug	-	-	-
	Egrets	Nesting				Present													Jan-Dec	-	-	-
	Herons	Nesting				Present													Jan-Dec	-	-	-
	Snowy egret	Nesting	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
	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
	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
	Winduppane	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
	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
	Cunner	Nursery Area				Common													May-Aug	May-Aug	May-Aug	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
	Smooth dogfish	Nursery Area				Common													-	-	-	May-Oct	May-Oct
	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

REPTILES & AMPHIBIANS

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					
	Turtle																-	-	-	Jun-Nov	-
	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						
	Bivalve	Eastern oyster	Harvest Area			Low											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		
		Softshell clam	Harvest Area			Low											Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec		
	Crab	Blue crab	Nursery Area			Common											May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec		
		Horseshoe crab	Nursery Area			Common											May-Jun	Jun-Jul	-	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					
	Dolphin																				
	Harbor porpoise	General Distribution	C/C		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. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	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	-
	American goldfinch													Mar-Aug	-	-	-
	American robin													Mar-Aug	-	-	-
	Bank swallow													Apr-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Belted kingfisher													Mar-Aug	-	-	-
	Blue jay													Apr-Aug	Mar-May	Sep-Oct	-
	Cedar waxwing													Mar-Aug	-	-	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Eastern kingbird													Apr-Aug	-	-	-
	Eastern towhee													Mar-Aug	-	-	-
	Marsh wren													Apr-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				
	Mourning dove													Mar-Aug	-	-	-
	N. r.-winged swallow													Apr-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Red-winged blackbird													Mar-Aug	-	-	-
	RT hummingbird													Apr-Aug	-	-	-
	Saltmarsh sparrow													May-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Willow flycatcher													May-Aug	-	-	-
	Yellow warbler													Apr-Aug	-	-	-
	Northern gannet													-	-	-	-
	Black-bellied plover													-	Aug-May	-	-
	Dunlin													-	Apr-May	Oct-Nov	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Least sandpiper													-	Apr-Jun	Aug-Oct	-
	Lesser yellowlegs													-	Apr-Jun	Aug-Oct	-
	Sanderling													-	Sep-Jun	-	-
	Semipalmated plover													-	Apr-Jun	Sep-Nov	-
	Semipalmated sandpiper													-	-	Jul-Oct	-
	Short-billed dowitcher													-	-	Aug-Oct	-
	Spotted sandpiper													-	Apr-Jun	Jul-Oct	-
	BC night-heron													Mar-Aug	-	-	-
	Clapper rail													Mar-Aug	-	-	-
	Great blue heron													Mar-Aug	-	-	-
	Green heron													Apr-Aug	-	-	-
	Virginia rail													Mar-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Barrow's goldeneye													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	King eider													-	-	-	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-

BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Eggs	Larvae	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																-	-	-
	Ring-necked duck																-	-	-
	Ruddy duck																-	-	-
	Scaup																-	-	-
	Scoters																-	-	-
	Surf scoter																-	-	-
	White-winged scoter																-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Northern puffer													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					
	Blue mussel													Apr-Oct	Apr-Oct	Apr-Oct	Jan-Dec	Jan-Dec
	Northern quahog													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
	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

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	104.58	0.16
10B	Freshwater Marshes	3.84	0.01
10C	Swamps	21.80	0.03
10D	Scrub and Shrub Wetlands	17.92	0.03
9A	Sheltered Tidal Flats	74.36	0.12
7	Exposed Tidal Flats	20.02	0.03
2A	Exposed Wave-Cut Platforms In Bedrock	25.52	0.04

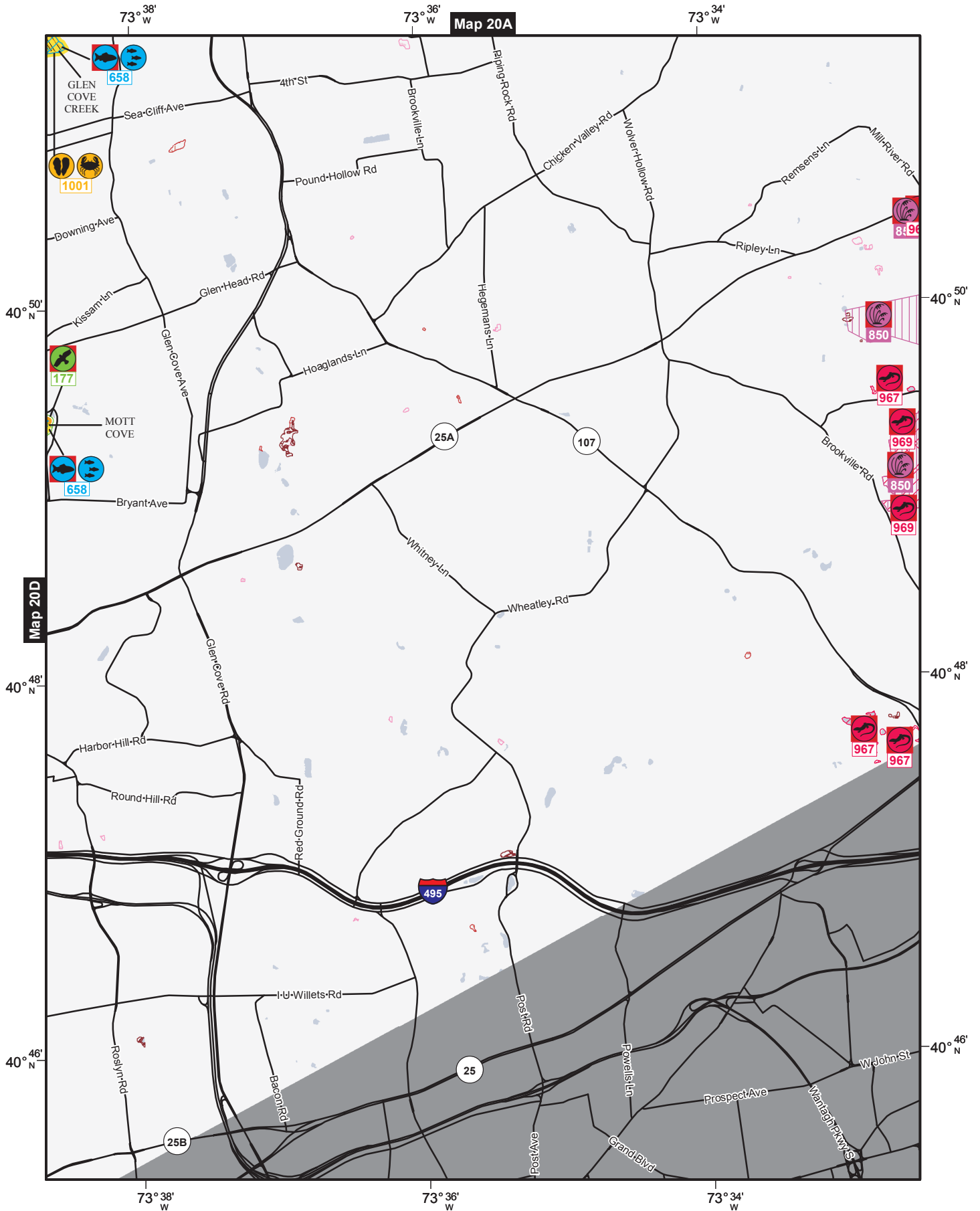
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	11,644.54	7.24	9%
10B	Freshwater Marshes	49.33	0.03	< 1%
10C	Swamps	15.91	0.01	< 1%
10D	Scrub and Shrub Wetlands	860.37	0.53	1%
9A	Sheltered Tidal Flats	9,343.38	5.81	7%
9B	Vegetated Low Banks	21,586.21	13.41	17%
8A	Sheltered, Impermeable, Rocky Shores	288.66	0.18	< 1%
8B	Sheltered, Solid Man-Made Structures	14,012.63	8.71	11%
8C	Sheltered Riprap	1,927.05	1.20	1%
7	Exposed Tidal Flats	2,355.61	1.46	2%
6A	Gravel Beaches	6,370.13	3.96	5%
6B	Riprap	12,861.91	7.99	10%
5	Mixed Sand and Gravel Beaches	9,937.92	6.18	8%
4	Coarse Grained Sand Beaches	9,642.69	5.99	7%
3A	Fine to Medium Grained Sand Beaches	199.57	0.12	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	9,694.34	6.02	7%
1A	Exposed, Rocky Shores	787.40	0.49	1%
1B	Exposed, Solid Man-Made Structures	18,464.24	11.47	14%
Total ESI Shoreline:		130,041.92	80.80	
Total Shoreline:		79,807.87	49.59	

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 20C 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 20C
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				
177	Raptor	Peregrine falcon	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					
658	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	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	Bluefish	Nursery Area				Abundant													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Estuarine Nursery	Northern kingfish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Apr-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	Windowpane	Nursery Area				Common													Apr-Oct	Apr-Oct	May-Nov	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				Common													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	Striped killifish	Nursery Area				Abundant													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
	Marine Benthic	Atlantic tomcod	Nursery Area				Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	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

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						
850	Plant	Arrowhead rattiebox	Vulnerable Occurrence	-/E		1000														-				-
	Plant	Common persimmon	Vulnerable Occurrence	C/T		Present														-				-
	Plant	H. sm-leaf ticktrefoil	Vulnerable Occurrence	-/T		1000S														-				-
	Plant	Smartweed dodder	Vulnerable Occurrence	-/E		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					
967	Amphibian	Rare amphibian	Vulnerable Occurrence	-E		Present												Mar-Apr	May	-	Jan-Dec	Jan-Dec
968	Amphibian	Eastern spadefoot	Vulnerable Occurrence	E/C		Present												Apr-Jun	Apr-Jun	-	Jan-Dec	Jan-Dec
	Amphibian	Rare amphibian	Vulnerable Occurrence	-E		Present												Mar-Apr	May	-	Jan-Dec	Jan-Dec
969	Amphibian	Eastern spadefoot	Vulnerable Occurrence	E/C		Present												Apr-Jun	Apr-Jun	-	Jan-Dec	Jan-Dec

INVERTEBRATES

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						
1001	Bivalve	Eastern oyster	Harvest Area			Low												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	
	Bivalve	Softshell clam	Harvest Area			Low												Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec	
	Crab	Horseshoe crab	Nursery Area			Common												May-Jun	Jun-Jul	-	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					
 Diving	Common loon	General Distribution	C/C		10S												-	-	-		
	Pied-billed grebe	General Distribution	E/T		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				
	D. crested cormorant													Mar-Aug	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American wigeon													-	-	-	-
	Barrow's goldeneye													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	King eider												-	-	-	-	-

BIRDS (continued)

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

FISH

		Monthly Presence																
Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Estuarine Nursery													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec

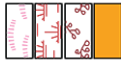
INVERTEBRATES

		Monthly Presence																
Subelement	Species													Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve													Apr-Oct	Apr-Oct	Apr-Oct	Jan-Dec	Jan-Dec
	Blue mussel													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Crab													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
	Ribbed mussel													Mar-Sep	Mar-Sep	Mar-Sep	Jan-Dec	Jan-Dec
	Blue crab													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Green crab													May-Sep	May-Sep	May-Sep	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

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	8.50	0.01
10C	Swamps	5.35	0.01
10D	Scrub and Shrub Wetlands	11.51	0.02
9A	Sheltered Tidal Flats	0.24	0.00



ESI SHORELINE HABITAT TYPES

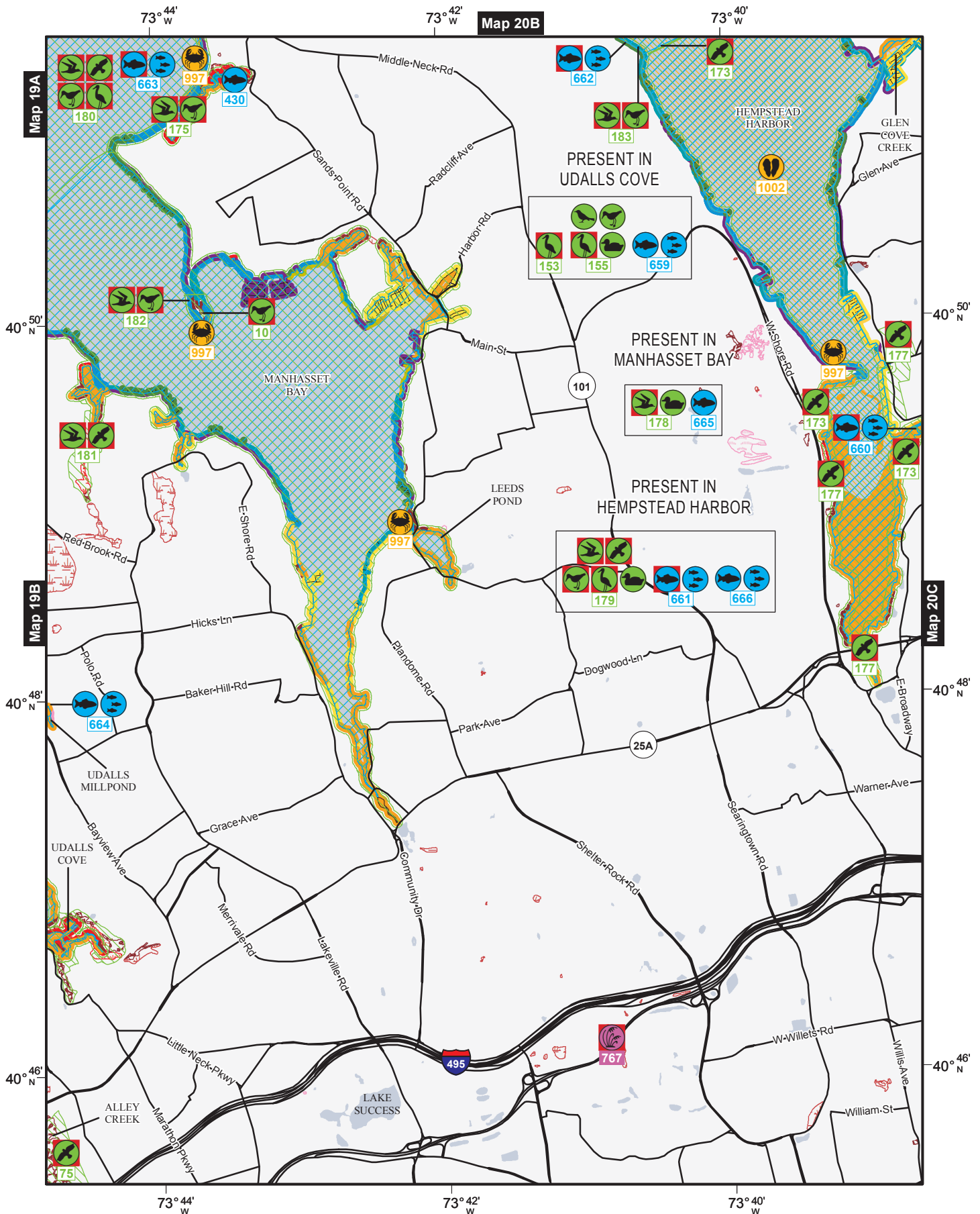
<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
9A	Sheltered Tidal Flats	226.21	0.14	16%
8B	Sheltered, Solid Man-Made Structures	1,174.98	0.73	82%
5	Mixed Sand and Gravel Beaches	35.99	0.02	3%

Total ESI Shoreline: 1,437.18 Total ESI Shoreline: 0.89
 Total Shoreline: 1,210.97 Total Shoreline: 0.75

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 20D

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 20D
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	-	-	-
75	Raptor	Northern harrier	General Distribution	E/T			Present													Mar-Aug	-	-	-
153	Wading	Least bittern	General Distribution	T/T			Present													Apr-Aug	Apr	Aug-Sep	-
155	Wading	Snowy egret	General Distribution	T/-			Present													Mar-Aug	-	-	-
	Passerine	Marsh wren	Concentration Area				Present													Apr-Aug	-	-	-
	Shorebird	Shorebirds	Migration				Present													-	Jan-Dec	-	-
	Wading	BC night-heron	Concentration Area				Present													Mar-Aug	-	-	-
	Wading	Green heron	Concentration Area				Present													Apr-Aug	-	-	-
	Wading	Snowy egret	Concentration Area	T/-			Present													Mar-Aug	-	-	-
	Waterfowl	American black duck	Nesting				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	Mallard	Nesting				Present													Mar-Aug	-	-	-
	Waterfowl	Waterfowl	Migration				Present													-	Jan-Dec	-	-
	Waterfowl	Wood duck	Nesting				Present													Mar-Aug	-	-	-
173	Raptor	Osprey	General Distribution	-C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
175	Gull/Tern	Common tern	General Distribution	E/T			4													May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			2													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			2													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		4													Mar-Aug	-	-	-
177	Raptor	Peregrine falcon	General Distribution	T/E			Present													Mar-Aug	-	-	-
178	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Waterfowl	Canvasback	Wintering				Present													-	-	-	-
	Gull/Tern	Black skimmer	Vulnerable Occurrence	-C			Present													Mar-Aug	-	-	-
	Gull/Tern	Black tern	Wintering				Present													-	-	Jul-Sep	-
179	Gull/Tern	Common tern	Vulnerable Occurrence	E/T			Present													May-Aug	-	-	-
	Gull/Tern	Least tern	Vulnerable Occurrence	T/T			Present													Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	Vulnerable Occurrence	E/E	E		Present													May-Aug	-	-	-
	Raptor	Northern harrier	Vulnerable Occurrence	E/T			Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	Vulnerable Occurrence	T/E	T		Present													Mar-Aug	-	-	-
	Wading	BC night-heron	Vulnerable Occurrence				Present													Mar-Aug	-	-	-
	Wading	Great egret	Vulnerable Occurrence	T/-			Present													Mar-Aug	-	-	-
	Wading	Green heron	Vulnerable Occurrence				Present													Apr-Aug	-	-	-
	Wading	Herons	Concentration Area				Present													Jan-Dec	Jan-Dec	-	-
	Wading	Snowy egret	Vulnerable Occurrence	T/-			Present													Mar-Aug	-	-	-
	Waterfowl	Waterfowl	Migration				Present													-	Jan-Dec	-	-
180	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
	Raptor	Peregrine falcon	General Distribution	T/E			Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution				Present													Mar-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				
	Wading	BC night-heron	Nesting				Present													Mar-Aug	-	-	-
	Wading	Egrets	Nesting				Present													Jan-Dec	-	-	-
	Wading	Herons	Nesting				Present													Jan-Dec	-	-	-
	Wading	Snowy egret	Nesting				Present													Mar-Aug	-	-	-
181	Gull/Tern	Least tern	General Distribution				Present													Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution				Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Gull/Tern	Least tern	General Distribution				Present													Apr-Aug	-	-	-
182	Shorebird	American oystercatcher	General Distribution				2													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution				4													Mar-Aug	-	-	-
183	Gull/Tern	Least tern	General Distribution				Present													Apr-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					
430	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
659	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Apr-Nov	Apr-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
660	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	Atlantic menhaden	Nursery Area				Common													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-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 Resident	Atlantic silverside	Nursery Area				Common													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
661	Marine Benthic	Striped searobin	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	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	Atlantic menhaden	Nursery Area				Common													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
662	Estuarine Resident	Grubby	Nursery Area				Common													Dec-Apr	Dec-Apr	Jan-May	Jan-Dec	Jan-Dec
	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
	Diadromous	Striped bass	Nursery Area				Common													-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bay anchovy	Nursery Area				Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Nursery Area				Common													Jun-Sep	Jun-Sep	Jun-Sep	Apr-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

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Mapping Qualifier	Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D									
663	Estuarine Nursery	Winter flounder	Nursery Area															Common				Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area															Common				Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
	Marine Benthic	Cunner	Nursery Area															Common				May-Aug	May-Aug	May-Aug	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	Smooth dogfish	Nursery Area															Common				-	-	-	May-Oct	May-Oct
	Marine Benthic	Tautog	Nursery Area															Common				Apr-Sep	Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
	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
	Diadromous	Striped bass	Nursery Area															Common				-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bay anchovy	Nursery Area															Common				May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Bluefish	Nursery Area															Common				Jun-Sep	Jun-Sep	Jun-Sep	May-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
	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
	Estuarine Resident	Atlantic silverside	Nursery Area															Common				May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
664	Marine Benthic	Atlantic tomcod	Nursery Area															Common				Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
	Marine Benthic	Cunner	Nursery Area															Common				May-Aug	May-Aug	May-Aug	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	Smooth dogfish	Nursery Area															Common				-	-	-	May-Oct	May-Oct
	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	Jan-Dec	Jan-Dec
	Diadromous	Alewife	Nursery Area															Common				Apr-Jul	Apr-Jul	Apr-Jul	Apr-Nov	Apr-Nov
	Diadromous	Striped bass	Nursery Area															Abundant				-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Weakfish	Nursery Area															Common				May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
665	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
	Diadromous	Striped bass	Nursery Area															Abundant				-	-	-	Apr-Nov	Apr-Nov
	Estuarine Resident	Atlantic silverside	Nursery Area															Abundant				May-Aug	May-Aug	May-Aug	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	Striped searobin	Nursery Area															Common				May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Marine Benthic	Atlantic silverside	Nursery Area															Common				May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	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												Concentration	S	F	Mapping Qualifier	Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D									
767	Plant	White edge sedge	Vulnerable Occurrence															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				
997	Crab	Horseshoe crab	Spawning Area			Present												May-Jun	-	Jan-Dec	Jan-Dec
1002	Bivalve	Eastern oyster	Harvest Area			Low												Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area			Moderate												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		6													-	-	-	-
	Common loon	General Distribution	C/C		10S													-	-	-	-
	Common loon	General Distribution	C/C		2													-	-	-	-
	Pied-billed grebe	General Distribution	E/T		2													-	-	-	-
	Pied-billed grebe	General Distribution	E/T		Present													-	-	-	-
	Osprey	Nesting	-/C		Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	American black duck	Wintering			Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl				Present													-	-	-	-
	Greater scaup	Wintering			Present													-	-	-	-
	Lesser scaup	Wintering			Present													-	-	-	-
	Waterfowl	Wintering			Present													-	Jan-Dec	-	-


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					
	Estuarine Nursery																	May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Atlantic menhaden	Nursery Area			Abundant													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Bay anchovy	Nursery Area			Abundant													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Bluefish	Nursery Area			Abundant													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
	Northern kingfish	Nursery Area			Common													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Scup	Nursery Area			Common													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Winter flounder	Nursery Area			Abundant													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Mummichog	Nursery Area			Abundant													Apr-Aug	-	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish	Nursery Area			Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Striped killifish	Nursery Area			Abundant													Nov-Mar	Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec
	American sand lance	Nursery Area			Common													Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Atlantic tomcod	Nursery Area			Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Tautog	Nursery Area			Common																	

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																	-	-	-	Jun-Nov	-
	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		Monthly Presence												Eggs	Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N				
	Crab	Blue crab	Nursery Area			Common											May-Sep	May-Sep	Jan-Dec	Jan-Dec	
		Horseshoe crab	Nursery Area			Common											May-Jun	Jun-Jul	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			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				
	D. crested cormorant													Mar-Aug	-	-	-
	Great cormorant													-	-	-	-
	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	-
	Marsh wren													Apr-Aug	-	-	-
	Northern gannet													-	-	-	-
	BC night-heron													Mar-Aug	-	-	-
	Green heron													Apr-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American coot													-	-	-	-
	American wigeon													-	-	-	-
	Barrow's goldeneye													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	Bufflehead													-	Oct-Jun	-	-
	Canada goose													Mar-Aug	Jan-Dec	-	-
	Canvasback													-	-	-	-
	Common goldeneye													-	Nov-Apr	-	-
	Common merganser													-	-	-	-
	Eurasian wigeon													-	-	-	-
	Gadwall													Jan-Dec	-	-	-
	Greater scaup													-	-	-	-
	Green-winged teal													-	Mar-Apr	Sep-Oct	-
	Hooded merganser													-	-	-	-
	King eider													-	-	-	-
	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													-	-	-	-
	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	May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Northern puffer																	

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Blue mussel													Apr-Oct	Apr-Oct	Apr-Oct	Jan-Dec	Jan-Dec
	Northern quahog													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
	Blue 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
	Solder 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>
10A	Salt and Brackish Water Marshes	49.22	0.08
10B	Freshwater Marshes	23.42	0.04
10C	Swamps	94.21	0.15
10D	Scrub and Shrub Wetlands	82.58	0.13
9A	Sheltered Tidal Flats	292.21	0.46
7	Exposed Tidal Flats	14.74	0.02

ESI SHORELINE HABITAT TYPES

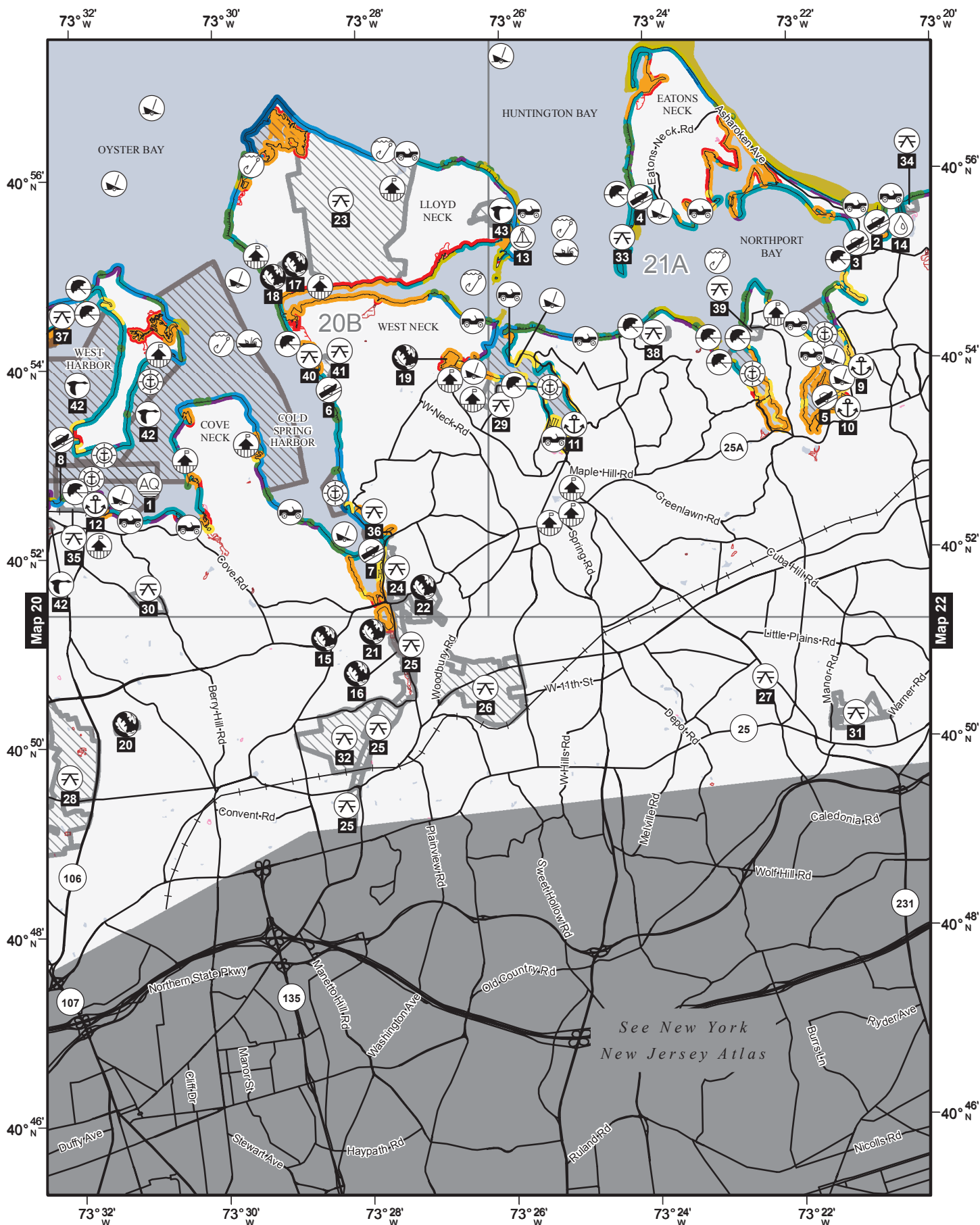
<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
10A	Salt and Brackish Water Marshes	4,855.80	3.02	4%
10B	Freshwater Marshes	285.41	0.18	< 1%
10C	Swamps	131.65	0.08	< 1%
10D	Scrub and Shrub Wetlands	6,570.87	4.08	6%
9A	Sheltered Tidal Flats	13,841.28	8.60	12%
9B	Vegetated Low Banks	23,114.72	14.36	21%
8B	Sheltered, Solid Man-Made Structures	14,275.60	8.87	13%
8C	Sheltered Riprap	1,368.27	0.85	1%
7	Exposed Tidal Flats	1,817.64	1.13	2%
6A	Gravel Beaches	63.22	0.04	< 1%
6B	Riprap	4,518.63	2.81	4%
5	Mixed Sand and Gravel Beaches	13,021.71	8.09	12%
4	Coarse Grained Sand Beaches	13,328.18	8.28	12%
1B	Exposed, Solid Man-Made Structures	15,556.49	9.67	14%

Total ESI Shoreline: 112,749.49 Total ESI Shoreline: 70.06
 Total Shoreline: 69,151.49 Total Shoreline: 42.97

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

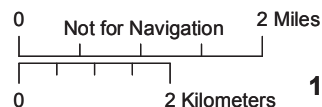




Map 21
Long Island Sound



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 21
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)						
Map ID	Type	Name	Contact	Phone		
1	AQUACULTURE	FLOWER & SONS OYSTER BAY HRBR (02-P)	WADE CARDEN	631-444-0481		
2	BOAT RAMP	NORTHPORT BASIN (SOUNDVIEW) BOAT RAMP				
3	BOAT RAMP	ASHAROKEN NORTHPORT BAY BOAT RAMP				
4	BOAT RAMP	PRICES BEND HOBART BEACH BOAT RAMP				
5	BOAT RAMP	SCUDDER BEACH BOAT RAMP				
6	BOAT RAMP	LLOYD HARBOR PARK BOAT RAMP				
7	BOAT RAMP	COLD SPRING HARBOR BOAT RAMP				
8	BOAT RAMP	ROOSEVELT MEMMORIAL PARK BOAT RAMP				
9	MARINA	WOODBINE MARINA				
10	MARINA	BRITANNIA YACHTING CENTER MARINA				
11	MARINA	HUNTINGTON HARBOR MARINA COMPLEX				
12	MARINA	OYSTER BAY MARINE CENTER				
13	REPEATED MEASUREMENT SITE	MWS - LIHU			GREG PINIAK	301-713-3028
14	WATER INTAKE	NATIONAL GRID NORTHPORT POWER STATION				

DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
15	NATURE CONSERVANCY	DAVENPORT SANCTUARY SITE	TNC NEW YORK STATE OFFICE	518-690-7850
16	NATURE CONSERVANCY	FRANKLIN POND PRESERVE	TNC NEW YORK STATE OFFICE	518-690-7850
17	NATURE CONSERVANCY	MATHESON MEADOWS	TNC NEW YORK STATE OFFICE	518-690-7850
18	NATURE CONSERVANCY	MATHESON MEADOWS PRESERVE	TNC NEW YORK STATE OFFICE	518-690-7850
19	NATURE CONSERVANCY	MILL COVE WATERFOWL SANCTUARY	TNC NEW YORK STATE OFFICE	518-690-7850
20	NATURE CONSERVANCY	OACES	TNC NEW YORK STATE OFFICE	518-690-7850
21	NATURE CONSERVANCY	ST. JOHN'S POND PRESERVE	TNC NEW YORK STATE OFFICE	518-690-7850
22	NATURE CONSERVANCY	UPLANDS FARM PRESERVE	TNC NEW YORK STATE OFFICE	518-690-7850
23	PARK	CAUMSETT	CHRISTINA CROLL	518-473-7787
24	PARK	COLD SPRING HARBOR PARK	CHRISTINA CROLL	518-473-7787
25	PARK	TRAIL VIEW	CHRISTINA CROLL	518-473-7787
26	PARK	FROEHLICH COUNTY FARM		
27	PARK	COUNTY NATURE PRESERVE (UNDEVELOPED)		
28	PARK	MUTTONTOWN COUNTY PRESERVE		
29	PARK	COINDRE HALL COUNTY ESTATE		
30	PARK	TIFFANY CREEK COUNTY PRESERVE		
31	PARK	BERKELEY JACKSON COUNTY PARK		
32	PARK	STILLWELL WOODS COUNTY PARK		
33	PARK	HOBART BEACH PARK (MUNICIPAL)		
34	PARK	KIRSCHBAUM PARK (MUNICIPAL)		
35	PARK	T ROOSEVELT MEMORIAL PARK (MUNICIPAL)		
36	PARK	COLD SPRING HARBOR PARK (MUNICIPAL)		
37	PARK	CENTRE ISLAND BEACH VILLAGE PARK (MUNICI		

DISPLAYED ON MAP (POLYGONS) (continued)				
38	PARK	CRESCENT BEACH TOWN PARK (MUNICIPAL)		
39	PARK	CENTERPORT BEACH PARK (MUNICIPAL)		
40	PARK	WEST NECK BEACH TOWN PARK (MUNICIPAL)		
41	PARK	LLOYD HARBOR VILLAGE PARK (MUNICIPAL)		
42	WILDLIFE REFUGE	OYSTER BAY NATIONAL WILDLIFE REFUGE	MICHELLE POTTER	631-286-0485
43	WILDLIFE REFUGE	TARGET ROCK NATIONAL WILDLIFE REFUGE	MICHELLE POTTER	631-286-0485
ALSO PRESENT IN MAPPED AREA (POINTS)				
Type	Name	Contact	Phone	
COAST GUARD	COAST GUARD STATION EATONS NECK	US COAST GUARD	631-261-6959	
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	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	CAUMSETT STATE PARK (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	EATON'S NECK POINT (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	HUNTINGTON BAY (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	LLOYD HARBOR (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	LLOYD POINT (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	NORTHPORT BAY (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	OYSTER BAY AND COLD SPRING HARBOR (SH)	JEFFREY L. HERTER	518-486-7942	
ESSENTIAL HABITAT	SAND CITY (EATON'S NECK) (SH)	JEFFREY L. HERTER	518-486-7942	
JURISDICTIONS				
COUNTY:	NASSAU 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	175.18	0.27
10B	Freshwater Marshes	19.96	0.03
10C	Swamps	53.34	0.08
10D	Scrub and Shrub Wetlands	8.84	0.01
9A	Sheltered Tidal Flats	396.81	0.62
7	Exposed Tidal Flats	488.08	0.76

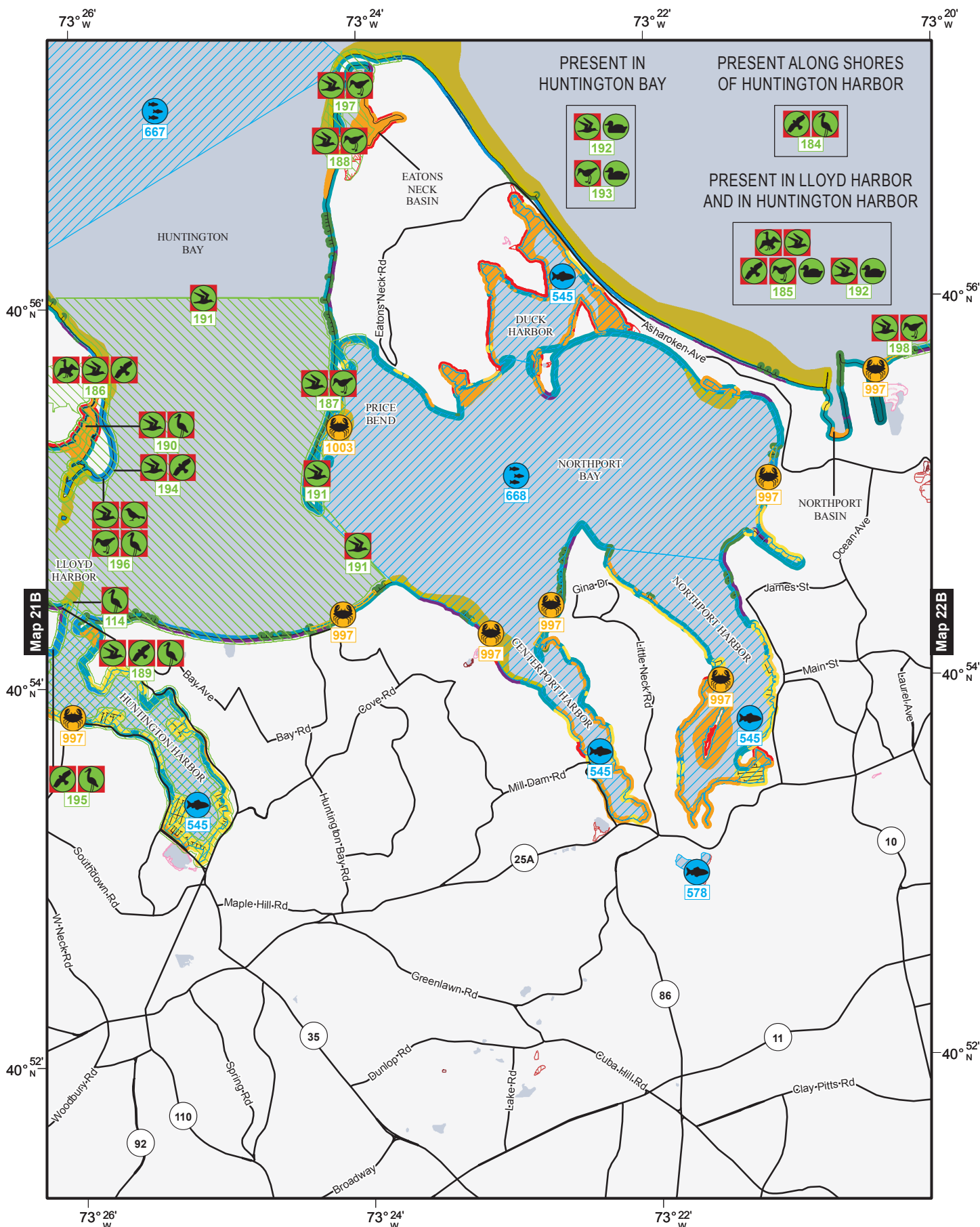
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	35,743.25	22.21	12%
10C	Swamps	269.69	0.17	< 1%
10D	Scrub and Shrub Wetlands	99.10	0.06	< 1%
9A	Sheltered Tidal Flats	39,684.86	24.66	14%
9B	Vegetated Low Banks	51,808.99	32.19	18%
8B	Sheltered, Solid Man-Made Structures	19,073.10	11.85	7%
8C	Sheltered Riprap	1,530.44	0.95	1%
7	Exposed Tidal Flats	17,723.90	11.01	6%
6A	Gravel Beaches	1,311.27	0.81	< 1%
6B	Riprap	11,265.77	7.00	4%
5	Mixed Sand and Gravel Beaches	65,056.94	40.42	22%
4	Coarse Grained Sand Beaches	25,531.61	15.86	9%
3A	Fine to Medium Grained Sand Beaches	3,522.56	2.19	1%
3B	Scarps and Steep Slopes (Sand)	651.96	0.41	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	42.53	0.03	< 1%
1B	Exposed, Solid Man-Made Structures	18,477.42	11.48	6%
Total ESI Shoreline:		291,793.38	181.31	
Total Shoreline:		172,368.15	107.10	

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

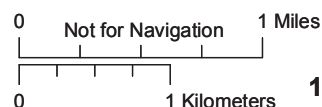




Map 21A
Long Island Sound



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 21A
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		Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F		J	F	M	A	M	J	J	A	S	O	N	D				
114	Wading	Great egret	General Distribution	T/-		10S													Mar-Aug	-	-	-
184	Raptor	Osprey	General Distribution	-/C		7													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-		10S													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		2													Mar-Aug	-	-	-
	Diving	Pied-billed grebe	General Distribution	E/T		Present													-	-	-	-
185	Gull/Tern	Black skimmer	Concentration Area	-/C		Present													Mar-Aug	-	-	-
	Raptor	Osprey	Concentration Area	-/C		Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	Nesting	T/E	T	Present													Mar-Aug	-	-	-
	Waterfowl	American wigeon	Wintering			Present													-	-	-	-
	Waterfowl	Bufflehead	Wintering			Present													-	Oct-Jun	-	-
	Waterfowl	Canada goose	Wintering			Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Mallard	Wintering			Present													Mar-Aug	-	-	-
	Waterfowl	Scaup	Wintering			Present													-	Mar-Apr	Oct-Nov	-
186	Diving	Pied-billed grebe	General Distribution	E/T		Present													-	-	-	-
	Gull/Tern	Black skimmer	General Distribution	-/C		Present													Mar-Aug	-	-	-
187	Raptor	Osprey	General Distribution	-/C		Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Gull/Tern	Black skimmer	Concentration Area	-/C		Present													Mar-Aug	-	-	-
	Gull/Tern	Black skimmer	General Distribution	-/C		100S													Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		1000S													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	Least tern	Nesting	T/T		Present													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-		4													Mar-Aug	-	-	-
188	Shorebird	Piping plover	General Distribution	T/E	T	10S													Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E	T	Present													Mar-Aug	-	-	-
	Gull/Tern	Common tern	Concentration Area	E/T		Present													May-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T		Present													Apr-Aug	-	-	-
189	Shorebird	Piping plover	Nesting	T/E	T	Present													Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		7													May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		5													Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C		10S													Mar-Aug	Mar-Jun	Jul-Nov	-
190	Wading	Snowy egret	General Distribution	T/-		Present													Mar-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		5													Apr-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		10S													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		Present													Mar-Aug	-	-	-
191	Gull/Tern	Black skimmer	General Distribution	-/C		Present													Mar-Aug	-	-	-
	Gull/Tern	Common tern	Concentration Area	E/T		Present													May-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				
	Gull/Tern	Least tern	Concentration Area	T/T			Present													Apr-Aug	-	-	-
	Waterfowl	Common goldeneye	Wintering				Present													-	Nov-Apr	-	-
193	Shorebird	Piping plover	Concentration Area	T/E	T		Present													Mar-Aug	-	-	-
	Waterfowl	Long-tailed duck	Wintering				Present													-	-	-	-
194	Gull/Tern	Common tern	General Distribution	E/T			7													May-Aug	-	-	-
	Raptor	Osprey	General Distribution	-C			10S													Mar-Aug	Mar-Jun	Jul-Nov	-
195	Raptor	Osprey	General Distribution	-C			7													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Snowy egret	General Distribution	T/-			2													Mar-Aug	-	-	-
196	Gull/Tern	Least tern	General Distribution	T/T			10S													Apr-Aug	-	-	-
	Passerine	Savannah sparrow	General Distribution	C/-			3													Mar-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			3													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		8													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			10													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			3													Mar-Aug	-	-	-
197	Gull/Tern	Least tern	General Distribution	T/T			10S													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			2													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		10													Mar-Aug	-	-	-
198	Gull/Tern	Least tern	General Distribution	T/T			10S													Apr-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		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					
545	Estuarine Resident	Mummichog	Nursery Area				Common													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
578	Diadromous	Alewife	Spawning Area				Uncommon													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
667	Estuarine Nursery	Weakfish	Nursery Area				Common													May-Sep	May-Sep	May-Sep	Jul-Nov	May-Nov
668	Estuarine Nursery	Winter flounder	Spawning Area				Abundant													Feb-May	Feb-May	Mar-Jun	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	Crab	Horseshoe crab	Spawning Area				Present													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec
1003	Crab	Horseshoe crab	Spawning Area				High													May-Jun	Jun-Jul	-	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												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													-	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
		Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			Present													Mar-Aug	-	-	-
		Piping plover	General Distribution	T/E	T		Present													Mar-Aug	-	-	-


BIRDS (continued)

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					
	Waterfowl	American black duck			Present												Apr-May	Mar-Apr	Sep-Nov	-	-
		Canvasback			Present												-	-	-	-	-
		Greater scaup			Present												-	-	-	-	-
		Lesser scaup			Present												-	-	-	-	-
		Red-breasted merganser			Present												-	-	-	-	-
		Waterfowl			Present												-	Jan-Dec	-	-	-
	Waterfowl	Waterfowl			Present												-	Jan-Dec	-	-	-
		Waterfowl			Present												-	Jan-Dec	-	-	-


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	Nursery Area		Common												Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct	
		American eel	Migration		Common												-	-	Apr-Aug	Apr-Aug	Sep-Nov	
		American eel	Nursery Area		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		Common												May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov	
		Striped bass	Nursery Area		Common												-	-	-	Jan-Dec	Jan-Dec	
		Striped bass	Nursery Area		Common												-	-	-	Apr-Nov	Apr-Nov	
	Estuarine Nursery	Atlantic herring	Nursery Area		Abundant												-	-	Mar-May	Jan-Dec	Jan-Dec	
		Atlantic menhaden	Nursery Area		Abundant												May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov	
		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	
		Hogchoker	Nursery Area		Common												May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec	
		Scup	Nursery Area		Abundant												May-Aug	May-Aug	May-Aug	May-Nov	May-Nov	
		Scup	Nursery Area		Common												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	
			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	
Estuarine Resident		Atlantic silverside	Nursery Area		Common												May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec	
		Atlantic moonfish	Nursery Area		Common												-	-	-	Jan-Dec	Jan-Dec	
		Atlantic tomcod	Nursery Area		Common												Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec	
		Cunner	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	
	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	Apr-Nov	Apr-Nov		
	Tautog	Nursery Area		Common												Apr-Sep	Apr-Sep	May-Sep	Jan-Dec	Jan-Dec		




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			
	Marine Pelagic	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					
	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	-
	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					
	Atlantic surfclam	Harvest Area			Present													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Eastern oyster	Harvest Area			Low													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	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
	Northern quahog	Harvest Area			High													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Softshell clam	Harvest Area			Low													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Softshell clam	Harvest Area			Moderate													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab	Nursery Area			Common													May-Jun	Jun-Jul	-	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													-	-	-	-
	Harbor porpoise	General Distribution			Present													-	-	-	-

TERRESTRIAL MAMMALS

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					
	Small Mammal	Vulnerable Occurrence			Present													-	-	-	-	-
	Northern river otter	Vulnerable Occurrence			Present													-	-	-	-	-

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	-	-	-
	Great cormorant													-	-	-	-
	Horned grebe													-	-	-	-
	Red-throated loon													-	-	-	-
	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	-	-	-
	Baltimore oriole													Apr-Aug	-	-	-
	Bank swallow													Apr-Aug	-	-	-
	Barn swallow													Apr-Aug	-	-	-
	Black-capped chickadee													Mar-Aug	-	-	-
	Blue jay													Apr-Aug	Mar-May	Sep-Oct	-
	Carolina wren													Apr-Jul	-	-	-
	Cedar waxwing													Mar-Aug	-	-	-
	Chipping sparrow													Mar-Aug	-	-	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Eastern kingbird													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 sparrow													Mar-Aug	-	-	-
	House wren													Mar-Aug	-	-	-
	Marsh wren													Apr-Aug	-	-	-
	Mourning dove													Mar-Aug	-	-	-
	Northern cardinal													Mar-Aug	-	-	-
	Northern flicker													Mar-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Purple finch													-	-	-	-
	Red-bellied woodpecker													Jun-Jul	Apr-May	Aug-Nov	-
	Red-eyed vireo													May-Aug	-	-	-
	Red-winged blackbird													Mar-Aug	-	-	-
	Saltmarsh sparrow													May-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Tree swallow													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				
	Willow flycatcher													May-Aug	-	-	-
Pelagic	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
Raptor	Northern gannet													-	-	-	-
	Red-tailed hawk													Mar-Aug	-	-	-
Shorebird	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Semipalmated sandpiper													-	-	Jul-Oct	-
Wading	BC night-heron													Mar-Aug	-	-	-
	Great blue heron													Mar-Aug	-	-	-
Waterfowl	Green heron													Apr-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American wigeon													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	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	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-
Northern pintail	Northern pintail													-	-	-	-
	Red-breasted merganser													-	-	-	-
	Redhead													-	Nov-Mar	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-



FISH

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Freshwater												
	Bluegill												
	Largemouth bass												
	Pumpkinseed												

INVERTEBRATES

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Bivalve												
	Blue mussel												
	Cephalopod												
	Ribbed mussel												
	Crab												
	Longfin squid												
	Blue crab												
	Fiddler crab												
	Horseshoe crab												
	Mantis shrimp												

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

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	42.14	0.07
10B	Freshwater Marshes	12.51	0.02
10C	Swamps	14.48	0.02
10D	Scrub and Shrub Wetlands	1.78	0.00
9A	Sheltered Tidal Flats	175.60	0.27
7	Exposed Tidal Flats	431.67	0.67

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	12,118.64	7.53	9%
9A	Sheltered Tidal Flats	14,782.62	9.19	11%
9B	Vegetated Low Banks	17,909.18	11.13	13%
8B	Sheltered, Solid Man-Made Structures	14,919.23	9.27	11%
8C	Sheltered Riprap	1,530.44	0.95	1%
7	Exposed Tidal Flats	13,056.43	8.11	10%
6A	Gravel Beaches	1,311.27	0.81	1%
6B	Riprap	5,452.06	3.39	4%
5	Mixed Sand and Gravel Beaches	37,060.60	23.03	28%
4	Coarse Grained Sand Beaches	7,915.96	4.92	6%
3B	Scarps and Steep Slopes (Sand)	651.96	0.41	< 1%
1B	Exposed, Solid Man-Made Structures	7,675.17	4.77	6%

Total ESI Shoreline: 134,383.55 Total ESI Shoreline: 83.50
 Total Shoreline: 80,498.81 Total Shoreline: 50.02

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 21B
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				
6	Raptor	Osprey	General Distribution	-C			10S													Mar-Aug	Mar-Jun	Jul-Nov	-
143	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
156	Diving	Common loon	General Distribution	C/C			2													-	-	-	-
163	Gull/Tern	Least tern	General Distribution	T/T			10S													Apr-Aug	-	-	-
	Raptor	Northern harrier	General Distribution	E/T			Present													Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-C			2													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	General Distribution	T/-			2													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		7													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			5													Mar-Aug	-	-	-
166	Raptor	Osprey	General Distribution	-C			2													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-			10S													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			10S													Mar-Aug	-	-	-
173	Raptor	Osprey	General Distribution	-C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
199	Gull/Tern	Common tern	Concentration Area	E/T			Present													May-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Passerine	Horned lark	Nesting	E/C			Present													Mar-May	-	-	-
	Raptor	Osprey	Wintering	-C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	Nesting	T/E	T		Present													Mar-Aug	-	-	-
200	Diving	Common loon	General Distribution	C/C			2													-	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			6													May-Aug	-	-	-
	Raptor	Osprey	General Distribution	-C			2													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-			5													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			6													Mar-Aug	-	-	-
201	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
	Raptor	Osprey	General Distribution	-C			7													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-			10S													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			2													Mar-Aug	-	-	-
202	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
	Passerine	Horned lark	General Distribution	E/C			Present													Mar-May	-	-	-
203	Raptor	Osprey	General Distribution	-C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Gull/Tern	Common tern	General Distribution	E/T			Present													May-Aug	-	-	-
	Passerine	Horned lark	General Distribution	E/C			Present													Mar-May	-	-	-
204	Gull/Tern	Common tern	General Distribution	E/T			7													May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			5													Apr-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			10S													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			Present													Mar-Aug	-	-	-
205	Gull/Tern	Common tern	General Distribution	E/T			10S													May-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				
206	Gull/Tern	Least tern	General Distribution	T/T		100S												Apr-Aug	-	-	-	
	Passerine	Brown thrasher	General Distribution	C/-		Present												Mar-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	-	-	-	
207	Wading	Great egret	General Distribution	T/-		3												Mar-Aug	-	-	-	
	Wading	Snowy egret	General Distribution	T/-		Present												Mar-Aug	-	-	-	
	Gull/Tern	Black skimmer	General Distribution	-C		Present												Mar-Aug	-	-	-	
	Raptor	Osprey	General Distribution	-C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-	
	Gull/Tern	Black skimmer	Concentration Area	-C		Present												Mar-Aug	-	-	-	
208	Gull/Tern	Common tern	Concentration Area	E/T		Present												May-Aug	-	-	-	
	Raptor	Osprey	Concentration Area	-C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-	
	Shorebird	Piping plover	Nesting	T/E	T	Present												Mar-Aug	-	-	-	
	Waterfowl	American wigeon	Wintering			Present												-	-	-	-	
	Waterfowl	Bufflehead	Wintering			Present												-	Oct-Jun	-	-	
209	Waterfowl	Mallard	Wintering			Present												Mar-Aug	-	-	-	
	Waterfowl	Scaup	Wintering			Present												-	Mar-Apr	Oct-Nov	-	
	Passerine	Bank swallow	Nesting			Present												Apr-Aug	-	-	-	
	Passerine	Passerine birds	Migration			Present												Jan-Dec	Jan-Dec	-	-	
	Passerine	Passerine birds	Nesting			Present												Jan-Dec	Jan-Dec	-	-	
210	Raptor	Osprey	Nesting	-C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-	
	Wading	Great egret	General Distribution	T/-		4												Mar-Aug	-	-	-	
211	Raptor	Osprey	General Distribution	-C		5												Mar-Aug	Mar-Jun	Jul-Nov	-	
	Wading	Great egret	General Distribution	T/-		4												Mar-Aug	-	-	-	
211	Wading	Snowy egret	General Distribution	T/-		3												Mar-Aug	-	-	-	
	Shorebird	Piping plover	General Distribution	T/E	T	2												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					
430	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
552	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	White perch	Nursery Area				Common													Apr-Jul	Apr-Jul	Apr-Aug	Jan-Dec	Jan-Dec
653	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
669	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	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
670	Diadromous	American eel	Nursery Area				Common													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Estuarine Nursery	Atlantic menhaden	Nursery Area				Common													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-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	D
851	Plant	Bushy St. Johnswort	Vulnerable Occurrence	-E		Present												
	Plant	Common persimmon	Vulnerable Occurrence	C/T		Present												
	Plant	Lesser snakeroot	Vulnerable Occurrence	E/E		Present												
	Plant	Marsh straw sedge	Vulnerable Occurrence	-T		Present												
	Plant	Mitchell's sedge	Vulnerable Occurrence	-E		Present												
852	Plant	White edge sedge	Vulnerable Occurrence	-T		Present												
	Plant	Marsh straw sedge	Vulnerable Occurrence	-T		Present												
	Plant	Annual seepweed	Vulnerable Occurrence	-E		5000												
	Plant	Clustered blueets	Vulnerable Occurrence	-E		200												
	Plant	Dune sandspur	Vulnerable Occurrence	-T		Present												
	Plant	Dwarf saltwort	Vulnerable Occurrence	-T		1250												
	Plant	Marsh straw sedge	Vulnerable Occurrence	-T		Present												
	Plant	Thicket sedge	Vulnerable Occurrence	-E		Present												
	Plant	Atlantic white cedar	Vulnerable Occurrence	-T		10 - 50												
	Plant	Annual seepweed	Vulnerable Occurrence	-E		20												

REPTILES & AMPHIBIANS


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
963	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-		Present												
967	Amphibian	Rare amphibian	Vulnerable Occurrence	-E		Present												
970	Turtle	K. ridley sea turtle	Vulnerable Occurrence	E/E	E	Present												
971	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Present												

INVERTEBRATES

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
997	Crab	Horseshoe crab	Spawning Area			Present												
1003	Crab	Horseshoe crab	Spawning Area			High												
1004	Bivalve	Eastern oyster	Harvest Area			Moderate												

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence											
			S	F		J	F	M	A	M	J	J	A	S	O	N	D
	Diving	Common loon	C/C		10S												
		Pied-billed grebe	E/T		Present												
	Gull/Tern	Least tern	T/T		Present												
		Least tern	T/T		Present												
	Shorebird	American oystercatcher	T/-		Present												
		Piping plover	T/E	T	Present												
	Waterfowl	American black duck			Present												
		Canada goose			Present												


BIRDS (continued)

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					
	Canvasback	Wintering			Present												-	-	-	-	-
	Common goldeneye	Wintering			Present												-	Nov-Apr	-	-	-
	Greater scaup	Wintering			Present												-	-	-	-	-
	Lesser scaup	Wintering			Present												-	-	-	-	-
	Waterfowl	Wintering			Present												-	Jan-Dec	-	-	-





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				Common																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								</

REPTILES & AMPHIBIANS

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				
	Turtle																				
	Green sea turtle	General Distribution	T/T	T	Present															Jun-Nov	Jan-Dec
	K. ridley sea turtle	General Distribution	E/E	E	Present															Jun-Nov	Jan-Dec
	Loggerhead sea turtle	General Distribution	T/T	E	Present															Jun-Nov	Jan-Dec

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																					
	Eastern oyster	Harvest Area			High																Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			High																Jan-Dec	Jan-Dec
	Softshell clam	Harvest Area			Low																Jan-Dec	Jan-Dec
	Crab																				Jan-Dec	Jan-Dec
	Horseshoe crab	Nursery Area			Common																Jan-Dec	Jan-Dec
	Gastropod																				Jan-Dec	Jan-Dec
	Channeled whelk	Harvest Area			Low																Jan-Dec	Jan-Dec
	Lobster																				Jan-Dec	Jan-Dec
	American lobster	Nursery Area			Common																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																

TERRESTRIAL MAMMALS




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				
	Small Mammal																				
	Northern river otter	Vulnerable Occurrence			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				
	Diving																				
	D. crested cormorant																				
	Great cormorant																				
	Horned grebe																				
	Red-throated loon																				
	Gull/Tern																				
	G. black-backed gull																				
	Herring gull																				
	Laughing gull																				
	Passerine																				
	Ring-billed gull																				
	Acadian flycatcher																				
	American crow																				
	American goldfinch																				
	American robin																				
	Baltimore oriole																				
	Bank swallow																				
	Barn Swallow																				



BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Belted kingfisher													Mar-Aug	-	-	-
	Black-capped chickadee													Mar-Aug	-	-	-
	Blue jay													Apr-Aug	Mar-May	Sep-Oct	-
	Boat-tailed grackle													Apr-Jun	-	-	-
	Carolina wren													Apr-Jul	-	-	-
	Cedar waxwing													Mar-Aug	-	-	-
	Chipping sparrow													Mar-Aug	-	-	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Eastern kingbird													Apr-Aug	-	-	-
	Eastern phoebe													May-Jul	Apr-May	Sep-Nov	-
	Eastern towhee													Mar-Aug	-	-	-
	European starling													Mar-Aug	-	-	-
	Fish crow													Mar-Aug	-	-	-
	GC flycatcher													Apr-Aug	-	-	-
	Gray catbird													Mar-Aug	-	-	-
	House sparrow													Mar-Aug	-	-	-
	House wren													Mar-Aug	-	-	-
	Marsh wren													Apr-Aug	-	-	-
	Mourning dove													Mar-Aug	-	-	-
	N. r.-winged swallow													Apr-Aug	-	-	-
	Northern cardinal													Mar-Aug	-	-	-
	Northern flicker													Mar-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Purple finch													-	-	-	-
	Red-bellied woodpecker													Jun-Jul	Apr-May	Aug-Nov	-
	Red-eyed vireo													May-Aug	-	-	-
	Red-winged blackbird													Mar-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Swamp sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-
	Warbling vireo													Apr-Aug	-	-	-
	Willow flycatcher													May-Aug	-	-	-
	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Northern gannet													-	-	-	-
	Red-tailed hawk													Mar-Aug	-	-	-
	Black-bellied plover													-	Aug-May	-	-
	Dunlin													-	Apr-May	Oct-Nov	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Killdeer													Mar-Aug	-	-	-
	Least sandpiper													-	Apr-Jun	Aug-Oct	-
	Ruddy turnstone													-	Mar-May	Aug-Nov	-
	Sanderling													-	Sep-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				
	Semipalmated plover													-	Apr-Jun	Sep-Nov	-
	Semipalmated sandpiper													-	-	Jul-Oct	-
	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 wigeon													-	-	-	-
	Barrow's goldeneye													-	-	-	-
	Black brant													-	May	Oct	-
	Black scoter													-	-	-	-
	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													-	-	-	-
	King eider													-	-	-	-
	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					
	Diadromous													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Jan-Dec
	Brown trout													-	-	-	Jan-Dec	Jan-Dec
	Freshwater													May-Jun	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Bluegill													May-Jul	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Brown bullhead													May-Jun	May-Jul	May-Jul	Jan-Dec	Jan-Dec
	Common carp													May-Jun	May-Jul	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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve													Apr-Oct	Apr-Oct	Apr-Oct	Jan-Dec	Jan-Dec
	Blue mussel													Jun-Sep	Jun-Sep	Jun-Sep	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													Jun-Sep	Jun-Sep	Jun-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
	Grass 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													-	-	-	-
	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	133.03	0.21
10B	Freshwater Marshes	4.26	0.01
10C	Swamps	24.37	0.04
10D	Scrub and Shrub Wetlands	2.08	0.00
9A	Sheltered Tidal Flats	221.22	0.35
7	Exposed Tidal Flats	57.11	0.09

ESI SHORELINE HABITAT TYPES

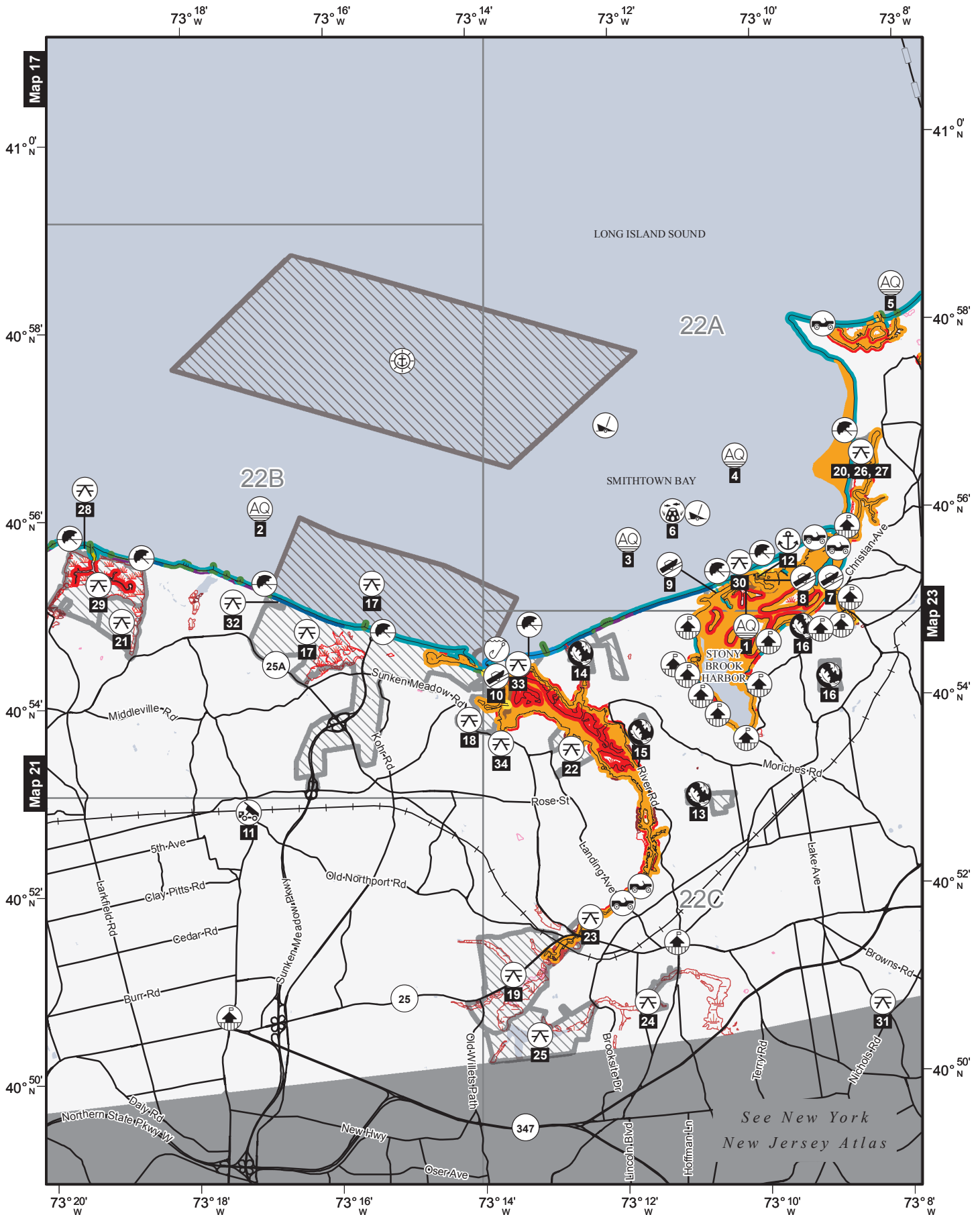
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	23,624.61	14.68	15%
10C	Swamps	81.29	0.05	< 1%
10D	Scrub and Shrub Wetlands	99.10	0.06	< 1%
9A	Sheltered Tidal Flats	24,902.53	15.47	16%
9B	Vegetated Low Banks	33,246.92	20.66	21%
8B	Sheltered, Solid Man-Made Structures	4,153.87	2.58	3%
7	Exposed Tidal Flats	4,667.86	2.90	3%
6B	Riprap	5,813.71	3.61	4%
5	Mixed Sand and Gravel Beaches	27,996.48	17.40	18%
4	Coarse Grained Sand Beaches	17,615.90	10.95	11%
3A	Fine to Medium Grained Sand Beaches	3,522.56	2.19	2%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	42.53	0.03	< 1%
1B	Exposed, Solid Man-Made Structures	10,802.74	6.71	7%

Total ESI Shoreline: 156,570.12 Total ESI Shoreline: 97.29
 Total Shoreline: 91,217.24 Total Shoreline: 56.68

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

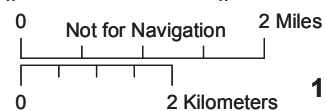




Map 22
Long Island Sound



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 22
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Contact Phone
1	AQUACULTURE	TOWN OF SMITHTOWN LONG BEACH PARK (20-T)	WADE CARDEN 631-444-0481
2	AQUACULTURE	SMITHTOWN BAY (28-PA)	WADE CARDEN 631-444-0481
3	AQUACULTURE	SMITHTOWN BAY (43-PA)	WADE CARDEN 631-444-0481
4	AQUACULTURE	SMITHTOWN BAY (53-PA)	WADE CARDEN 631-444-0481
5	AQUACULTURE	LIS SMITHTOWN BAY TEMP MARINE AREA USE (99-PA)	WADE CARDEN 631-444-0481
6	ARTIFICIAL REEF	SMITHTOWN REEF	NY STATE DEPARTMENT OF ENV. CONSERVATION
7	BOAT RAMP	STONY BROOK BOAT RAMP	
8	BOAT RAMP	LONG BEACH MARINA BOAT RAMP	
9	BOAT RAMP	LONG BEACH PARK BOAT RAMP	
10	BOAT RAMP	NISSEQUOGUE RIVER BOAT RAMP	
11	LANDFILL	EAST NORTHPORT LANDFILL	AUDREY GALLO 631-351-3187
12	MARINA	LONG BEACH MARINA	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Contact Phone
13	NATURE CONSERVANCY	BUTLER-HUNTINGTON WOODS	TNC NEW YORK STATE OFFICE 518-690-7850
14	NATURE CONSERVANCY	DAVID WELD PRESERVE	TNC NEW YORK STATE OFFICE 518-690-7850
15	NATURE CONSERVANCY	DELAFIELD WOODS	TNC NEW YORK STATE OFFICE 518-690-7850
16	NATURE CONSERVANCY	EAST FARM PRESERVE	TNC NEW YORK STATE OFFICE 518-690-7850
17	PARK	SUNKEN MEADOW (ALFRED E. SMITH)	CHRISTINA CROLL 518-473-7787
18	PARK	NISSEQUOGUE RIVER	CHRISTINA CROLL 518-473-7787
19	PARK	CALEB SMITH PARK PRESERVE	CHRISTINA CROLL 518-473-7787
20	PARK	COUNTY PARK	
21	PARK	MAKAMAH COUNTY NATURE PRESERVE	
22	PARK	ARTHUR H KUNZ COUNTY PARK	
23	PARK	SUFFOLK COUNTY PARK	
24	PARK	SMITHTOWN GREENBELT COUNTY PARK	
25	PARK	BLYDENBURG COUNTY PARK	
26	PARK	COUNTY PARK	
27	PARK	WEST MEADOW TOWN BEACH (MUNICIPAL)	
28	PARK	CRAB MEADOW BEACH PARK (MUNICIPAL)	
29	PARK	CRAB MEADOW PARK (MUNICIPAL)	
30	PARK	LONG BEACH TOWN PARK (MUNICIPAL)	
31	PARK	ANDREOLI PARK (MUNICIPAL)	
32	PARK	CALLAHANS BEACH PARK (MUNICIPAL)	
33	PARK	SHORT BEACH TOWN PARK (MUNICIPAL)	
34	PARK	HARRISON POND 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	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	SANDBAR SHARK - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	CONSCIENCE BAY LITTLE BAY & SETAUKET HAR	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	CRAB MEADOW WETLANDS AND BEACH (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	FLAX POND (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	NISSEQUOGUE INLET BEACHES (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	NISSEQUOGUE RIVER (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	STONY BROOK HARBOR & WEST MEADOW (SH)	JEFFREY L. HERTER	518-486-7942
STATE PROTECTED AREA	FLAX POND STATE TIDAL WETLANDS	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465

JURISDICTIONS

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	789.34	1.23
10B	Freshwater Marshes	27.87	0.04
10C	Swamps	347.81	0.54
10D	Scrub and Shrub Wetlands	44.12	0.07
9A	Sheltered Tidal Flats	1,612.63	2.52

ESI SHORELINE HABITAT TYPES

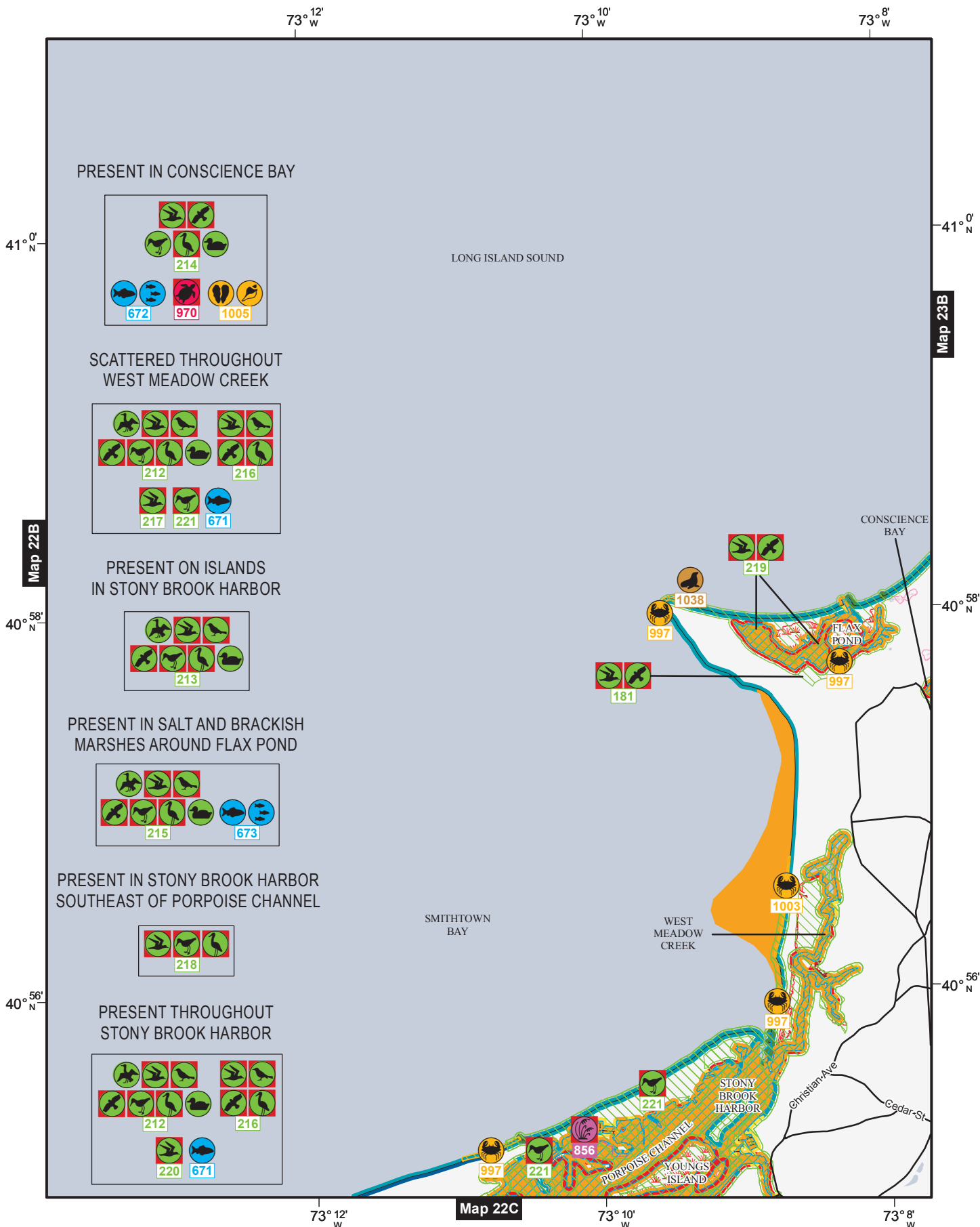
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	59,681.71	37.08	23%
10B	Freshwater Marshes	64.38	0.04	< 1%
10C	Swamps	1,232.48	0.77	< 1%
10D	Scrub and Shrub Wetlands	3,381.27	2.10	1%
9A	Sheltered Tidal Flats	76,588.62	47.59	30%
9B	Vegetated Low Banks	67,926.06	42.21	26%
8B	Sheltered, Solid Man-Made Structures	4,336.70	2.69	2%
8C	Sheltered Riprap	355.09	0.22	< 1%
7	Exposed Tidal Flats	195.69	0.12	< 1%
6B	Riprap	3,028.14	1.88	1%
5	Mixed Sand and Gravel Beaches	33,202.58	20.63	13%
4	Coarse Grained Sand Beaches	1,631.37	1.01	1%
3B	Scarps and Steep Slopes (Sand)	4,289.26	2.67	2%
1B	Exposed, Solid Man-Made Structures	3,083.90	1.92	1%

Total ESI Shoreline: 258,997.27 Total ESI Shoreline: 160.93
 Total Shoreline: 132,333.80 Total Shoreline: 82.23

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 22A
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 1 Miles
0 1 Kilometers

Not for Navigation

1:50,000



Map 22A
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				
181	Gull/Tern	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
212	Raptor	Osprey	General Distribution	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Diving	D. crested cormorant	Nesting				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	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Passerine	Fish crow	Nesting				Present													Mar-Aug	-	-	-
	Passerine	Horned lark	Nesting	E/C			Present													Mar-May	-	-	-
	Passerine	Red-winged blackbird	Nesting				Present													Mar-Aug	-	-	-
	Raptor	Osprey	Nesting	-/C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	Nesting	T/E	T		Present													Mar-Aug	-	-	-
	Wading	BC night-heron	Nesting				Present													Mar-Aug	-	-	-
	Wading	Egrets	Concentration Area				Present													Jan-Dec	-	-	-
	Wading	Great egret	Nesting	T/-			Present													Mar-Aug	-	-	-
	Wading	Green heron	Nesting				Present													Apr-Aug	-	-	-
	Wading	Herons	Concentration Area				Present													Jan-Dec	Jan-Dec	-	-
	Wading	Snowy egret	Nesting	T/-			Present													Mar-Aug	-	-	-
	Wading	YC night-heron	Nesting	C/-			Present													Mar-Aug	-	-	-
	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													-	-	-	-
	Waterfowl	Mallard	Wintering				Present													Mar-Aug	-	-	-
	Waterfowl	Red-breasted merganser	Wintering				Present													-	-	-	-
	Waterfowl	Scaup	Wintering				Present													-	Mar-Apr	Oct-Nov	-
213	Diving	D. crested cormorant	Nesting				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	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Passerine	Fish crow	Nesting				Present													Mar-Aug	-	-	-
	Passerine	Horned lark	General Distribution	E/C			Present													Mar-May	-	-	-
	Passerine	Horned lark	Nesting	E/C			Present													Mar-May	-	-	-
	Passerine	Red-winged blackbird	Nesting				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	-

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				
	Shorebird	Piping plover	Nesting	T/E	T	Present												Mar-Aug	-	-	-
	Wading	BC night-heron	Nesting			Present												Mar-Aug	-	-	-
	Wading	Egrets	Concentration Area			Present												Jan-Dec	-	-	-
	Wading	Great egret	General Distribution	T/-		Present												Mar-Aug	-	-	-
	Wading	Great egret	Nesting	T/-		Present												Mar-Aug	-	-	-
	Wading	Green heron	Nesting			Present												Apr-Aug	-	-	-
	Wading	Herons	Concentration Area			Present												Jan-Dec	Jan-Dec	-	-
	Wading	Snowy egret	General Distribution	T/-		Present												Mar-Aug	-	-	-
	Wading	Snowy egret	Nesting	T/-		Present												Mar-Aug	-	-	-
	Wading	YC night-heron	General Distribution	C/-		Present												Mar-Aug	-	-	-
	Wading	YC night-heron	Nesting	C/-		Present												Mar-Aug	-	-	-
	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												-	-	-	-
	Waterfowl	Mallard	Wintering			Present												Mar-Aug	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			Present												-	-	-	-
	Waterfowl	Scaup	Wintering			Present												-	Mar-Apr	Oct-Nov	-
214	Gull/Tern	Common tern	General Distribution	E/T		2												May-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	E/T		Present												May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		4												Apr-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T		Present												Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-C		2												Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Shorebirds	Concentration Area			Present												-	Jan-Dec	-	-
	Wading	Great egret	General Distribution	T/-		10S												Mar-Aug	-	-	-
	Wading	Herons	Concentration Area			Present												Jan-Dec	Jan-Dec	-	-
	Wading	Snowy egret	General Distribution	T/-		2												Mar-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering			Present												-	Jan-Dec	-	-
215	Diving	Horned grebe	Concentration Area			Present												-	-	-	-
	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		10S												Apr-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T		Present												Apr-Aug	-	-	-
	Passerine	Northern parula	General Distribution	C/-		Present												May	Apr-May	Sep-Oct	-
	Passerine	Savannah sparrow	General Distribution	C/-		Present												Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-C		3												Mar-Aug	Mar-Jun	Jul-Nov	-
	Raptor	Osprey	Nesting	-C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	General Distribution	T/-		5												Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E	T	Present												Mar-Aug	-	-	-
	Wading	BC night-heron	Concentration Area			Present												Mar-Aug	-	-	-
	Wading	Great blue heron	Concentration Area			Present												Mar-Aug	-	-	-
	Wading	Great egret	Concentration Area	T/-		Present												Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		10S												Mar-Aug	-	-	-

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				
	Wading	Herons	Concentration Area			Present												Jan-Dec	Jan-Dec	-	-
	Wading	Snowy egret	General Distribution	T/-		10S												Mar-Aug	-	-	-
	Waterfowl	American black duck	Concentration Area			Present												Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	American wigeon	Concentration Area			Present												-	-	-	-
	Waterfowl	Brant	Concentration Area			Present												-	Mar-May	Oct-Nov	-
	Waterfowl	Mallard	Concentration Area			Present												Mar-Aug	-	-	-
	Waterfowl	Waterfowl	Concentration Area			Present												-	Jan-Dec	-	-
216	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	-
	Wading	Great egret	General Distribution	T/-		Present												Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		Present												Mar-Aug	-	-	-
	Wading	YC night-heron	General Distribution	C/-		Present												Mar-Aug	-	-	-
217	Gull/Tern	Common tern	General Distribution	E/T		10S												May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		10S												Apr-Aug	-	-	-
218	Gull/Tern	Common tern	General Distribution	E/T		100S												May-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-		8												Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	4												Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		100S												Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		10S												Mar-Aug	-	-	-
219	Gull/Tern	Common tern	General Distribution	E/T		6												May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		8												Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-/C		2												Mar-Aug	Mar-Jun	Jul-Nov	-
220	Gull/Tern	Least tern	General Distribution	T/T		100S												Apr-Aug	-	-	-
221	Shorebird	Piping plover	General Distribution	T/E	T	10												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					
671	Diadromous	Striped bass	Nursery Area			Common												-	-	-	Apr-Nov	Apr-Nov
	Estuarine Resident	Atlantic silverside	Nursery Area			Abundant												May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Fourspine stickleback	Nursery Area			Common												Apr-Jul	Apr-Jul	May-Aug	May-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
672	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	Tautog	Nursery Area			Common												Apr-Sep	Apr-Sep	May-Sep	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			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	Northern puffer	Nursery Area			Common												May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	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												Eggs	Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N				
	Estuarine Resident	Atlantic silverside	Nursery Area			Abundant												May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Fourspine stickleback	Nursery Area			Common												Apr-Jul	May-Aug	May-Dec	Jan-Dec
	Estuarine Resident	Grubby	Nursery Area			Common												Dec-Apr	Jan-May	May-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area			Abundant												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	Striped killifish	Nursery Area			Abundant												May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Marine Benthic	American sand lance	Nursery Area			Common												Nov-Mar	Dec-Jun	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area			Common												Nov-Feb	Dec-May	Sep-May	Sep-May
	Marine Benthic	Pollock	Nursery Area			Common												Mar-Apr	May-Sep	Jan-Apr	Jan-Apr
	Marine Benthic	Tautog	Nursery Area			Common												Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
673	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	Sheepshead minnow	Nursery Area			Common												Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area			Common												Nov-Feb	Dec-May	Sep-May	Sep-May

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D
856	Plant	Roland's seablite	Vulnerable Occurrence	-JE			100												

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	E	Concentration	J	F	M	A	M	J	J	A	S	O	N	D
970	Turtle	K. ridley sea turtle	Vulnerable Occurrence					Present												



INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Eggs	Larvae	Juveniles	Adults
997	Crab	Horseshoe crab	Spawning Area				Present													Jun-Jul	-	Jan-Dec	Jan-Dec
1003	Crab	Horseshoe crab	Spawning Area				High													Jun-Jul	-	Jan-Dec	Jan-Dec
1005	Bivalve	Bay scallop	Harvest Area				Low													Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Bivalve	Blue mussel	Harvest Area				Low													Apr-Oct	Apr-Oct	Jan-Dec	Jan-Dec
	Bivalve	Eastern oyster	Harvest Area				High													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Softshell clam	Harvest Area				High													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Gastropod	Channeled whelk	Harvest Area				High													Sep-Nov	-	Jan-Dec	Jan-Dec









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	Calving	Pupping	Molt
1038	Pinniped	Harbor seal	Haul Out				Varies (3 - 30)													-	-	-

BIRDS

Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Nest	Eggs	Larvae	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
	Common loon	General Distribution	C/C		2													-	-	-	-	-
	Common tern	General Distribution	E/T		Present													May-Aug	-	-	-	-
	Least tern	General Distribution	T/T		5													Apr-Aug	-	-	-	-
	Roseate tern	General Distribution	E/E		Present													May-Aug	-	-	-	-
	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		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			S	F		J	F	M	A	M	J	J	A	S	O	N	D					
	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	Jan-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			Abundant													-	-	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
	Hogchoker	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	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
	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
	Atlantic silverside	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Atlantic moonfish	Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
	Atlantic tomcod	Nursery Area			Common													Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
	Cunner	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-Sep	May-Sep	May-Sep	May-Oct	May-Oct
	Striped searobin	Nursery Area			Common													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Tautog	Nursery Area			Common													Apr-Jun	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
	Atlantic mackerel	Nursery Area			Common													May-Aug	May-Aug	May-Oct	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		Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
			S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N					
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		Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
				S	F		J	F	M	A	M	J	J	A	S	O	N						
🐚	Bivalve	Atlantic surfclam	Harvest Area			Present											Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec		
		Eastern oyster	Harvest Area			Low												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	
		Softshell clam	Harvest Area			Moderate												Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec	
🦀	Crab	Horseshoe crab	Nursery Area			Common											May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec		
	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					
 Dolphin	Harbor porpoise	General Distribution	C/C		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	-	-	-
	Red-necked grebe													-	-	-	-
Gull/Tern	Red-throated loon													-	-	-	-
	Forster's tern													Apr-Aug	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-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	-	-	-
	Baltimore oriole													Apr-Aug	-	-	-
	Bank swallow													Apr-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Black-capped chickadee													Mar-Aug	-	-	-
	Black & white warbler													Apr-Oct	Apr-Jun	Sep-Oct	-
	Blue jay													Apr-Aug	Mar-May	Sep-Oct	-
	Boat-tailed grackle													Apr-Jun	-	-	-
	Carolina wren													Apr-Jul	-	-	-
	Cedar waxwing													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				
	Chestnut-sided warbler													May	Apr-May	Aug-Oct	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Eastern kingbird													Apr-Aug	-	-	-
	Eastern phoebe													May-Jul	Apr-May	Sep-Nov	-
	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	-	-	-
	N. r.-winged swallow													Apr-Aug	-	-	-
	Northern cardinal													Mar-Aug	-	-	-
	Northern flicker													Mar-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Pine warbler													Jun-Aug	Apr-May	Sep-Oct	-
	Prairie warbler													Apr-Aug	-	-	-
	Red-bellied woodpecker													Jun-Jul	Apr-May	Aug-Nov	-
	Red-winged blackbird													Mar-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-
	Warbling vireo													Apr-Aug	-	-	-
	Yellow warbler													Apr-Aug	-	-	-
Pelagic	Black-legged kittiwake													-	-	-	-
	Northern gannet													-	-	-	-
Shorebird	Black-bellied plover													-	Aug-May	-	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Lesser yellowlegs													-	Apr-Jun	Aug-Oct	-
	Semipalmated sandpiper													-	-	Jul-Oct	-
	Willet													Apr-Aug	-	-	-
	BC night-heron													Mar-Aug	-	-	-
Wading	Great blue heron													Mar-Aug	-	-	-
	Green heron													Apr-Aug	-	-	-
	Sora													-	-	Sep-Oct	-
Waterfowl	American black duck													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	-	-



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													-	-	-	-
	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													-	-	-	-
	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					
	Blue mussel													Apr-Oct	Apr-Oct	Apr-Oct	Jan-Dec	Jan-Dec
	Eastern oyster													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog													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
	Green crab													Mar-Sep	Mar-Sep	May-Oct	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
	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

ESI POLYGON HABITAT TYPES



ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	138.70	0.22
10B	Freshwater Marshes	5.19	0.01
10D	Scrub and Shrub Wetlands	1.95	0.00
9A	Sheltered Tidal Flats	725.62	1.13

ESI SHORELINE HABITAT TYPES

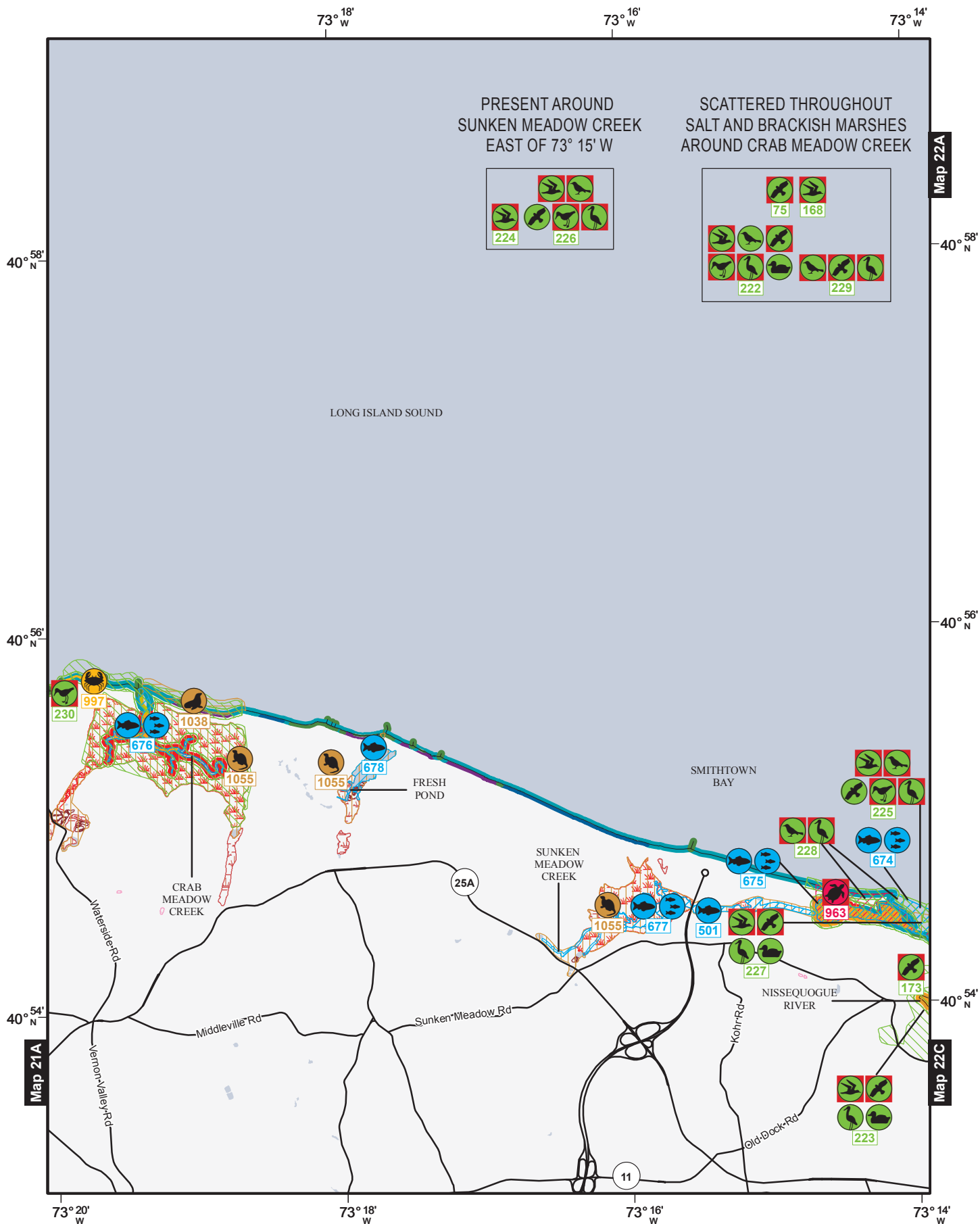
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	14,727.74	9.15	15%
10D	Scrub and Shrub Wetlands	112.27	0.07	< 1%
9A	Sheltered Tidal Flats	36,243.08	22.52	38%
9B	Vegetated Low Banks	22,524.86	14.00	23%
8B	Sheltered, Solid Man-Made Structures	2,783.78	1.73	3%
8C	Sheltered Riprap	355.09	0.22	< 1%
6B	Riprap	381.45	0.24	< 1%
5	Mixed Sand and Gravel Beaches	17,394.34	10.81	18%
4	Coarse Grained Sand Beaches	28.54	0.02	< 1%
3B	Scarps and Steep Slopes (Sand)	1,508.48	0.94	2%
1B	Exposed, Solid Man-Made Structures	56.92	0.04	< 1%

Total ESI Shoreline: 96,116.56 Total ESI Shoreline: 59.72
 Total Shoreline: 47,692.35 Total Shoreline: 29.63

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 22B
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 22B
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	-	-	-
168	Gull/Tern	Least tern	General Distribution	T/T			10S													Apr-Aug	-	-	-
173	Raptor	Osprey	General Distribution	-C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
222	Gull/Tern	Common tern	Nesting	E/T			Present													May-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Passerine	Marsh wren	Nesting				Present													Apr-Aug	-	-	-
	Passerine	Red-winged blackbird	Nesting				Present													Mar-Aug	-	-	-
	Passerine	Saltmarsh sparrow	Nesting				Present													May-Aug	-	-	-
	Passerine	Swamp sparrow	Nesting				Present													Mar-Aug	-	-	-
	Raptor	Northern harrier	Nesting	E/T			Present													Mar-Aug	-	-	-
	Raptor	Osprey	Nesting	-C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	General Distribution	T/E	T		10													Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E	T		Present													Mar-Aug	-	-	-
	Shorebird	Shorebirds	Concentration Area				Present													-	Jan-Dec	-	-
	Wading	Clapper rail	Nesting				Present													Mar-Aug	-	-	-
	Wading	Great egret	Nesting	T/-			Present													Mar-Aug	-	-	-
	Wading	Green heron	Nesting				Present													Apr-Aug	-	-	-
	Wading	Hérons	Concentration Area				Present													Jan-Dec	Jan-Dec	-	-
	Waterfowl	Canada goose	Nesting				Present													Mar-Aug	-	-	-
	Waterfowl	Mallard	Nesting				Present													Mar-Aug	Jan-Dec	-	-
223	Gull/Tern	Common tern	Concentration Area	E/T			Present													May-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
	Raptor	Osprey	Nesting	-C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Hérons	Migration				Present													Jan-Dec	Jan-Dec	-	-
	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	Greater scaup	Wintering				Present													-	-	-	-
	Waterfowl	Lesser scaup	Wintering				Present													-	-	-	-
	Waterfowl	Mallard	Wintering				Present													Mar-Aug	-	-	-
	Waterfowl	Red-breasted merganser	Wintering				Present													-	-	-	-
	Waterfowl	Waterfowl	Migration				Present													-	Jan-Dec	-	-
224	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
225	Gull/Tern	Roseate tern	Concentration Area	E/E	E		Present													May-Aug	-	-	-
	Passerine	Horned lark	Concentration Area	E/C			Present													Mar-May	-	-	-
	Passerine	Horned lark	General Distribution	E/C			Present													Mar-May	-	-	-
	Raptor	Red-tailed hawk	Concentration Area				Present													Mar-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				
	Shorebird	Piping plover	Nesting	T/E	T		Present													Mar-Aug	-	-	-
	Wading	Egrets	Concentration Area				Present													Jan-Dec	-	-	-
	Wading	Herons	Concentration Area				Present													Jan-Dec	Jan-Dec	-	-
	Wading	YC night-heron	Concentration Area	C/-			Present													Mar-Aug	-	-	-
	Wading	YC night-heron	General Distribution	C/-			Present													Mar-Aug	-	-	-
226	Gull/Tern	Common tern	General Distribution	E/T			4													May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T			100S													Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	Concentration Area	E/E	E		Present													May-Aug	-	-	-
	Passerine	Horned lark	Concentration Area	E/C			Present													Mar-May	-	-	-
	Raptor	Red-tailed hawk	Concentration Area				Present													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T		10S													Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E	T		Present													Mar-Aug	-	-	-
	Wading	Egrets	Concentration Area				Present													Jan-Dec	-	-	-
	Wading	Herons	Concentration Area				Present													Jan-Dec	Jan-Dec	-	-
	Wading	YC night-heron	Concentration Area	C/-			Present													Mar-Aug	-	-	-
227	Gull/Tern	Common tern	Concentration Area	E/T			Present													May-Aug	-	-	-
	Raptor	Osprey	Nesting	-C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Herons	Migration				Present													Jan-Dec	Jan-Dec	-	-
	Waterfowl	American black duck	Wintering				Present													Mar-Aug	-	-	-
	Waterfowl	Bufflehead	Wintering				Present													-	Oct-Jun	-	-
	Waterfowl	Canada goose	Wintering				Present													Mar-Aug	Jan-Dec	-	-
	Waterfowl	Greater scaup	Wintering				Present													-	-	-	-
	Waterfowl	Lesser scaup	Wintering				Present													-	-	-	-
	Waterfowl	Mallard	Wintering				Present													Mar-Aug	-	-	-
	Waterfowl	Red-breasted merganser	Wintering				Present													-	-	-	-
	Waterfowl	Waterfowl	Migration				Present													-	Jan-Dec	-	-
228	Passerine	Horned lark	General Distribution	E/C			Present													Mar-May	-	-	-
	Wading	YC night-heron	General Distribution	C/-			Present													Mar-Aug	-	-	-
229	Passerine	Northern parula	General Distribution	C/-			Present													May	Apr-May	Sep-Oct	-
	Raptor	Osprey	General Distribution	-C			10S													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Glossy ibis	General Distribution	C/-			2													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			10S													Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-			10S													Mar-Aug	-	-	-
230	Shorebird	Piping plover	General Distribution	T/E	T		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					
501	Diadromous	Alewife	Spawning Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
674	Diadromous	Alewife	Spawning Area				Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Diadromous	Brown trout (sea run)	Migration				Uncommon													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Sep-Jan
	Diadromous	Sea lamprey	Spawning Area				Common													May-Jun	May-Jun	Jan-Dec	Apr-Jul	Apr-Jul
	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

FISH (continued)

Map ID	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			
675	Estuarine Resident	Atlantic silverside	Nursery Area														May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Freshwater	Brook trout	Nursery Area														Sep-Dec	Sep-Apr	Jan-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area														Apr-Sep	Apr-Sep	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area														-	-	Jan-Dec	Sep-Nov
	Estuarine Nursery	White perch	Nursery Area														Apr-Jul	Apr-Jul	Jan-Dec	Jan-Dec
676	Estuarine Nursery	Winter flounder	Nursery Area														Feb-May	Feb-May	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area														May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Mummichog	Nursery Area														Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Sheepshead minnow	Nursery Area														-	-	Jan-Dec	Sep-Nov
	Diadromous	American eel	Nursery Area														Feb-May	Feb-May	Jan-Dec	Jan-Dec
677	Estuarine Resident	Mummichog	Nursery Area														May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Diadromous	American eel	Nursery Area														-	-	Jan-Dec	Sep-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
678	Diadromous	Alewife	Spawning Area														Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
	Freshwater	Banded killifish	Nursery Area														May-Aug	May-Aug	Jan-Dec	Jan-Dec

REPTILES & AMPHIBIANS

[illegible]

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence																	
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
997	Crab	Horseshoe crab	Spawning Area			Present													May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec




MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	CT/NY	Concentration	Monthly Presence	Mating	Calving	Pupping	Molt
								J F M A M J J A S O N D				
1038	Pinniped	Harbor seal	Haul Out				Varies (3 - 30)	<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>	-	-	-	-











TERRESTRIAL MAMMALS

[illegible]


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		2													-	-	-	-
		Common loon	General Distribution	C/C		10S													-	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		Present													May-Aug	-	-	-
		Least tern	General Distribution	T/T		5													Apr-Aug	-	-	-
		Least tern	General Distribution	T/T		Present													Apr-Aug	-	-	-
	Shorebird	Roseate tern	General Distribution	E/E	E	Present													May-Aug	-	-	-
		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					
	Diadromous	Alewife	Nursery Area			Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Jun	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
		Blueback herring	Migration	C/-		Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
		Striped bass	Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic herring	Nursery Area			Abundant													-	-	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
	Fish	Black sea bass	Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
		Bluefish	Nursery Area			Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
		Hogchoker	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Marine Benthic	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
	Estuarine Resident	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
		Atlantic silverside	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic moonfish	Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
		Atlantic tomcod	Nursery Area			Common													Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
		Cunner	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Fish	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
	Marine Pelagic	Silver hake	Nursery Area			Common													-	-	May-Oct	Mar-Nov	Mar-Nov
		Smooth dogfish	Nursery Area			Common													-	-	-	May-Oct	May-Oct
		Striped searobin	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Marine Pelagic	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

REPTILES & AMPHIBIANS

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					
	Turtle																-	-	-	Jun-Nov	-
	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	Atlantic surfclam	Harvest Area			Present											Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec		
		Eastern oyster	Harvest Area			Low											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		
		Softshell clam	Harvest Area			Moderate											Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec		
	Crab	Horseshoe crab	Nursery Area			Common											May-Jun	Jun-Jul	-	Jan-Dec	Jan-Dec		
		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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	Dolphin																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

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. crested cormorant													Mar-Aug	-	-	-
	Horned grebe													-	-	-	-
	Red-necked grebe													-	-	-	-
	Red-throated loon													-	-	-	-
	Forster's tern													Apr-Aug	-	-	-
	G. black-backed gull													Mar-Aug	-	-	-
	Herring gull													Mar-Aug	-	-	-
	Ring-billed gull													-	-	-	-
	Acadian flycatcher													Jun-Jul	May-Jun	Aug-Sep	-
	American robin													Mar-Aug	-	-	-
	Baltimore oriole													Apr-Aug	-	-	-
	Bank swallow													Apr-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Belted kingfisher													Mar-Aug	-	-	-
	Blue jay													Apr-Aug	Mar-May	Sep-Oct	-
	Boat-tailed grackle													Apr-Jun	-	-	-
	Brown-headed cowbird													Mar-Aug	-	-	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	European starling													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				
	Fish crow													Mar-Aug	-	-	-
	House sparrow													Mar-Aug	-	-	-
	Marsh wren													Apr-Aug	-	-	-
	Mourning dove													Mar-Aug	-	-	-
	N. r.-winged swallow													Apr-Aug	-	-	-
	Northern cardinal													Mar-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Prothonotary warbler													-	Apr-May	-	-
	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	-	-	-
	Warbling vireo													Apr-Aug	-	-	-
	Yellow warbler													Apr-Aug	-	-	-
Pelagic	Black-legged kittiwake													-	-	-	-
	Northern gannet													-	-	-	-
Raptor	Red-tailed hawk													Mar-Aug	-	-	-
Shorebird	Least sandpiper													-	Apr-Jun	Aug-Oct	-
	Spotted sandpiper													-	Apr-Jun	Jul-Oct	-
	Willet													Apr-Aug	-	-	-
	BC night-heron													Mar-Aug	-	-	-
	Clapper rail													Mar-Aug	-	-	-
	Green heron													Apr-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
Waterfowl	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													-	-	-	-
	Hooded merganser													-	Mar-Apr	Sep-Oct	-
	Lesser scaup													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Aug	-	-	-
	Mute swan													Mar-Sep	-	-	-





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 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					
	Diadromous													Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Jan-Dec
	Freshwater													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
	Smallmouth bass													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
	Northern quahog													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
	Horseshoe crab													May-Jun	Jun-Jul	-	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																	

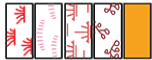
MARINE MAMMALS

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

<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10A	Salt and Brackish Water Marshes	339.66	0.53
10B	Freshwater Marshes	1.50	0.00
10C	Swamps	39.91	0.06
10D	Scrub and Shrub Wetlands	10.26	0.02
9A	Sheltered Tidal Flats	29.07	0.05



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	5,198.10	3.23	16%
9A	Sheltered Tidal Flats	2,598.07	1.61	8%
9B	Vegetated Low Banks	6,664.26	4.14	21%
7	Exposed Tidal Flats	195.69	0.12	1%
6B	Riprap	2,351.52	1.46	7%
5	Mixed Sand and Gravel Beaches	10,991.55	6.83	34%
3B	Scarps and Steep Slopes (Sand)	1,816.35	1.13	6%
1B	Exposed, Solid Man-Made Structures	2,093.09	1.30	7%
Total ESI Shoreline:		31,908.64	19.83	
Total Shoreline:		18,231.18	11.33	

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 22C
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	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	Present													Mar-Aug	-	-	-
143	Gull/Tern	Common tern	General Distribution	E/T	Present													May-Aug	-	-	-
212	Diving	D. crested cormorant	Nesting	E/T	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	Least tern	Nesting	T/T	Present													Apr-Aug	-	-	-
	Passerine	Fish crow	Nesting		Present													Mar-Aug	-	-	-
	Passerine	Horned lark	Nesting	E/C	Present													Mar-May	-	-	-
	Passerine	Red-winged blackbird	Nesting		Present													Mar-Aug	-	-	-
	Raptor	Osprey	Nesting	-C	Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	Nesting	T/E	Present													Mar-Aug	-	-	-
	Wading	BC night-heron	Nesting		Present													Mar-Aug	-	-	-
	Wading	Egrets	Concentration Area		Present													Jan-Dec	-	-	-
	Wading	Great egret	Nesting	T/-	Present													Mar-Aug	-	-	-
	Wading	Green heron	Nesting		Present													Apr-Aug	-	-	-
	Wading	Herons	Concentration Area		Present													Jan-Dec	-	-	-
	Wading	Snowy egret	Nesting	T/-	Present													Mar-Aug	-	-	-
	Wading	YC night-heron	Nesting	C/-	Present													Mar-Aug	-	-	-
	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													-	-	-	-
	Waterfowl	Mallard	Wintering		Present													Mar-Aug	-	-	-
	Waterfowl	Red-breasted merganser	Wintering		Present													-	-	-	-
	Waterfowl	Scaup	Wintering		Present													-	Mar-Apr	Oct-Nov	-
224	Gull/Tern	Least tern	Nesting	T/T	Present													Apr-Aug	-	-	-
227	Gull/Tern	Common tern	Concentration Area	E/T	Present													May-Aug	-	-	-
	Raptor	Osprey	Nesting	-C	Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Herons	Migration		Present													Jan-Dec	-	-	-
	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	Greater scaup	Wintering		Present													-	-	-	-
	Waterfowl	Lesser scaup	Wintering		Present													-	-	-	-
	Waterfowl	Mallard	Wintering		Present													Mar-Aug	-	-	-
	Waterfowl	Red-breasted merganser	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				
231	Waterfowl	Waterfowl	Migration			Present												-	Jan-Dec	-	-
	Gull/Tern	Roseate tern	Concentration Area	E/E	E	Present												May-Aug	-	-	-
	Passerine	Horned lark	Concentration Area	E/C		Present												Mar-May	-	-	-
	Raptor	Red-tailed hawk	Concentration Area			Present												Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E	T	Present												Mar-Aug	-	-	-
232	Wading	Egrets	Concentration Area			Present												Jan-Dec	-	-	-
	Wading	Herons	Concentration Area			Present												Jan-Dec	-	-	-
	Wading	YC night-heron	Concentration Area	C/-		Present												Mar-Aug	-	-	-
	Diving	Common loon	General Distribution	C/C		2												-	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		5												Apr-Aug	-	-	-
233	Shorebird	American oystercatcher	General Distribution	T/-		Present												Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		Present												May-Aug	-	-	-
	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	-	-	-
234	Gull/Tern	Least tern	General Distribution	T/T		Present												Apr-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	Present												Mar-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		Present												Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E	Present												May-Aug	-	-	-
	Passerine	Horned lark	General Distribution	E/C		Present												Mar-May	-	-	-
235	Wading	YC night-heron	General Distribution	C/-		Present												Mar-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		Present												Apr-Aug	-	-	-
	Passerine	Horned lark	General Distribution	E/C		Present												Mar-May	-	-	-
	Wading	YC night-heron	General Distribution	C/-		Present												Mar-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		Present												Apr-Aug	-	-	-
236	Passerine	Horned lark	General Distribution	E/C		Present												Mar-May	-	-	-
	Wading	YC night-heron	General Distribution	C/-		Present												Mar-Aug	-	-	-
	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	-
237	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	-	-	-
	Wading	YC night-heron	General Distribution	C/-		Present												Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		100S												May-Aug	-	-	-
238	Gull/Tern	Least tern	General Distribution	T/T		100S												Apr-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E	Present												May-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-		8												Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	4												Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		100S												Mar-Aug	-	-	-
239	Wading	Snowy egret	General Distribution	T/-		10S												Mar-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E	Present												May-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E	Present												May-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	Present												Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		100S												May-Aug	-	-	-
240	Gull/Tern	Least tern	General Distribution	T/T		100S												Apr-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-		8												Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	4												Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		100S												Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		10S												Mar-Aug	-	-	-
241	Gull/Tern	Roseate tern	General Distribution	E/E	E	Present												May-Aug	-	-	-
	Gull/Tern	Roseate tern	General Distribution	E/E	E	Present												May-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	Present												Mar-Aug	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T		100S												May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		100S												Apr-Aug	-	-	-
242	Shorebird	American oystercatcher	General Distribution	T/-		8												Mar-Aug	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N					
	Shorebird	Piping plover	General Distribution	T/E	T	4												Mar-Aug	-	-	-	-
	Wading	Great egret	General Distribution	T/-		100S												Mar-Aug	-	-	-	-
	Wading	Snowy egret	General Distribution	T/-		10S												Mar-Aug	-	-	-	-
242	Gull/Tern	Common tern	General Distribution	E/T		100S												May-Aug	-	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		100S												Apr-Aug	-	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	10												Mar-Aug	-	-	-	-
243	Gull/Tern	Least tern	General Distribution	T/T		100S												Apr-Aug	-	-	-	-
	Shorebird	Piping plover	General Distribution	T/E	T	10												Mar-Aug	-	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F	Mapping Qualifier	Species	Mapping Qualifier	Concentration	S	F
--------	------------	---------	-------------------	-------	--	------------------	--	--	--	--	--	--	--	--	--	--	--	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---	-------------------	---------	-------------------	---------------	---	---

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Mapping Qualifier	S	F	Eggs	Spawn	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D											
	Estuarine Nursery	Bay anchovy	Nursery Area															Common						May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Black sea bass	Nursery Area															Common						-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Hogchoker	Nursery Area															Common						May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	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
	Estuarine Nursery	Weakfish	Nursery Area															Abundant						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															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
	Fish	Atlantic moonfish	Nursery Area															Common						-	-	-	Jan-Dec	Jan-Dec
	Marine Benthic	Atlantic tomcod	Nursery Area															Common						Nov-Feb	Dec-May	Dec-May	Jan-Dec	Jan-Dec
	Marine Benthic	Cunner	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
	Marine Benthic	Silver hake	Nursery Area															Common						-	-	May-Oct	Mar-Nov	Mar-Nov
	Marine Benthic	Smooth dogfish	Nursery Area															Common						-	-	-	May-Oct	May-Oct
	Marine Benthic	Striped searobin	Nursery Area															Common						May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
	Marine Benthic	Tautog	Nursery Area															Common						Apr-Jun	Apr-Jun	Apr-Jun	Jan-Dec	Jan-Dec
	Marine Pelagic	Atlantic mackerel	Nursery Area															Common						May-Aug	May-Aug	May-Oct	Apr-Nov	Apr-Nov
	Marine Pelagic	Butterfish	Nursery Area															Abundant						-	-	-	May-Dec	May-Dec
683	Diadromous	American eel	Nursery Area															Common						-	-	Apr-Aug	Jan-Dec	Sep-Nov
	Diadromous	Brown trout	Nursery Area															Common						Oct-Nov	Oct-Apr	Feb-May	Jan-Dec	Jan-Dec
	Freshwater	Brook trout	Nursery Area															Common						Sep-Dec	Sep-Apr	Feb-May	Jan-Dec	Jan-Dec
684	Freshwater	Banded 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		Monthly Presence												Concentration	S	F	Mapping Qualifier	S	F	Eggs	Spawn	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D											
857	FAV	Small floating bladderwort	Vulnerable Occurrence	-IT														Present						-	-	-	-	-
858	Plant	Goldclub	Vulnerable Occurrence	CT														19						-	-	-	-	-
	Plant	Saltmarsh bulrush	Vulnerable Occurrence	CT														Present						-	-	-	-	-
	Plant	White edge sedge	Vulnerable Occurrence	-IT														50						-	-	-	-	-
859	Plant	Terrestrial starwort	Vulnerable Occurrence	-IT														Present						-	-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Mapping Qualifier	S	F	Eggs	Nest	Hatch	Internest	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D												
963	Turtle	Diamondback terrapin	Vulnerable Occurrence	CT														Present						-	-	-	-	-	-
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						-	-	-	-	-	-

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				
997	Crab	Horseshoe crab	Spawning Area			Present													May-Jun	-	Jan-Dec	Jan-Dec
1003	Crab	Horseshoe crab	Spawning Area			High													May-Jun	-	Jan-Dec	Jan-Dec
1006	Bivalve	Atlantic surfclam	Harvest Area			Present													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Eastern oyster	Harvest Area			Low													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area			Low													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Softshell clam	Harvest Area			Moderate													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		Concentration	Monthly Presence												Calving	Pupping	Molt
				S	F		J	F	M	A	M	J	J	A	S	O	N	D			
1036	Dolphin	Harbor porpoise	General Distribution			Present													-	-	-

TERRESTRIAL MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Concentration	Monthly Presence												Mating	Pupping	Molt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
				S	F		J	F	M	A	M	J	J	A	S	O	N	D																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
1055	Small Mammal	Northern river otter	Vulnerable Occurrence			Present																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)



BIRDS

Subelement	Species	CT/NY		Mapping Qualifier	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		S	F			J	F	M	A	M	J	J	A	S	O	N	D				
Diving	D. crested cormorant																	Mar-Aug	-	-	-
	Red-necked grebe																	-	-	-	-
	Red-throated loon																	-	-	-	-
Gull/Tern	Forster's tern																	Apr-Aug	-	-	-
	G. black-backed gull																	Mar-Aug	-	-	-
	Herring gull																	Mar-Aug	-	-	-
Passerine	Ring-billed gull																	-	-	-	-
	Acadian flycatcher																	Jun-Jul	May-Jun	Aug-Sep	-
	Belted kingfisher																	Mar-Aug	-	-	-
	Fish crow																	Mar-Aug	-	-	-
	Marsh wren																	Apr-Aug	-	-	-
Pelagic	Prothonotary warbler																	-	Apr-May	-	-
	Black-legged kittiwake																	-	-	-	-
	Northern gannet																	-	-	-	-
Raptor	Red-tailed hawk																	Mar-Aug	-	-	-
Shorebird	Semipalmated sandpiper																	-	-	Jul-Oct	-
	Spotted sandpiper																	-	-	Jul-Oct	-
Wading	BC night-heron																	-	Apr-Jun	-	-
	Clapper rail																	Mar-Aug	-	-	-
Waterfowl	American black duck																	Mar-Aug	-	-	-
																		Apr-May	Mar-Apr	Sep-Nov	-





BIRDS (continued)

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


FISH

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Diadromous												
	Brown trout												
	Freshwater												
	Rainbow trout												
	Black crappie												
	Bluegill												
	Brown bullhead												
	Chain pickerel												
	Largemouth bass												
	Pumpkinseed												
	Redfin pickerel												
	Smallmouth bass												
	Tessellated darter												
	Yellow perch												

INVERTEBRATES

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Bivalve												
	Blue mussel												
	Eastern oyster												
	Northern quahog												
	Ribbed mussel												
	Softshell clam												
	Cephalopod												
	Crab												
	Shrimp												
	Mantis shrimp												

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

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	310.98	0.49
10B	Freshwater Marshes	21.17	0.03
10C	Swamps	295.57	0.46
10D	Scrub and Shrub Wetlands	31.91	0.05
9A	Sheltered Tidal Flats	857.94	1.34

ESI SHORELINE HABITAT TYPES

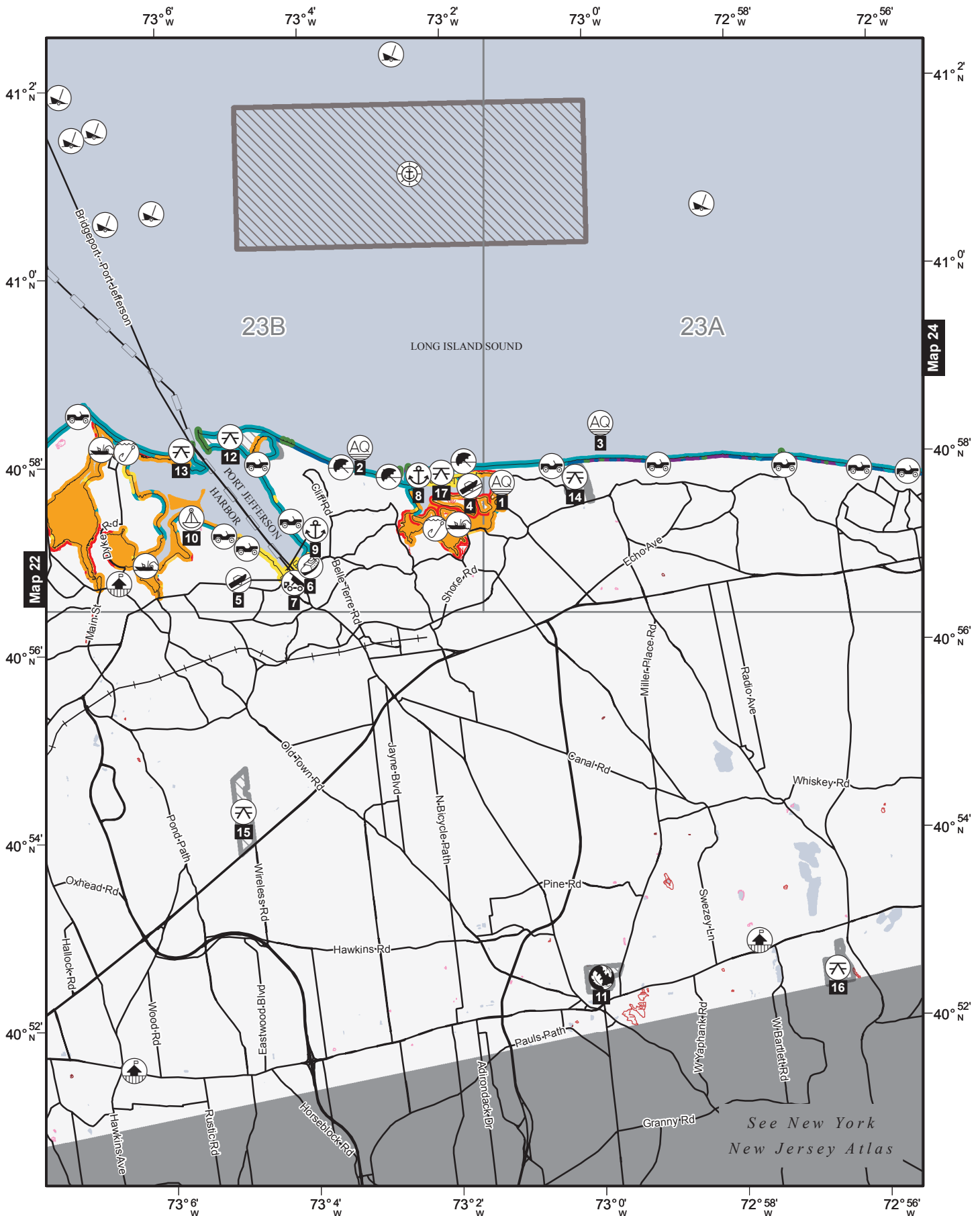
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	39,755.42	24.70	30%
10B	Freshwater Marshes	64.38	0.04	< 1%
10C	Swamps	1,232.48	0.77	1%
10D	Scrub and Shrub Wetlands	3,269.00	2.03	2%
9A	Sheltered Tidal Flats	37,746.62	23.45	29%
9B	Vegetated Low Banks	38,736.08	24.07	30%
8B	Sheltered, Solid Man-Made Structures	1,552.92	0.96	1%
6B	Riprap	295.18	0.18	< 1%
5	Mixed Sand and Gravel Beaches	4,816.80	2.99	4%
4	Coarse Grained Sand Beaches	1,602.82	1.00	1%
3B	Scarps and Steep Slopes (Sand)	964.43	0.60	1%
1B	Exposed, Solid Man-Made Structures	934.34	0.58	1%

Total ESI Shoreline: 130,970.48 Total ESI Shoreline: 81.38
 Total Shoreline: 66,409.52 Total Shoreline: 41.26

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

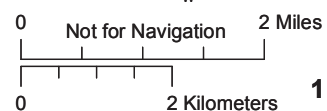




Map 23
Long Island Sound



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 23
Long Island Sound

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	AQUACULTURE	TOWN OF BROOKHAVEN MT. SINAI HARBOR (15-T)	WADE CARDEN	631-444-0481
2	AQUACULTURE	EAST END OYSTERS MT. SINAI HARBOR AREA (90-P)	WADE CARDEN	631-444-0481
3	AQUACULTURE	MT. SINAI HARBOR AREA (91-PA)	WADE CARDEN	631-444-0481
4	BOAT RAMP	CEDAR BEACH BOAT RAMP		
5	BOAT RAMP	PORT JEFFERSON BOAT RAMP		
6	FERRY	PORT JEFFERSON FERRY TERMINAL		
7	LANDFILL	PORT JEFFERSON VILLAGE CLEAN FILL	ROBERT JULIANO	631-473-4733
8	MARINA	RALPH'S FISHING STATION AND MARINA		
9	MARINA	PORT JEFFERSON MARINA		
10	REPEATED MEASUREMENT SITE	MWS - LIPJ	GREG PINIAK	301-713-3028

DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
11	NATURE CONSERVANCY	DAVIS SANCTUARY SITE	TNC NEW YORK STATE OFFICE	518-690-7850
12	PARK	MCALLISTER COUNTY PARK (UNDEVELOPED)		
13	PARK	SUFFOLK COUNTY BIRD SANCTUARY (UNDEVELOPED)		
14	PARK	CORDWOOD LANDING COUNTY NATURE PRESERVE		
15	PARK	SOUTH SETAUKET CNTY NATURE PRESERVE (UNDEVELOPED)		
16	PARK	CATHEDRAL PINES COUNTY PARK		
17	PARK	CEDAR TOWN BEACH (MUNICIPAL)		

ALSO PRESENT IN MAPPED AREA (POLYGONS)

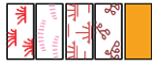
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SUMMER FLOUNDER - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	BLACK SEA BASS - JUVENILE	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
ESSENTIAL HABITAT	SCUP - ADULT	NOAA FISHERIES OFFICE OF HABITAT CONSERV.	301-713-2325
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	CONSCIENCE BAY LITTLE BAY & SETAUKET HAR	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	MOUNT SINAI HARBOR (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	PORT JEFFERSON BEACHES (SH)	JEFFREY L. HERTER	518-486-7942
ESSENTIAL HABITAT	PORT JEFFERSON HARBOR (SH)	JEFFREY L. HERTER	518-486-7942
STATE PROTECTED AREA	CONSCIENCE BAY LITTLE BAY STATE TIDAL WETLANDS	NY STATE DEPARTMENT OF ENV. CONSERVATION	631-444-0465
STATE PROTECTED AREA	DAVIS ISLAND 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		

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	147.55	0.23
10B	Freshwater Marshes	12.93	0.02
10C	Swamps	40.17	0.06
10D	Scrub and Shrub Wetlands	3.21	0.01
9A	Sheltered Tidal Flats	692.98	1.08



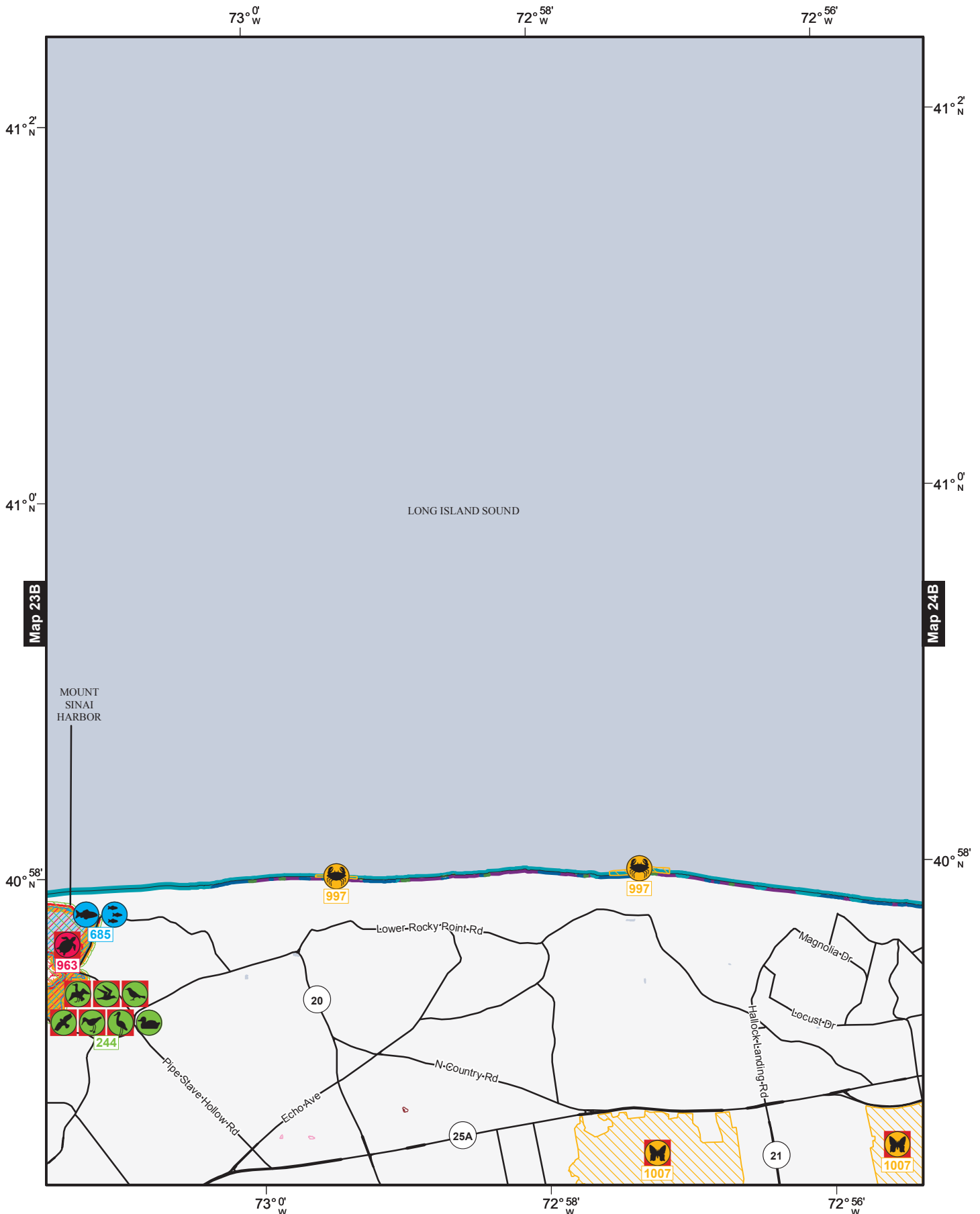
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	15,334.37	9.53	12%
10B	Freshwater Marshes	33.61	0.02	< 1%
10D	Scrub and Shrub Wetlands	264.07	0.16	< 1%
9A	Sheltered Tidal Flats	28,065.11	17.44	22%
9B	Vegetated Low Banks	31,524.06	19.59	25%
8B	Sheltered, Solid Man-Made Structures	6,763.38	4.20	5%
8C	Sheltered Riprap	1,813.19	1.13	1%
6B	Riprap	2,585.57	1.61	2%
5	Mixed Sand and Gravel Beaches	30,238.13	18.79	24%
3A	Fine to Medium Grained Sand Beaches	66.32	0.04	< 1%
3B	Scarps and Steep Slopes (Sand)	3,786.14	2.35	3%
1B	Exposed, Solid Man-Made Structures	4,340.39	2.70	3%
Total ESI Shoreline:		124,814.36	77.56	
Total Shoreline:		67,720.34	42.08	

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

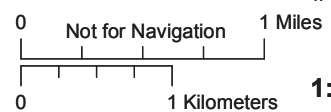




Map 23A
Long Island Sound



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 23A
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												Molt
						J	F	M	A	M	J	J	A	S	O	N	D	
244	Diving	Common loon	Wintering	C/C	Present													-
	Gull/Tern	Least tern	Concentration Area	T/T	Present												Apr-Aug	-
	Passerine	Northern parula	General Distribution	C/-	2												May	-
	Raptor	Osprey	General Distribution	-C	2												Mar-Aug	-
	Shorebird	American oystercatcher	General Distribution	T/-	2												Mar-Aug	-
	Shorebird	Piping plover	General Distribution	T/E	2												Mar-Aug	-
	Shorebird	Shorebirds	Concentration Area		Present												Jan-Dec	-
	Wading	Egrets	Concentration Area		Present												Jan-Dec	-
	Wading	Great egret	General Distribution	T/-	6												Mar-Aug	-
	Wading	Herons	Concentration Area		Present												Jan-Dec	-
	Wading	Snowy egret	General Distribution	T/-	2												Mar-Aug	-
	Waterfowl	American black duck	Wintering		Present												Apr-May	-
	Waterfowl	American wigeon	Wintering		Present												Mar-Apr	-
	Waterfowl	Bufflehead	Wintering		Present												Oct-Jun	-
	Waterfowl	Long-tailed duck	Wintering		Present												-	-
	Waterfowl	Mallard	Wintering		Present												Mar-Aug	-
	Waterfowl	Northern pintail	Wintering		Present												-	-
	Waterfowl	Scaup	Wintering		Present												Mar-Apr	-
	Waterfowl	Waterfowl	Concentration Area		Present												Jan-Dec	-

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	
685	Estuarine Nursery	Atlantic menhaden	Nursery Area		Common												May-Oct	Apr-Nov
	Estuarine Nursery	Winter flounder	Nursery Area		Common												Feb-May	Jan-Dec
	Marine Benthic	Tautog	Nursery Area		Common												Apr-Sep	Apr-Nov

REPTILES & AMPHIBIANS

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	
963	Turtle	Diamondback terrapin	Vulnerable Occurrence	C/-	Present												Jun-Jul	Jan-Dec









INVERTEBRATES

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	
997	Crab	Horseshoe crab	Spawning Area		Present												May-Jun	Jan-Dec
1007	Insect	C. barrens buckmoth	Vulnerable Occurrence	-C	Present												-	Jan-Dec
	Insect	Frosted elfin	Vulnerable Occurrence	-T	Present												Apr-May	Apr-Jun


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		2													-	-	-	-
		Common loon	General Distribution	C/C		10S													-	-	-	-
		Common tern	General Distribution	E/T		Present													May-Aug	-	-	-
		Least tern	General Distribution	T/T		5													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					
	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			Abundant													-	-	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
		Hogchoker	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Scup	Nursery Area			Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
	Summer flounder	Summer flounder	Nursery Area			Common													-	-	-	Mar-Nov	Mar-Nov
		Weakfish	Nursery Area			Abundant													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 Fish	Atlantic silverside	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Atlantic moonfish	Nursery Area			Common													-	-	-	Jan-Dec	Jan-Dec
		Cunner	Nursery Area			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Little skate	Nursery Area			Abundant													Jan-Dec	Jan-Dec	May-Aug	Jan-Dec	Jan-Dec
	Marine Benthic	Northern searobin	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Jan-Dec	Jan-Dec
		Red hake	Nursery Area			Common													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
		Silver hake	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Smooth dogfish	Nursery Area			Common													-	-	May-Oct	Mar-Nov	Mar-Nov
		Spotted hake	Nursery Area			Common													-	-	-	May-Oct	May-Oct
		Striped searobin	Nursery Area			Common													-	-	-	Mar-Nov	Mar-Nov
		Tautog	Nursery Area			Common													May-Sep	May-Sep	May-Sep	Apr-Nov	Apr-Nov
		Atlantic mackerel	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	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D		
	Turtle																			
	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	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
				S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D		
	Lobster																			
	American lobster	Nursery Area				Common													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	D		
	Dolphin																			
	Harbor porpoise	General Distribution	C/C			Present														

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					
	Razorbill																			
	D. crested cormorant															Mar-Aug				
	Horned grebe																			
	Red-necked grebe																			
	Red-throated loon																			
	Forster's tern															Apr-Aug				
	G. black-backed gull															Mar-Aug				
	Herring gull															Mar-Aug				
	Ring-billed gull																			
	Acadian flycatcher															Jun-Jul	May-Jun	Aug-Sep		
	American robin															Mar-Aug				
	Baltimore oriole															Apr-Aug				
	Barn Swallow															Apr-Aug				
	Belted kingfisher															Mar-Aug				
	Black-capped chickadee															Mar-Aug				
	Blue jay															Apr-Aug	Mar-May	Sep-Oct		
	Common grackle															Mar-Aug				
	Common yellowthroat															Apr-Aug				
	Downy woodpecker															Mar-Aug				
	Fish crow															Mar-Aug				
	Gray catbird															Mar-Aug				
	Marsh wren															Apr-Aug				
	Mourning dove															Mar-Aug				
	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-bellied woodpecker													Jun-Jul	-	-	-
	Red-winged blackbird													Mar-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Northern gannet													-	-	-	-
	Black-bellied plover													-	-	-	-
	Greater yellowlegs													-	-	-	-
	Least sandpiper													-	-	-	-
	Willet													Apr-Aug	-	-	-
	BC night-heron													Mar-Aug	-	-	-
	Great blue heron													Mar-Aug	-	-	-
	American black duck													Apr-May	Mar-Apr	Sep-Nov	-
	American wigeon													-	-	-	-
	Atlantic Brant													-	-	-	-
	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													-	-	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	-	-	-
	Scoters													-	Mar-Apr	Oct-Nov	-
	Surf scoter													-	Apr-May	Sep-Nov	-
	White-winged scoter													-	-	-	-

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Bivalve													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Eastern oyster													Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog													Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
	Ribbed mussel													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Softshell clam													May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Longfin squid													May-Jun	Jun-Jul	Jan-Dec	Jan-Dec
	Horseshoe crab													Feb-May	Feb-May	Jan-Dec	Jan-Dec
	Mantis 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	17.95	0.03
10B	Freshwater Marshes	0.61	0.00
10D	Scrub and Shrub Wetlands	0.41	0.00
9A	Sheltered Tidal Flats	36.93	0.06

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	2,039.33	1.27	8%
9A	Sheltered Tidal Flats	3,595.36	2.23	14%
9B	Vegetated Low Banks	3,513.36	2.18	14%
6B	Riprap	569.89	0.35	2%
5	Mixed Sand and Gravel Beaches	8,783.83	5.46	35%
3B	Scarps and Steep Slopes (Sand)	2,458.40	1.53	10%
1B	Exposed, Solid Man-Made Structures	3,838.69	2.39	15%

Total ESI Shoreline: 24,798.86
Total ESI Shoreline: 15.41
Total Shoreline: 12,388.19
Total Shoreline: 7.70

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 23B
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	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
103	Gull/Tern	Least tern	General Distribution	T/T			Present													Apr-Aug	-	-	-
244	Diving	Common loon	Wintering	C/C			Present													Apr-Aug	-	-	-
	Gull/Tern	Least tern	Concentration Area	T/T			Present													May	Apr-May	Sep-Oct	-
	Passerine	Northern parula	General Distribution	C/-			2													Mar-Aug	Mar-Jun	Jul-Nov	-
	Raptor	Osprey	General Distribution	-C			2													Mar-Aug	-	-	-
	Shorebird	American oystercatcher	General Distribution	T/-			2													Mar-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E			T													Mar-Aug	-	-	-
	Shorebird	Shorebirds	Concentration Area				Present													-	Jan-Dec	-	-
	Wading	Egrets	Concentration Area				Present													Jan-Dec	-	-	-
	Wading	Great egret	General Distribution	T/-			6													Mar-Aug	-	-	-
	Wading	Herons	Concentration Area				Present													Jan-Dec	Jan-Dec	-	-
	Wading	Snowy egret	General Distribution	T/-			2													Mar-Aug	-	-	-
	Waterfowl	American black duck	Wintering				Present													Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	American wigeon	Wintering				Present													-	-	-	-
	Waterfowl	Bufflehead	Wintering				Present													-	Oct-Jun	-	-
	Waterfowl	Long-tailed duck	Wintering				Present													-	-	-	-
	Waterfowl	Mallard	Wintering				Present													Mar-Aug	-	-	-
	Waterfowl	Northern pintail	Wintering				Present													-	-	-	-
	Waterfowl	Scaup	Wintering				Present													-	Mar-Apr	Oct-Nov	-
	Waterfowl	Waterfowl	Concentration Area				Present													-	Jan-Dec	-	-
245	Gull/Tern	Common tern	Nesting	E/T			Present													May-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/T			Present													Apr-Aug	-	-	-
246	Shorebird	Shorebirds	Concentration Area				Present													-	Jan-Dec	-	-
	Wading	Herons	Concentration Area				Present													Jan-Dec	Jan-Dec	-	-
247	Diving	Horned grebe	Concentration Area				Present													-	-	-	-
	Gull/Tern	Common tern	General Distribution	E/T			10S													May-Aug	-	-	-
	Passerine	Northern parula	General Distribution	C/-			Present													May	Apr-May	Sep-Oct	-
	Passerine	Savannah sparrow	General Distribution	C/-			Present													Mar-Aug	-	-	-
	Raptor	Osprey	General Distribution	-C			3													Mar-Aug	Mar-Jun	Jul-Nov	-
	Raptor	Osprey	Nesting	-C			Present													Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	American oystercatcher	General Distribution	T/-			5													Mar-Aug	-	-	-
	Wading	BC night-heron	Concentration Area				Present													Mar-Aug	-	-	-
	Wading	Great blue heron	Concentration Area				Present													Mar-Aug	-	-	-
	Wading	Great egret	Concentration Area	T/-			Present													Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-			10S													Mar-Aug	-	-	-
	Wading	Herons	Concentration Area				Present													Jan-Dec	Jan-Dec	-	-
	Wading	Snowy egret	General Distribution	T/-			10S													Mar-Aug	-	-	-

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				
	Waterfowl	American black duck	Concentration Area			Present												Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	American wigeon	Concentration Area			Present												-	-	-	-
	Waterfowl	Brant	Concentration Area			Present												-	Mar-May	Oct-Nov	-
	Waterfowl	Mallard	Concentration Area			Present												Mar-Aug	-	-	-
	Waterfowl	Waterfowl	Concentration Area			Present												-	Jan-Dec	-	-
	Waterfowl	Waterfowl	Wintering			Present												-	Jan-Dec	-	-
248	Diving	Common loon	General Distribution	C/C		Present												-	-	-	-
249	Gull/Tern	Least tern	General Distribution	T/T		Present												Apr-Aug	-	-	-
250	Gull/Tern	Common tern	General Distribution	E/T		10S												May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		100S												Apr-Aug	-	-	-
	Shorebird	Piping plover	General Distribution	T/E T		10S												Mar-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E T		Present												Mar-Aug	-	-	-
251	Gull/Tern	Common tern	Concentration Area	E/T		Present												May-Aug	-	-	-
	Gull/Tern	Least tern	Concentration Area	T/T		Present												Apr-Aug	-	-	-
	Shorebird	Piping plover	Concentration Area	T/E T		Present												Mar-Aug	-	-	-
	Waterfowl	American black duck	Concentration Area			Present												Apr-May	Mar-Apr	Sep-Nov	-
	Waterfowl	American wigeon	Wintering			Present												-	-	-	-
	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	Greater scaup	Wintering			Present												-	-	-	-
	Waterfowl	Lesser scaup	Wintering			Present												-	-	-	-
	Waterfowl	Long-tailed duck	Wintering			Present												-	-	-	-
	Waterfowl	Mallard	Concentration Area			Present												Mar-Aug	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			Present												-	-	-	-
	Waterfowl	Scoters	Wintering			Present												-	Apr-May	Sep-Nov	-
252	Gull/Tern	Least tern	General Distribution	T/T		10S												Apr-Aug	-	-	-
	Shorebird	Piping plover	Nesting	T/E T		Present												Mar-Aug	-	-	-
253	Raptor	Osprey	General Distribution	-C		Present												Mar-Aug	Mar-Jun	Jul-Nov	-
	Shorebird	Piping plover	General Distribution	T/E T		10S												Mar-Aug	-	-	-
	Wading	Great egret	General Distribution	T/-		7												Mar-Aug	-	-	-
254	Gull/Tern	Common tern	General Distribution	E/T		2												May-Aug	-	-	-
	Gull/Tern	Least tern	General Distribution	T/T		4												Apr-Aug	-	-	-
	Raptor	Osprey	General Distribution	-C		2												Mar-Aug	Mar-Jun	Jul-Nov	-
	Wading	Great egret	General Distribution	T/-		10S												Mar-Aug	-	-	-
	Wading	Snowy egret	General Distribution	T/-		2												Mar-Aug	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Mapping Qualifier	Spawn	Eggs	Larvae	Juveniles	Adults
						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
685	Estuarine Nursery	Atlantic menhaden	Nursery Area															Common				May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Estuarine Nursery	Winter flounder	Nursery Area															Common				Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Marine Benthic	Tautog	Nursery Area															Common				Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Diadromous	American eel	Nursery Area															Common				-	-	Apr-Aug	Jan-Dec	Sep-Nov
686	Diadromous	Striped bass	Nursery Area															Common				-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Bay anchovy	Nursery Area															Abundant				May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
	Estuarine Nursery	Northern puffer	Nursery Area															Common				May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	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 Resident	Atlantic silverside	Nursery Area															Abundant				May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Estuarine Resident	Fourspine stickleback	Nursery Area															Common				Apr-Jul	Apr-Jul	May-Aug	May-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	Striped killifish	Nursery Area															Abundant				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
	Marine Benthic	Atlantic tomcod	Nursery Area															Common				Nov-Feb	Nov-Mar	Dec-May	Sep-May	Sep-May
	Marine Benthic	Pollock	Nursery Area															Common				-	-	Mar-Apr	Jan-Apr	Jan-Apr
	Estuarine Nursery	Atlantic menhaden	Nursery Area															Common				May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
	Marine Benthic	Tautog	Nursery Area															Common				Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
688	Estuarine Nursery	Black sea bass	Nursery Area															Common				-	-	-	Apr-Nov	Apr-Nov
	Estuarine Nursery	Winter flounder	Spawning Area															Abundant				Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
689	Marine Benthic	Tautog	Nursery Area															Abundant				Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Marine Benthic	Atlantic tomcod	Nursery Area															Common				Nov-Feb	Nov-Mar	Dec-May	Jan-Dec	Jan-Dec
	Marine Benthic	Little skate	Nursery Area															Common				Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	CT/NY		Monthly Presence												Concentration	S	F	Mapping Qualifier	Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D									
839	Wetland	Northern gamma grass	Vulnerable Occurrence															Present				-	-	-	-	-

REPTILES & AMPHIBIANS




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

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				
997	Crab	Horseshoe crab	Spawning Area			Present												May-Jun	-	Jan-Dec	Jan-Dec
1003	Crab	Horseshoe crab	Spawning Area			High												May-Jun	-	Jan-Dec	Jan-Dec
1008	Bivalve	Atlantic surfclam	Harvest Area			Present												Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Bay scallop	Harvest Area			Low												Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Bivalve	Blue mussel	Harvest Area			Low												Apr-Oct	Apr-Oct	Jan-Dec	Jan-Dec
	Bivalve	Eastern oyster	Harvest Area			High												Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area			Low												Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Bivalve	Softshell clam	Harvest Area			High												Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Crab	Horseshoe crab	Nursery Area			Common												May-Jun	-	Jan-Dec	Jan-Dec
	Gastropod	Channeled whelk	Harvest Area			High												Sep-Nov	-	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					
	Diving	Common loon	C/C		2													-	-	-	
	Gull/Tern	Common tern	E/T		Present													May-Aug	-	-	
		Least tern	T/T		5													Apr-Aug	-	-	
		Roseate tern	E/E	E	Present													May-Aug	-	-	
	Shorebird	American oystercatcher	T/-		Present													Mar-Aug	-	-	
		Piping plover	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			Common													Mar-Jun	Mar-Jun	Mar-Jun	Mar-Oct	Mar-Oct
		American eel			Common													-	Apr-Aug	Jan-Dec	Jan-Dec	Sep-Nov
		American shad			Common													May-Jul	May-Jul	May-Aug	Jun-Nov	Apr-Jul
		Blueback herring		C/-	Common													May-Sep	May-Sep	May-Oct	Apr-Nov	Apr-Nov
		Striped bass			Common													-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Atlantic herring			Abundant													-	Mar-May	Jan-Dec	Jan-Dec	Jan-Dec
		Atlantic menhaden			Abundant													May-Oct	May-Oct	May-Nov	Apr-Nov	Apr-Nov
		Bay anchovy			Common													May-Sep	May-Sep	May-Nov	Jan-Dec	Jan-Dec
		Black sea bass			Common													-	-	-	Jan-Dec	Jan-Dec
		Bluefish			Common													Jun-Sep	Jun-Sep	Jun-Sep	Jun-Nov	Apr-Nov
		Hogchoker			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
		Scup			Abundant													May-Aug	May-Aug	May-Aug	May-Nov	May-Nov
		Summer flounder			Common													-	-	-	Mar-Nov	Mar-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			Abundant													Feb-May	Feb-May	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside			Common													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Fish	Atlantic moonfish			Common													-	-	-	Jan-Dec	Jan-Dec

Long Island Sound: Map 23B

FISH

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			
	Marine Benthic	Nursery Area			Common												May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Little skate	Nursery Area			Abundant												Jan-Dec	-	Jan-Dec	Jan-Dec
	Northern searobin	Nursery Area			Common												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	Apr-Nov	Apr-Nov
	Tautog	Nursery Area			Common												Apr-Sep	May-Sep	Jan-Dec	Jan-Dec
	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					
	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	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	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	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molt
	Harbor porpoise	General Distribution			Present														-	-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)



BIRDS

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
	D. crested cormorant																		Mar-Aug	-	-	-
	Red-necked grebe																		-	-	-	-
	Red-throated loon																		-	-	-	-
	Forster's tern																		Apr-Aug	-	-	-
	G. black-backed gull																		Mar-Aug	-	-	-
	Herring gull																		Mar-Aug	-	-	-
	Ring-billed gull																		-	-	-	-
	Acadian flycatcher																		Jun-Jul	May-Jun	Aug-Sep	-
	American crow																		Mar-Aug	-	-	-
	American goldfinch																		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				
	American robin													Mar-Aug	-	-	-
	Baltimore oriole													Apr-Aug	-	-	-
	Bank swallow													Apr-Aug	-	-	-
	Barn Swallow													Apr-Aug	-	-	-
	Belted kingfisher													Mar-Aug	-	-	-
	Black-capped chickadee													Mar-Aug	-	-	-
	Black & white warbler													Apr-Oct	Apr-Jun	Sep-Oct	-
	Blue jay													Apr-Aug	Mar-May	Sep-Oct	-
	Boat-tailed grackle													Apr-Jun	-	-	-
	Carolina wren													Apr-Jul	-	-	-
	Common grackle													Mar-Aug	-	-	-
	Common yellowthroat													Apr-Aug	-	-	-
	Downy woodpecker													Mar-Aug	-	-	-
	Eastern kingbird													Apr-Aug	-	-	-
	Eastern phoebe													May-Jul	Apr-May	Sep-Nov	-
	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	-	-	-
	N. r.-winged swallow													Apr-Aug	-	-	-
	Northern cardinal													Mar-Aug	-	-	-
	Northern flicker													Mar-Aug	-	-	-
	Northern mockingbird													Mar-Aug	-	-	-
	Prairie warbler													Apr-Aug	-	-	-
	Red-bellied woodpecker													Jun-Jul	Apr-May	Aug-Nov	-
	Red-winged blackbird													Mar-Aug	-	-	-
	Song sparrow													Mar-Aug	-	-	-
	Swamp sparrow													Mar-Aug	-	-	-
	Tree swallow													Mar-Aug	-	-	-
	Warbling vireo													Apr-Aug	-	-	-
	Yellow warbler													Apr-Aug	-	-	-
	Black-legged kittiwake													-	-	-	-
	Northern gannet													-	-	-	-
	Black-bellied plover													-	Aug-May	-	-
	Greater yellowlegs													-	May-Jun	Sep-Oct	-
	Least sandpiper													-	Apr-Jun	Aug-Oct	-
	Willet													Apr-Aug	-	-	-
	BC night-heron													Mar-Aug	-	-	-
	Great blue heron													Mar-Aug	-	-	-
	Green heron													Apr-Aug	-	-	-
	Sora													-	-	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				
	Waterfowl													Apr-May	Mar-Apr	Sep-Nov	-
	American black duck													-	-	-	-
	American wigeon													-	-	-	-
	Atlantic Brant													-	-	Oct-Nov	-
	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													-	-	-	-
	Ring-necked duck													-	-	-	-
	Ruddy duck													-	-	-	-
	Scaup													-	Mar-Apr	Oct-Nov	-
	Scoters													-	Apr-May	Sep-Nov	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	Sep-May	-	-

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
Freshwater	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					
Bivalve	Eastern oyster													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Northern quahog													Jun-Oct	Jun-Oct	Jun-Nov	Jan-Dec	Jan-Dec
	Ribbed mussel													Jun-Sep	Jun-Sep	Jun-Sep	Jan-Dec	Jan-Dec
Cephalopod	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Longfin squid													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
Crab	Green crab													Mar-Sep	Mar-Sep	May-Oct	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

INVERTEBRATES (continued)

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
 Shrimp	Spider crabs												
	Mantis shrimp												

MARINE MAMMALS

Subelement	Species	Monthly Presence											
		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

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	129.60	0.20
10B	Freshwater Marshes	5.87	0.01
10C	Swamps	1.06	0.00
10D	Scrub and Shrub Wetlands	1.54	0.00
9A	Sheltered Tidal Flats	656.07	1.03

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	13,295.72	8.26	13%
10B	Freshwater Marshes	33.61	0.02	< 1%
10D	Scrub and Shrub Wetlands	264.07	0.16	< 1%
9A	Sheltered Tidal Flats	24,471.01	15.21	24%
9B	Vegetated Low Banks	28,011.95	17.41	28%
8B	Sheltered, Solid Man-Made Structures	6,763.38	4.20	7%
8C	Sheltered Riprap	1,813.19	1.13	2%
6B	Riprap	2,015.68	1.25	2%
5	Mixed Sand and Gravel Beaches	21,454.42	13.33	21%
3A	Fine to Medium Grained Sand Beaches	66.32	0.04	< 1%
3B	Scarps and Steep Slopes (Sand)	1,327.74	0.83	1%
1B	Exposed, Solid Man-Made Structures	501.18	0.31	1%

Total ESI Shoreline: 100,018.28
Total Shoreline: 55,333.53
Total ESI Shoreline: 62.15
Total Shoreline: 34.38






































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.