

Environmental Sensitivity Index Maps

A Guide to Coastal Resources at Risk to Spilled Oil

New York/New Jersey Metro, Hudson River and South Long Island: Volume 1



Office of Response and Restoration

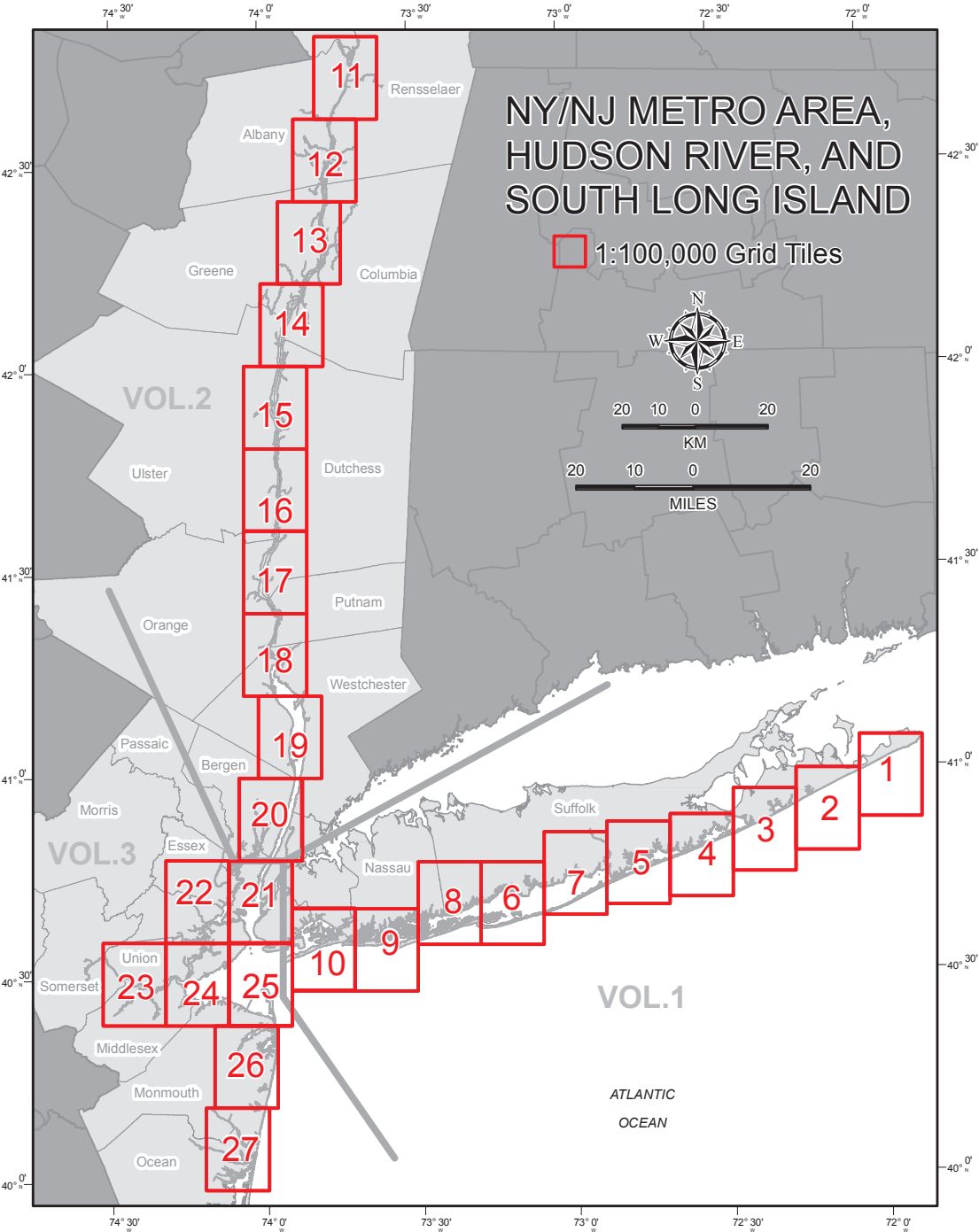
February 2016

NOAA Environmental Sensitivity Index Maps

A Guide to Coastal Resources at Risk to Spilled Oil

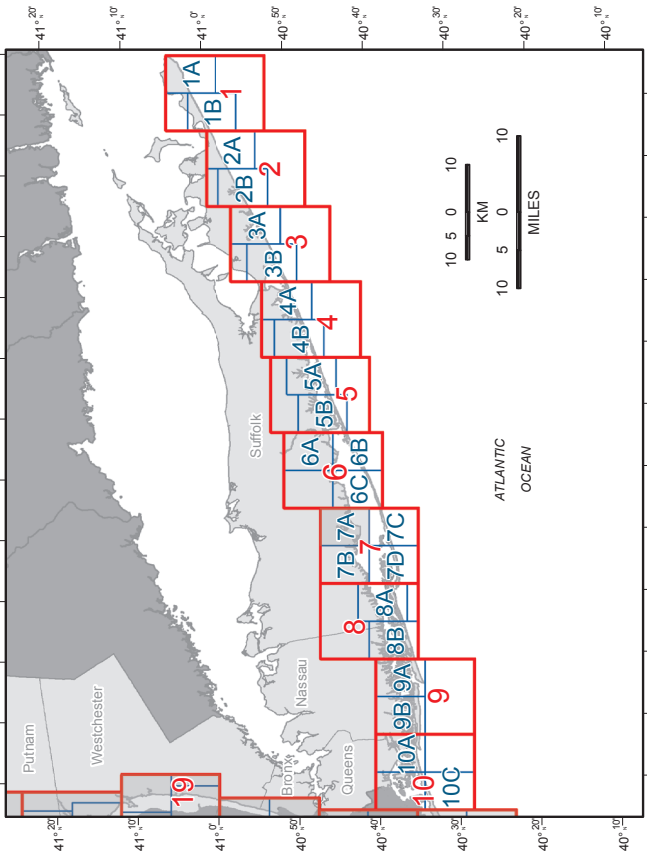
New York/New Jersey

1:100,000

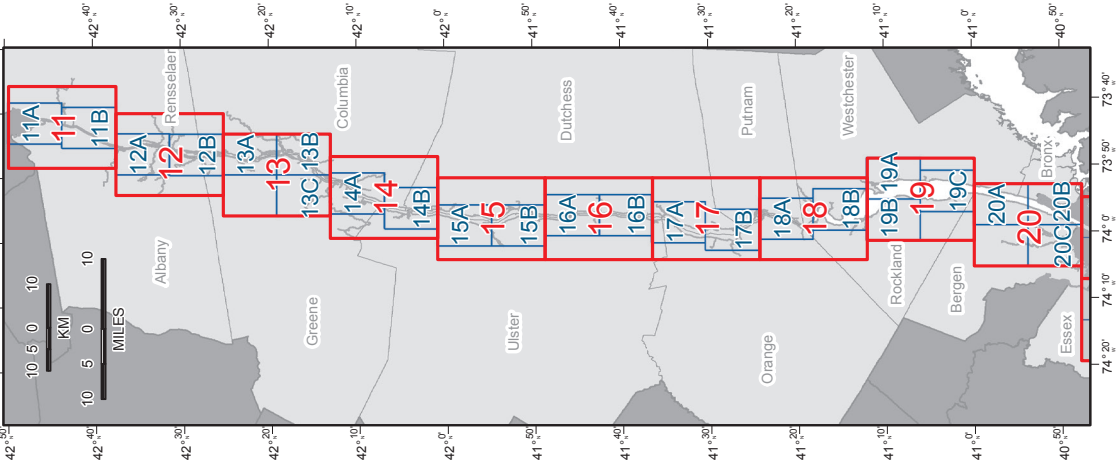


SOUTH LONG ISLAND, HUDSON RIVER, AND NY/NJ METRO AREA

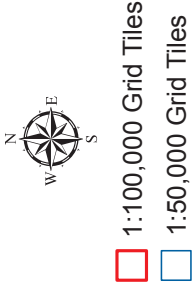
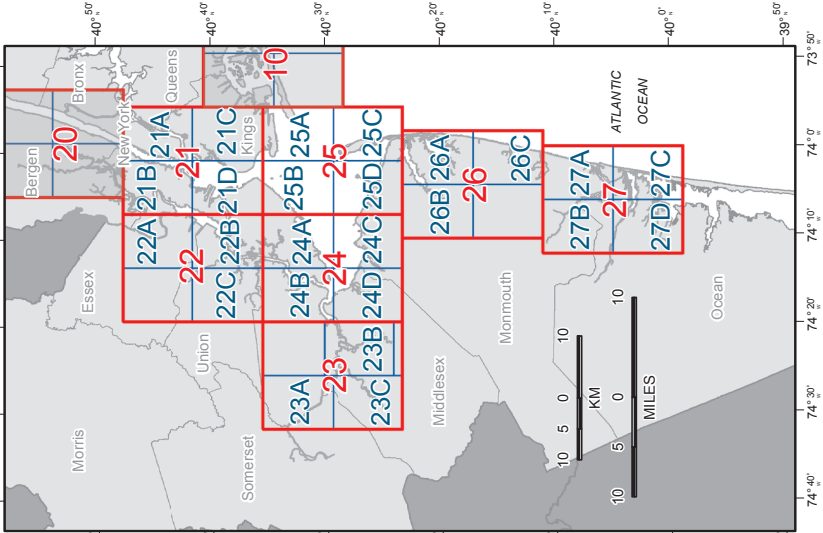
South Long Island: Volume 1



Hudson River: Volume 2



NY/NJ Metro Area: Volume 3



CONTENTS

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

Environmental Sensitivity Index Maps

Map 1: Human Use Resources	1
Map 1A: Biological Resources	5
Map 1B: Biological Resources.....	11
Map 2: Human Use Resources	17
Map 2A: Biological Resources	21
Map 2B: Biological Resources.....	27
Map 3: Human Use Resources	33
Map 3A: Biological Resources	37
Map 3B: Biological Resources.....	43
Map 4: Human Use Resources	51
Map 4A: Biological Resources	55
Map 4B: Biological Resources.....	63
Map 5: Human Use Resources	71
Map 5A: Biological Resources	75
Map 5B: Biological Resources.....	85
Map 6: Human Use Resources	95
Map 6A: Biological Resources	99
Map 6B: Biological Resources.....	105
Map 6C: Biological Resources	113
Map 7: Human Use Resources	121
Map 7A: Biological Resources	125
Map 7B: Biological Resources.....	131
Map 7C: Biological Resources	137
Map 7D: Biological Resources	145
Map 8: Human Use Resources	153
Map 8A: Biological Resources	157
Map 8B: Biological Resources.....	167
Map 9: Human Use Resources	177
Map 9A: Biological Resources	181
Map 9B: Biological Resources.....	191
Map 10: Human Use Resources	201
Map 10A: Biological Resources	205
Map 10B: Biological Resources.....	215
Map 10C: Biological Resources	225

Maps 11-20 contained in Volume 2; Maps 21-27 contained in Volume 3

ENVIRONMENTAL SENSITIVITY INDEX: NEW YORK/NEW JERSEY METRO, HUDSON RIVER, AND SOUTH LONG ISLAND

INTRODUCTION

This Environmental Sensitivity Index (ESI) atlas was developed for the Hudson River, New York/New Jersey Metro area and the southern Long Island, New York. The atlas covers the entire water body and surrounding riverine areas of the tidally influenced reach of the Hudson River, the New York/New Jersey Metro region, northern New Jersey as far south as Silver Bay, and the southern section of Long Island. The study area includes the sections of Metedeconk, Manasquan, Shark, Shrewsbury, Navesink, Raritan, Passiac and Hackensack Rivers in New Jersey as well as Sandy Hook Bay and the New Jersey side of the Hudson River. In addition to the Hudson River, major New York waterbodies captured in part within this study area include New York Harbor, Jamaica Bay, Jones Bay, South Oyster Bay, Great South Bay, Moriches Bay, Shinnecock Bay, and Mecox Bay. The inland extent of the study area includes lands and fresh waters to five nautical miles from the shoreline of tidal waters. The ESI atlas is a compilation of information from 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 nationally standardized ESI scale (see below and next page). Imagery from the New York State Office of Information Technology Service (2013 and 2011), the New Jersey Office of Information Technology (2013), and various imagery sources for Google Earth and Bing Maps (2014) were 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 Wetlands Inventory (NWI) were modified and updated to be used in conjunction with the ESI shoreline. Where necessary, multiple types were described for each shoreline segment.

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 metropolitan New York/New Jersey, the Hudson River, and South Long Island 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 Scarps in Clay, or Mud |
| 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 | 10A) Salt- and Brackish-water Marshes |
| 4) Coarse-grained Sand Beaches | 9B) Vegetated Low Banks |
| 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 are 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 agencies/organizations:

- New York State Department of Environmental Conservation (NYSDEC)
 - Division of Fish, Wildlife and Marine Resources (DFWMR)
 - Bureau of Fisheries
 - Bureau of Marine Resources
 - Bureau of Wildlife
 - New York Natural Heritage Program
 - Hudson River Estuary Program

- Hudson River National Estuarine Research Reserve (HRNEER)
- New York State Department of State (NYSDOS), Office of Planning and Development, Division of Coastal Resources
- New York Audubon Society
- New York City Audubon Society
- New Jersey Audubon Society
- U.S. Fish and Wildlife Service (USFWS)
 - Long Island National Wildlife Refuge Complex
 - Migratory Bird Program
- New Jersey Department of Environmental Protection (NJDEP)
 - Division of Fish and Wildlife (DFW)
 - Bureau of Freshwater Fisheries
 - Bureau of Shellfisheries
 - Bureau of Marine Fisheries
 - Endangered and Nongame Species Program
 - Waterfowl Ecology and Management Program
 - Division of Parks and Forestry
 - New Jersey Natural Heritage Program
- Coastal Research and Education Society of Long Island (CRESLI)
- Bayshore Regional Watershed Council
- Gotham Whale
- NatureServe
- Virginia Institute of Marine Science (VIMS) Multispecies Research Group
- National Park Service (NPS)
 - Fire Island National Seashore
 - Gateway National Recreation Area
 - Natural Resource Program Center
 - Cape Cod National Seashore – Robert Cook

The above agencies provided the majority of information included in the atlas. Other participating agencies will be cited throughout the atlas and in the metadata accompanying the digital 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 maps on these maps is “layered” in the PDF maps. This allows the user to turn off the biological features to more clearly see the underlying shoreline and habitat polygons.

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 maps on these maps is “layered” in the PDF maps. This allows the user to turn off the biological features to more clearly see the underlying shoreline and habitat polygons

The data published date appearing at the bottom of the maps and on the cover page reflect when the data collection and compilation was completed. This atlas represents those data and was published February 2016

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



Manatee



Whale

HERPETOFAUNA



Amphibian/Frog/
Snake/Lizard



Turtle

HABITAT



Upland/Wetland/Plant

BIRD



Alcid/Pelagic Bird



Diving Bird



Gull/Tern



Passerine Bird



Raptor



Shorebird



Wading Bird



Waterfowl

INVERTEBRATE



Bivalve



Cephalopod



Crab/Invertebrate/
Shellfish



Shrimp

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 whales, dolphins, porpoises, and seals. While all of these species can be found in the marine waters of the New York Bight, bottlenose dolphins and seals are the only species likely to occur regularly in inshore areas and bays.

Pinnipeds – The most abundant pinniped in NY and NJ is the harbor seal, with grey seals regularly found in small but increasing numbers. Harbor and gray seals may occur from September to May, and their numbers peak from December through April. Juvenile gray seals may occur from January through May. Seals in the NY/NJ metro area may arrive slightly later and leave earlier than in Long Island (Biolsi pers. comm.). Harp, hooded, and ringed seals are Arctic species that are occasionally found in NY and NJ. Of these, only harp seals were mapped and this species may occur January through May. Hooded and ringed seals are very rarely observed.

Harbor seals may be found in the Hudson River as far north as Albany, but only their concentration areas were mapped. Seal concentration areas were mapped using digital data and expert knowledge. Haul-out sites were buffered by 100 m to increase the visibility of these locations on the map as well as to account for seals' sensitivity to human disturbance. Areas where seals aggregate adjacent to haul-outs, such as inlets, were mapped as high concentration areas. Concentration values for haul-outs are based on survey data and interviews with experts. These values reflect either the typical range or average number of seals present at a site during the peak season.

There are five major haul-outs on the south shore of Long Island: Montauk Point, Shinnecock Bay, Cupsogue Beach (Moriches Inlet), Democrat Point, and Haunts Creek (Jones Inlet). Seals also regularly haul out on Swinburne Island in Raritan Bay. Sandy Hook contains two major haul-outs; Skeleton Hill Island and Officer's Row. At the request of Gateway National Recreation Area, seals were mapped as occasionally hauled out on the eastern shore of Sandy Hook, but this is not a major site. Seals may also be present and/or hauling out in appropriate habitats throughout the south shore bays of Long Island, Raritan Bay, Sandy Hook Bay, and other NY and NJ bays and channels.

Cetaceans – Cetaceans (whales, dolphins, and porpoises) that may occur in NY and NJ waters that were mapped in this atlas include: bottlenose dolphin (NJ state special concern), harbor porpoise (state special concern), fin whale (state and federally endangered), humpback whale (state and federally endangered), and north Atlantic right whale (state and federally endangered). Sei, blue, and sperm whales (all state and federally endangered) are rarely known to occur within the mapped Area of Interest (AOI) and were not mapped. Marine mammals with no status listing (state or federally endangered, threatened, or of concern) were only mapped if there were known concentration areas. Common dolphins and minke whales may frequent NY/NJ waters, but because there were no known concentration areas for these species, they were not mapped. All marine mammals are protected under the Marine Mammal Protection Act of 1972.

Due to their wide-ranging habits and lack of known concentration areas, cetaceans were mapped using general distributions with the exception of two Biologically Important Areas identified by Duke University. These areas consist of a fin whale foraging concentration near Montauk Point and a right

whale migratory corridor. Humpback whales were added to the Montauk foraging concentration area using expert knowledge.

Cetaceans may be present year-round, but there are seasonal changes in their abundance and distribution. Fin whales are the most common large whale in the AOI and are present throughout the year. Humpback whales are found mainly in the spring, summer, and early winter, and are becoming more common along the coast. The North Atlantic right whale is infrequently but regularly found in the AOI throughout the year and appears to use the New York Bight as a migratory corridor between southern winter calving grounds and northern summer feeding grounds. Bottlenose dolphins are typically present from March through October, while harbor porpoise numbers peak in the winter months. Cetacean concentrations and seasonality were derived from NJDEP Ocean/Wind Power Baseline Studies Final Report (2010) and NYS NHP/DEC Baseline Monitoring of Large Whales in the New York Bight (2014), and reviewed by resource experts.

Expert contacts for NY/NJ Metro Area, Hudson River and South Long Island marine mammals*:

Name	Agency	City	Phone	Species
Arthur Kopelman	CRESLI	West Sayville, NY	631-244-3352	Marine mammals
Jeanette Bowers-Altman	NJDEP	Trenton, NJ	856-629-0261	Marine mammals
Kristy Biolsi	St. Francis College	Brooklyn Heights, NY	718-489-5415	Seals
Lisa Bonacci	NYSDEC	East Setauket, NY	631-444-0462	T&E Marine mammals
Paul Sieswerda	Gotham Whale	Staten Island, NY	718-938-2067	Marine mammals
Robert DiGiovanni	Riverhead Foundation	Riverhead, NY	631-369-9840	Marine mammals

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

Major Data Sources Used: Marine Mammals

Conserve Wildlife Foundation of New Jersey. 2015. New Jersey Threatened and Endangered Species Field Guide. Available at <http://www.conservewildlifenj.org/species/fieldguide/>. Accessed July 2015.

DiGiovanni, R. 2015. Seal Haulout Sites around Long Island, NY and CT. Riverhead Foundation. Table and map.

Kopelman, A. 2014. Marine Mammal Sightings Data 1981 – 2013. Coastal Research and Education Society of Long Island (CRESLI). Spreadsheet.

LaBrecque, E., C. Curtice, J. Harrison, S.M. Van Parijs, and P.N. Halpin. 2015. Biologically important areas for cetaceans within U.S. Waters – East Coast Region. *Aquatic Mammals* 41: 30-38. Supporting vector digital data provided by the authors.

NatureServe 2014. NatureServe Central Databases. Arlington, VA. Vector digital data.

New Jersey Department of Environmental Protection, Office of Science. 2010. Ocean/wind power ecological baseline studies final report, volume III: Marine mammal and sea turtle studies. Prepared by Geo-marine, Inc. Document.

Schlesinger, M.D. and L.A. Bonacci. 2014. Baseline monitoring of large whales in the New York Bight. New York Natural Heritage Program and New York State Department of Environmental Conservation. Albany and East Setauket, NY. Document.

Sieswerda, P. 2014. Marine Mammal Sightings in the NY Bight 2008 – 2014. Gotham Whale. Spreadsheet.

BIRDS

Bird species are included in this atlas either because of their likelihood of direct or indirect impact by an oil spill or similar incident, their general rarity or imperilment, or their special protection status as threatened or endangered. Migratory or wintering concentration areas, nesting sites and colonies, and protected species are especially emphasized. Bird concentration areas depicted in this atlas are described for various groups of birds below.

Colonial waterbirds, shorebirds, and wading birds – Nesting locations for terns, gulls, cormorants, and herons along with breeding locations for piping plovers (state endangered and federally threatened) and other solitary nesting shorebird locations were mapped using digital polygon data obtained from NYSDEC, NY NHP, and NatureServe (NJ). Concentration values were generalized when presented for a range of dates (10-25, or 100s, 1000s, etc.) or left blank when not available. Migratory hotspot locations of terns and shorebirds were mapped using survey data provided by NY Audubon, NY NHP, and NatureServe (NJ). Concentration values, when presented, represent ranges or generalized values. Wading bird hotspot foraging locations and roost sites were mapped using survey data and expert knowledge provided by NJ Audubon and NY Audubon. Concentration values for wading bird foraging and roosting locations indicate high counts. In some instances, general distributions of sensitive species were mapped in association with habitat features using the NYSDOS Significant Coastal Fish and Wildlife Habitats narrative and accompanying digital polygon data.

Secretive marsh birds and marsh obligate passerines – Salt and freshwater marshes are ranked as highly sensitive to oiling due to their biological productivity and the tendency for oil to persist based on low relative exposure to wind/wave energy and the difficulties associated with human cleanup activities. Marshes are extremely valuable for a suite of bird species in the region including rails, bitterns, and marsh obligate passerines, and should be prioritized for protection wherever they exist. Due to the difficulties of surveying in these areas, and in an effort to highlight specific known nesting occurrences, we only mapped nesting locations from point count surveys (Hudson River region), NY NHP, NatureServe (NJ), and the NY DOS Significant Coastal Fish and Wildlife Habitats narrative and associated polygon data. General distributions based on habitat associations were not mapped as they have been in the past. Therefore, an absence of a polygon in a region does not mean a species will not be present in the event of a spill.

Waterfowl – The majority of the Atlantic flyway population of Atlantic Brant and a significant portion of American black ducks overwinter in the marshes fringing the large bays of New York and New Jersey. Particular consideration is given to these key species during region wide aerial surveys as is evident in the atlas data. Based on consultation with resource experts and due to the large geographic scale at which winter waterfowl surveys are conducted, we mapped winter waterfowl distributions to large waterbodies and adjacent marsh habitat. In an effort to reduce complexity and place an emphasis on the overall number of individuals utilizing a particular region, we chose to only map species that contained 100 or more individuals per survey area. Counts of species that did not meet this threshold within a surveyed area were aggregated together and displayed as wintering “waterfowl”. This method reduces clutter on the map while still placing an emphasis on the regions providing critical over-wintering waterfowl habitat. Smaller non-contiguous habitat within the survey area was noted as providing general distribution habitat to “waterfowl” during the winter season. Qualitative rather than quantitative terms were used to describe the concentration values of these areas. Additional areas providing critical foraging habitat and refuge areas for migrating waterfowl were mapped when data was available. The majority of the wintering and migratory occurrences were mapped using the USFWS Mid-winter Waterfowl Survey, data from NJ Audubon, and the NY DOS Significant Coastal Fish and Wildlife Habitats narrative and associated polygon data.

Nesting locations for resident waterfowl species were obtained from the NYSDEC Breeding Waterfowl Survey, the NY DOS Significant Coastal Fish and Wildlife Habitats narrative and associated polygon data, and some found opportunistically during other regional surveys. Similar to other marsh obligate nesting birds, the difficult nature of surveying in marsh habitat resulted in nesting waterfowl distributions in the area to be underrepresented within the atlas. Resident populations of waterfowl depend heavily on salt and freshwater marshes for breeding and therefore could be present within this habitat during the spring and summer breeding months.

Raptors – Nesting locations for bald eagles (NJ state endangered, NY state threatened), peregrine falcons (state endangered), osprey (NJ state threatened, NY state special concern), and northern harriers (NJ state endangered, NY state threatened) were mapped as points in New Jersey and polygons in New York at the request of the data providers; NatureServe (NJ) and NY NHP. Additionally, breeding locations of the state endangered short-eared owl were mapped as polygons along the southern shore of Long Island, NY. Wintering locations and migratory stopover concentrations were mapped as polygons where appropriate using the NY NHP data and the NY DOS Significant Coastal Fish and Wildlife Habitats narrative and associated polygon data.

Seabirds – No pelagic seabirds nest within the AOI but certain species are predicted to use the offshore region depicted within the atlas. The general distributions of seabirds off of New York and New Jersey were mapped using models created by researchers at the National Centers for Coastal Ocean Science using the Compendium of Avian Information database. Predictive models of seasonal occurrence were evaluated for inclusion on the map. Distributions were shown on the atlas when abundance was predicted to be higher than one individual per one kilometer pixel. These raster pixels were then converted to vector data and incorporated into coastal (0 – 1 nautical miles), nearshore (1-2 nautical

miles), mid-shore (2-4) nautical miles) or offshore polygons (6-12 nautical miles from shore). Additional high concentration areas were added off of the coast of Long Island using information from the NY DOS Significant Coastal Fish and Wildlife Habitats narrative and associated polygon data and a study conducted by Loring and others 2014.

Rare, threatened and endangered passerines – Nesting location of rare, threatened or endangered passerines were included as polygons in this atlas even when hydrographically removed from large waterbodies in an effort to make this regional update more usable in an all hazards context. These data were obtained from the NY NHP and NatureServe (NJ) databases and concentration values were set to equal one pair unless otherwise noted in the original data.

Expert contacts for NY/NJ Metro Area, Hudson River and South Long Island birds*:

Name	Agency	City	Phone	Species
Angelika Beckman	NYSDEC	Albany, NY	845-256-3098	marsh nesting birds
Elizabeth Craig	Cornell University	Ithaca, NY		harbor herons
Kerri Dikun	NY Audubon	Oyster Bay, NY	516-922-3200	shorebirds
Nellie Tsipoura	NJ Audubon	Bernardsville, NJ	908-204-8998	wading birds
Susan Elbin	NYC Audubon	New York, NY	212-691-7483	wading birds
Ted Nichols	NYDEP	Trenton, NJ	609-292-6685	waterfowl

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

Major Data Sources Used: Birds

Beckmann, A. 2014. Hudson River Marsh Bird Monitoring Program, 2010-2014. Vector digital data and spreadsheet.

Dikun, K. 2014. Shorebird Migration Survey Data. Vector digital data, spreadsheet and expert Knowledge.

Dikun, K. 2014. Long Island Shorebird Hotspots; Selected Ebird Observations. Vector digital data and expert knowledge.

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HERPETOFAUNA

Sea Turtles – Green (state and federally threatened), Kemp’s ridley (state and federally endangered), leatherback (state and federally endangered), and loggerhead (NJ endangered, NY and federally threatened) sea turtles were included in this atlas. The Atlantic hawksbill sea turtle is listed as endangered federally and by the states of NY and NJ, but it was not mapped due to its rarity in this region.

Polygons represent potential in-water presence in bays and the Atlantic Ocean. The bays, particularly along the south shore of Long Island, are seasonal foraging grounds for green, Kemp’s ridley, and loggerhead sea turtles. Sea turtles typically do not arrive in NY/NJ waters until May or June and migrate south by mid-November. Sea turtles are not known to nest in this AOI. The loggerhead sea turtle is the most common sea turtle in these waters. Leatherback sea turtles are also common, but tend to be farther offshore in deeper water than the other species. However, leatherback sea turtles will sometimes utilize eastern Long Island bays near the inlets (Kopelman pers. comm.). Kemp’s ridley sea turtles are

uncommon but regular in this area as juveniles. Green sea turtles are least common of the mapped sea turtles in this atlas. Sea turtle general distributions were mapped largely based on expert knowledge and the New Jersey Threatened and Endangered Species Field Guide.

Northern Diamondback Terrapin – Terrapins rely exclusively on coastal salt marshes, back bays, tidal creeks and associated habitat making them extremely susceptible to a marine oil spill. Although once widespread in the region, terrapins have declined in recent years owing to high predation rates in historically productive areas. The locations depicted in this atlas indicate known current nesting locations but suitable habitat is widespread in this atlas region and there is potential for terrapins to be present in most bays and estuaries in New York and New Jersey. Breeding locations included in this atlas for terrapins were obtained from survey data collected by Russel Burke, Hofstra University, Michael Farina, Marine Nature Study Area; Oceanside, NY and Robert Cook, National Park Service. Additional nesting locations and some general distribution locations were obtained from NY NHP, NatureServe (NJ), and the NY DOS Significant Coastal Fish and Wildlife Habitats narrative and associated polygon data. These locations were further refined during data review sessions with local resource experts.

Threatened, endangered and other rare reptiles and amphibians – Other reptile and amphibian species were added to the atlas based on their conservation status, their dependence on the aquatic environment during sensitive life stages (breeding in particular), their rarity in the region, or based on expert input. At the request of data providers, some species locations were buffered and species names masked to prevent illegal collection. The bulk of the data was obtained from NY NHP, NatureServe (NJ), NY DOS Significant Coastal Fish and Wildlife Habitats narrative and associated polygon data, and from interviews with resource experts.

Expert contacts for NY/NJ Metro Area, Hudson River and South Long Island herpetofauna*:

Name	Agency	City	Phone	Species
Arthur Kopelman	CRESLI	West Sayville, NY	631-244-3352	Sea turtles
Erik Kiviat	Hudsonia	Annandale, NY	845-758-7053	Atlantic coast leopard frog
Jeanette Bowers-Altman	NJDEP	Trenton, NJ	856-629-0261	Sea turtles
Mike Farina	Marine Nature Study Area	Oceanside, NY	516-766-1580	diamondback terrapins
Nick Conrad	NY NHP	Albany, NY	518-402-8944	Rare, T&E herps
Robert Cook	NPS	Wellfleet, MA	508-487-3262	Reptiles and Amphibians
Robert DiGiovanni	Riverhead Foundation	Riverhead, NY	631-369-9840	Sea turtles
Russell Burke	Hofstra University	Hempstead, NY	516-463-5521	diamondback terrapins

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

Major Data Sources Used: Herpetofauna

- Burke, R. 2015. Nesting Locations of Northern Diamondback Terrapins. Hofstra University. Spreadsheet and expert knowledge.
- Conserve Wildlife Foundation of New Jersey. 2015. New Jersey Threatened and Endangered Species Field Guide. Available at <http://www.conservewildlifenj.org/species/fieldguide/>. Accessed July 2015.
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- Cook, R.P., D.K. Brotherton and J.L. Behler. 2010. Inventory of Amphibians and Reptiles at Fire Island National Seashore. Natural Resource Report NPS/NCBN/NRTR-2010/378. Report and expert knowledge.
- Cook, R.P., D.K. Brotherton and J.L. Behler. 2010. Inventory of Amphibians and Reptiles at the William Floyd Estate, Fire Island National Seashore. Natural Resource Report NPS/NCBN/NRTR-2010/380
- Farina, M. 2015. Nesting Locations of Northern Diamondback Terrapins. Marine Nature Study Area; Oceanside, NY. Spreadsheet and expert knowledge. Report and expert knowledge.
- NatureServe 2014. NatureServe Central Databases. Arlington, VA. Vector digital data.
- New York Natural Heritage Program, SUNY College of Environmental Science and Forestry and New York State Department of Environmental Conservation. October, 2015. Biodiversity Databases, Element Occurrence Digital Data Set. Albany, NY. Vector digital data.
- New York State Department of State, Division of Coastal Resources. 2012. Significant Coastal Fish and Wildlife Habitats Narratives 1987 – 2012. Albany, NY. Documents.
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TERRESTRIAL MAMMALS

The terrestrial mammals depicted in this atlas are limited to special status species. These are: Alleghany woodrat (NY/NJ endangered), New England cottontail (NY special concern), Indiana bat (NY and federally endangered), Eastern small-footed myotis (NY special concern), and northern myotis (NY and federally threatened). The only listed terrestrial mammal occurring within the NJ portion of the AOI is the Alleghany woodrat. Digital polygon data from NatureServe (NJ) and the NYS NHP were used to map terrestrial mammal locations. Bat colonies, after being offset, were buffered by 1,000-m due to their sensitivity to human disturbance.

Semi-aquatic furbearing mammals such as beaver, muskrat, mink, and river otters occur throughout the NY/NJ AOI but were not mapped due to their relatively wide distribution and a lack of information regarding particular concentration areas. Muskrats are common in a variety of wetland habitat including brackish and freshwater marshes, ponds, and streams. Mink are less numerous than muskrats, but are

also widely distributed in a variety of wetland habitats. Beavers are widespread in the Hudson River corridor, but populations tend to be low in areas of dense human population such as the NY/NJ metro area. Beaver rarely occur on Long Island. River otters are gradually re-colonizing Long Island following extirpation, but established territories have not been documented around the south shore bays, including the Carmans River, the Connetquot River, and other suitable habitat (Bottini pers. comm.).

Expert contacts for NY/NJ Metro Area, Hudson River and South Long Island terrestrial mammals*:

Name	Agency	City	Phone	Species
Andrew Burnett	NJDEP	Trenton, NJ	609-748-2058	Furbearers
Jeanette Bowers-Altman	NJDEP	Trenton, NJ	856-629-0261	Rare, T&E mammals
Josh Stiller	NYSDEC	Stonybrook, NY	631-444-0311	Furbearers
Mike Bottini	Private	East Hampton, NY	631-267-5228	River Otter
Nick Conrad	NY NHP	Albany, NY	518-402-8944	Rare, T&E mammals
Sean Madden	NYSDEC	Albany, NY	518-402-8977	Mink

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

Major Data Sources Used: Terrestrial Mammals

NatureServe 2014. NatureServe Central Databases. Arlington, VA. Vector digital data.

New York Natural Heritage Program, SUNY College of Environmental Science and Forestry and New York State Department of Environmental Conservation. October, 2015. Biodiversity Databases, Element Occurrence Digital Data Set. Albany, NY. Vector digital data.

FISH

Finfish depicted in this atlas include selected marine, estuarine, and freshwater species. Species of conservation interest, commercial or recreational importance, or ecological importance are emphasized. Fish polygons were created based on survey information, digital data, and expert opinion provided primarily by resource experts at NJDEP and NYSDEC. Concentrations used for survey data include "LOW", "MEDIUM", "HIGH", and "ABUNDANT" or in the case of mid-Atlantic Estuarine Living Marine Resources (ELMR) "RARE", "COMMON", "ABUNDANT", AND "HIGHLY ABUNDANT." In the absence of concentration information, a concentration of "PRESENT" was assigned. In special cases, other concentrations are used.

Atlantic and shortnose sturgeon – Atlantic (NJ state endangered, federally endangered) and shortnose sturgeon (federally and state endangered) were mapped to areas where they are known to occur. Polygons were based on data provided by NYSDEC staff, Dr. Keith Dunton of Delaware State University, published literature, and expert knowledge from Kathy Hattala and Kim McKown of NYSDEC. Important spawning, nursery, and wintering areas on the Hudson River were identified by Kathy Hattala. Coastal aggregation areas of subadult Atlantic sturgeon near the Rockaways and Sandy Hook

were based on Dunton and others 2010. An Atlantic sturgeon migratory route along the NY/NJ coast to the 20 m isobath was mapped using Dunton and others 2015.

River herring and American shad - Alewife and blueback herring, collectively known as river herring, and American shad are anadromous fish that once supported the largest commercial and recreational fisheries on the Atlantic Coast but have become severely depleted due to blockages of spawning runs, habitat loss, and overfishing. Spawning runs were mapped using information provided by NJDEP and NYSDEC as well as knowledge from agency biologists and local experts. River herring runs were mapped to the first known barrier such as a dam or impassable gradient. If the run went beyond the water features in the ESI hydrographic layer, then it was mapped using stream line features and buffered by 5 m to convert to a polygon feature. These areas are designated with "Spawning Area" and "Nursery Area" mapping qualifiers to emphasize these important life history stages. The concentration "KNOWN" was used to indicate runs with recently confirmed spawning activity, and "POTENTIAL" was used for runs with fish passage improvement projects. Embayments on the Hudson River are important to early life stages of river herring and were included as nursery areas. River herring pre-spawning concentrations at the mouths of certain rivers were mapped as migration areas. Timing of migration and spawning was provided by resource experts. Additional anadromous fish concentration areas on the Hudson River were mapped using NY NHP data, and an anadromous fish migration corridor on the lower Hudson River was mapped using expert knowledge.

FISH - HUDSON RIVER

In addition to sturgeon, river herring, and American shad, special attention was given to mapping the following commercially or recreationally important species on the Hudson River: American eel, striped bass, Atlantic tomcod, largemouth bass, smallmouth bass, and walleye. The Lower Hudson River and its tributaries provides extensive spawning and nursery habitat for these species. Resource experts from NYSDEC provided most of the information used to map general distributions and critical spawning, nursery, and wintering areas, and seasonalities. The 2002-2007 Hudson fish distribution data (AKRF 2010) were used to delineate spawning and nursery areas for Atlantic tomcod. Mid-Atlantic ELMR data were used map the general distribution, concentration values, and seasonality for other species in the Hudson River estuary based on salinity zones. In some cases, distributions were further refined with additional salinity data from The Nature Conservancy. Important multi-species concentration areas such as Haverstraw Bay were identified using NYSDOS Significant Coastal Fish and Wildlife Habitat digital data and narratives.

FISH – BAYS AND ESTUARIES

Long Island- NYSDEC staff provided Western Long Island (WLI) beach seine data for 1984 – 2013 that was used to develop initial species lists and concentrations for individual bays. The WLI surveys occur May – October and sampling stations are fixed locations based on accessibility. Of the south shore bays, Jamaica Bay has been sampled the longest and most consistently, with limited sampling on the south shore of central Long Island due to lack of accessibility.

On the south shore, the WLI sampling stations are divided into 6 bays: Jamaica Bay, South Oyster Bay, Great South Bay, Bellport Bay, Moriches Bay, and Shinnecock Bay. Species occurrence rates based on how often a species was encountered in each bay were used to determine concentration values of “LOW”, “MEDIUM”, and “HIGH” based on the first, second and third, and fourth quartiles respectively. Only the five most recent years of survey data were summarized for Jamaica Bay due to its consistent coverage throughout all years of the WLI survey; for less surveyed bays all years of available data were included.

NYSDOS Significant Coastal Fish and Wildlife Habitat narratives were reviewed for additional species information for the south shore bays and rivers including Carls River, Carmens River, and Connetquot River. One listed species, the banded sunfish (NY state threatened), occurs in the Peconic River system on Long Island and was mapped using NYS NHP data. Major inlets were mapped as concentration areas for species such as bluefish and striped bass, as well as for eggs and larvae of tautog and black sea bass that can drift in from nearshore spawning areas. Winter migrants, Atlantic cod and Atlantic mackerel, were mapped using NYSDEC expert knowledge. The resulting species lists and concentrations for each bay were reviewed and modified through discussions with NYSDEC resource experts. Seasonality was determined using Mid-Atlantic ELMR, NYSDEC expert knowledge, and published literature.

Raritan Bay and NJ Bays and Estuaries – Mid-Atlantic ELMR data were used to fill in species information within NJ waters and Raritan Bay. Primarily, mid-Atlantic ELMR data were used in Barnegat Bay and other smaller inland bays along the NJ coast. Concentrations and seasonality were adopted as is. NOAA’s Essential Fish Habitat (EFH) vector digital data were used for mapping Highly Migratory Species.

FISH – ATLANTIC OCEAN

The ocean distribution of fish was mapped using three fisheries independent trawl survey datasets; NJ Ocean Trawl Survey (OTS), VIMS Northeast Area Monitoring and Assessment Program (NEAMAP), and NMFS Northeast Fisheries Science Center Bottom Trawl survey. EFH vector digital data were used for mapping Highly Migratory Species. A concentration area at Montauk Point Shoals was mapped using NYSDOS Significant Coastal Fish and Wildlife Habitat. Seasonality was determined using NJ OTS data (described below), EFH source documents, Able and Fahay 2010, Castro 2011, and expert knowledge.

Independent sampling data from NJ OTS and NEAMAP were provided as catch per unit effort (CPUE) by station. Polygons used to aggregate sampling stations were based on the depth strata used by NJ OTS and correspond to generalized 10-m and 20-m isobaths. These polygons were further divided into along the south shore of Long Island from west to east using divisions at the Fire Island and Moriches inlets.

NJ ocean fish – The NJ OTS was the primary dataset used to determine concentration values and seasonality for NJ ocean fish distribution. This is a multispecies survey that occurs five times a year (January, April, June, August, and October). Survey strata are assigned to 3 different depth regimes; inshore (3-5 fathoms), midshore (5-10 fathoms), and offshore (10-15 fathoms). The most recent 10 years of available data (2004 – 2013) were used for this effort.

The presence of a species for a given month, in a given depth strata, was based on the occurrence rates. Species caught more than one tenth of the time at sampling stations within a polygon and across the ten-year sampling window were marked as present for that month. Species with similar life history, behavior, and habitat requirements were grouped into ELMR guilds for comparison. Within these guilds, average CPUE for all months was used to assign “LOW”, “MEDIUM”, and “HIGH” concentrations, corresponding to the first, second and third, and fourth quartiles of averaged CPUE respectively. Concentration and seasonality information was sometimes adjusted based on review by NJDEP BMF staff or to be consistent with published information.

NY ocean fish – Data from NEAMAP were used to map the inshore and midshore fish distributions in NY. Sampling for this program occurs in the spring and fall (typically May and October) and data used for this effort were collected from 2007 to 2013. NEAMAP data were supplemented with NMFS data (1979-2008) for the offshore polygons and for species not included in the NEAMAP data. Concentrations were assigned using the same method as with NJ OTS. The NMFS data that was downloaded from the U.S. Ocean Biogeographic Information System did not include catch numbers; therefore, species were mapped as “PRESENT” if they appeared in the NMFS bottom trawl survey for a given polygon.

FISH – LAKES AND PONDS

Recreationally important freshwater fish were mapped in NY using the Recommended Public Fishing Areas vector data and interviews with NYSDEC fisheries biologists on Long Island and in the NYC metro area. These areas were given the mapping qualifier “HARVEST AREA” to emphasize the recreational/economic value of the species mapped within them. NYSDEC biologists provided seasonality and concentrations.

Expert contacts for NY/NJ Metro Area, Hudson River and South Long Island fish*:

Name	Agency	City	Phone	Species
Byron Young	NYSDEC (retired)	East Quogue, NY	631-294-9612	Alewife
Charles Guthrie	NYSDEC	Stonybrook, NY	518-402-8924	Freshwater fish
Chris Bowser	NYSDEC	New Paltz, NY	845-889-4745	American eel
Heather Corbett	NJDEP	Port Republic, NJ	609-748-2020	Marine fish
Jeanette Bowers-Altman	NJDEP	Trenton, NJ	856-629-0261	Sturgeon
Kathy Hattala	NYSDEC	New Paltz, NY	845-256-3071	Anadromous Fish
Kim McKown	NYSDEC	East Setauket, NY	631-444-0454	Marine fish
Melissa Cohan	NYSDEC	Long Island City, NY	718-482-4022	Freshwater fish
Mike Boriek	NJDEP	Lebanon, NJ	908-236-2118	River Herring
Mike Flaherty	NYSDEC	New Paltz, NY	845-256-3066	Freshwater fish

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

Major Data Sources Used: Fish

- Able, K.W. and M.P. Fahay. 2010. Ecology of Estuarine Fishes: Temperate Waters of the Western North Atlantic. The Johns Hopkins University Press, Baltimore, MD.
- AKRF, Inc. 2010. Distribution patterns of selected fish species of the Hudson River 2002-2007. Prepared for the New York State Department of Environmental Conservation. Document and database.
- Bowser, C., Mount, S., Maloney, Z., and Walker, L. 2013. The Hudson River Eel Project: Citizen science juvenile American eel surveys 2008-2013. New York State Department of Environmental Conservation Hudson River Estuary Program and National Estuarine Research Reserve with NYS Water Resource Institute at Cornell. New Paltz, NY. Document.
- Castro, J.I. 2011. The Sharks of North America. Oxford University Press, New York, NY.
- Dunton, K.J., A. Jordaan, K.A. McKown, D.O. Conover, and M.G. Frisk. 2010. Abundance and distribution of Atlantic sturgeon (*Acipenser oxyrinchus*) within the northwest Atlantic Ocean, determined from five fishery-independent surveys. Fishery Bulletin 108: 450-465.
- Dunton, K.J., A. Jordaan, D.O. Conover, K.A. McKown, L.A. Bonacci, and M.G. Frisk. 2015. Marine distribution and habitat use of Atlantic Sturgeon in New York lead to fisheries interactions and bycatch. Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science 7: 18-32.
- Hattala, K. 2015. Hudson River species and river use. New York State Department of Environmental Conservation, Hudson River Fisheries Unit. New Paltz, NY. Spreadsheet.
- Hattala, K. 2015. List of Hudson River tributaries and embayments potentially used by river herring. New York State Department of Environmental Conservation, Hudson River Fisheries Unit. New Paltz, NY. Document.
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service. 2009. Northeast Fisheries Science Center Bottom Trawl Survey Data 1979 – 2008. Woods Hole, MA. Downloaded March 31, 2015 from <http://www.usgs.gov/obis-usa/search/?datasetid=NEFSC#>. Spreadsheet.
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Sustainable Fisheries. 2009. Essential Fish Habitat for Atlantic Highly Migratory Species. Silver Springs, MD. Vector digital data.
- New Jersey Department of Environmental Protection, Division of Fish and Wildlife, Bureau of Marine Fisheries. 2014. New Jersey BMF Ocean Trawl Survey (OTS) Data 2004 – 2013. Spreadsheet.
- New York Natural Heritage Program, SUNY College of Environmental Science and Forestry and New York State Department of Environmental Conservation. October 2015. Biodiversity Databases, Element Occurrence Digital Data Set. Albany, NY. Vector digital data.

- New York State Department of Environmental Conservation, Division of Fish, Wildlife, and Marine Resources, Bureau of Fisheries. 2011. Public Fishing Recommended Sites. Albany, NY. Vector digital data.
- New York State Department of Environmental Conservation, Division of Fish, Wildlife, and Marine Resources, Bureau of Marine Resources. 2014. Western Long Island Beach Seine Survey 1984 – 2013. East Setauket, NY. Access database.
- New York State Department of State, Division of Coastal Resources. 2012. Significant Coastal Fish and Wildlife Habitats Narratives 1987 – 2012. Albany, NY. Documents.
- New York State Department of State, Division of Coastal Resources. 1998. Significant Coastal Fish and Wildlife Habitats 2.0. Albany, NY. Vector digital data.
- Smith, C. 2012. Inventory and status of anadromous clupeid spawning migrations in New Jersey freshwaters (2002-2007). New Jersey Department of Environmental Protection, Division of Fish and Wildlife, Bureau of Freshwater Fisheries. Document.
- Stone, S.L., T.A. Lowery, J.D. Field, C.D. Williams, D.M. Nelson, S.H. Jury, M.E. Monaco, and L. Andreasen. 1994. Distribution and abundance of fishes and invertebrates in Mid-Atlantic estuaries. ELMR Rep. No. 12. NOAA/NOS Strategic Environmental Assessments Division. Silver Spring, MD. Document and spreadsheet.
- Young, B. 2014. Known and suspected alewife spawning streams on Long Island. Vector digital data.
- Virginia Institute of Marine Science Multispecies Research Group. January 2015. Northeast Area Monitoring and Assessment Program (NEAMAP) selected bottom trawl data for NY/NJ. Gloucester Pt., VA. Spreadsheet.

INVERTEBRATES

Invertebrates depicted in this atlas include selected marine and estuarine species of commercial, recreational, ecological, and/or conservation interest. Several known invertebrate concentrations, as well as larger, more general areas where invertebrate habitat exists, were mapped.

INVERTEBRATES – HUDSON RIVER

The invertebrates mapped in the Hudson River estuary are blue crab, freshwater mussels, and rare insect species. Blue crab can potentially occur throughout the Hudson River below river mile 74, but only the probable mating and nursery distribution was mapped. Mating and nursery areas are typically shallow (3 m or less) water and salt marsh habitat from river mile 0 to 74 (Kenney pers. comm.). Important concentration areas are Haverstraw Bay, Tappan Zee Bay, and Newburgh Bay.

Based on freshwater mussel sampling by the Cary Institute, the section of the tidal Hudson River from river mile 132 to 154 supports a relatively large freshwater mussel population. The species that occur there are the tidewater mucket, alewife floater, and eastern elliptio. Eastern elliptio is the most common

of these species. While these species are unlisted, their numbers have been greatly reduced by the invasive zebra mussel, and the alewife floater and tidewater mucket are both state ranked as critically imperiled. Gravid females, larvae, and juveniles are particularly sensitive to environmental stress. Densities (number of mussels per m²) were provided by the Cary Institute and used in the concentration field. Additional locations of the alewife floater and eastern elliptio, as well as rare insect species, were mapped using NYS NHP data.

INVERTEBRATES – BAYS AND ESTUARIES

Shellfish – Shellfish landings data provided by NYSDEC were the primary data source for mapping shellfish distribution and concentrations in the Long Island south shore bays. For concentration, the average number of bushels landed in each bay from 2009 – 2013 was summarized for each species except for whelk. There is no mandatory reporting of harvest for whelk species, resulting in severe underestimates (McKown pers. comm.). Shellfish areas mapped with landings data were assigned the mapping qualifier “HARVEST AREA.” NYS Significant Coastal Fish and Wildlife Habitat narratives were used to complete the south shore distribution of shellfish. Raritan Bay shellfish distributions were mapped using the mid-Atlantic ELMR report. For bays in NJ, hardcopy shellfish maps were used to map shellfish concentrations. These maps date as far back as 1983 and are updated as resources allow, with northern quahog in Barnegat Bay the only recently mapped area/species (done in 2012). Pre-2012 data are identified with a concentration value of “HISTORIC.” Information from resource experts at the NYSDEC, NYS Significant Coastal Fish and Wildlife Habitat narratives, and mid-Atlantic ELMR data were used to fill data gaps.

Horseshoe crab - Known horseshoe crab spawning areas were mapped using reports from surveyed sites. The actual spawning distribution is more widespread than is depicted on these maps, as any sandy, bayside beach could be potential habitat. High priority spawning beaches (as determined by the data provider) are indicated with “HIGH” in the concentration field. Spawning areas were mapped by buffering the shoreline by 50 m. Spawning areas were reviewed by resource experts and Fire Island National Seashore staff.

Blue crab - Blue crabs were mapped using WLI Beach Seine data, ELMR data, and expert knowledge. A large adult wintering concentration occurs November – March in the western part of New York Harbor (Kenney pers. comm.). A concentration of spawning females was mapped in Raritan Bay with information provided by NYSDEC (McKown pers. comm.).

Rare and Endangered Invertebrates - Rare and endangered invertebrates were mapped using NYSDEC NHP and NatureServe data with additional locations were provided by Fire Island National Seashore staff. Some species names were generalized as “Rare Insect” or “Rare Invertebrate” to protect sensitive species, as requested by the data provider. A large number of monarch butterflies move through Fire Island and Sandy Hook from August-October during their annual migration and these were included as migration areas. The monarch butterfly is a candidate species for federal listing.

INVERTEBRATES – ATLANTIC OCEAN

Atlantic surfclam – Atlantic surfclam distributions in NY were mapped using survey data for NY. NYSDEC conducts routine population surveys using stratified random sampling. The survey takes place along the south shore of Long Island in that Atlantic Ocean from just east of Rockaway Inlet to Montauk Point, extending 3 nautical miles offshore. The study area is divided into 10 strata, with each stratum extending one mile in width and divided from west to east by Jones, Fire Island, and Moriches inlets. There is only one stratum from Moriches Inlet to Montauk Point, extending one mile from shore. Concentration values were determined by calculating the average clam density (clams/m²) in each stratum from 2005-2012 (total of 4 surveys). Concentrations are described as “LOW”, “MEDIUM”, and “HIGH” corresponding to the first, second and third, and fourth quartiles of density.

The NJ surf clam resource is severely depleted with no recent landings except for a bait fishery off of Sandy Hook in prohibited waters. This area was given a concentration of “Baitfishery Area.” In approved waters the NJ surf clam harvest is virtually nonexistent, and this area was mapped as “historically productive” at the recommendation of NJDEP BS.

Ocean quahog – Ocean quahogs were mapped using the Essential Fish Habitat source document, which states that most adults are found at depths between 25 to 61 m with juveniles at depths of 45-75 m in the middle Atlantic Bight. Based on this information, the ocean quahog distribution was mapped from the 20 m isobath to the offshore extent of the AOI.

Other invertebrates – The ocean distributions of blue crab, horseshoe crab, American lobster, and longfin squid were mapped using fisheries independent datasets: NJ Ocean Trawl, NEAMAP, and NMFS Bottom Trawl, using the same methods as with marine finfish as described above. For NJ OTS and NEAMAP data, the CPUE was calculated for each species by strata, and concentrations were described as “HIGH”, “MEDIUM”, “LOW” corresponding to the first, second and third, and fourth quartiles. Longfin squid concentrations were described as “ABUNDANT” or “HIGHLY ABUNDANT” due to their abundance in all depth strata. NEAMAP was used to map horseshoe crab and American lobster distributions in NY (except for the offshore strata) and NMFS was used to map blue crab in NY and all invertebrates in the NY offshore strata. A horseshoe crab concentration off the west end of Long Island was identified using the NYSDEC Atlantic surfclam survey data from 1999 – 2012 (6 years). The CPUE of horseshoe crab for each stratum was averaged across all years and concentrations were described as “HIGH”, “MEDIUM”, “LOW” corresponding to the first, second and third, and fourth quartiles. Only the high concentration strata were mapped as a concentration area. The primary sources for invertebrate seasonality were mid-Atlantic ELMR, NJ OTS, EFH source documents, and resource experts from NYSDEC.

Expert contacts for NY/NJ Metro Area, Hudson River and South Long Island invertebrates*:

Name	Agency	City	Phone	Species
Dave Strayer	Cary Institute	Millbrook, NY	845-677-7600	Freshwater mussels
Gregg Kenney	NYSDEC	New Paltz, NY	845-256-3199	Blue Crab
Jeff Normant	NJDEP	Port Republic, NJ	609-748-2040	Marine bivalves
Jennifer O'Dwyer	NYSDEC	East Setauket, NY	631-444-0489	Marine invertebrates
Joe Reynolds	Bayshore	Navesink, NJ	732-872-2834	Horseshoe crabs
John Tanacredi	Molloy College	Rockville Centre, NY	516-323-3591	Horseshoe crabs
Kim McKown	NYSDEC	East Setauket, NY	631-444-0454	Marine invertebrates
Matt Sclafani	Cornell University Cooperative Extension	Riverhead, NY	631-727-7850 ext. 377	Horseshoe crabs
Nick Conrad	NY NHP	Albany, NY	518-402-8944	Rare, T&E invertebrates

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

Major Data Sources Used: Invertebrates

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- Tanacredi, J.T. 2014. Long Island Horseshoe Crab Network Annual Inventory Report. Center for Environmental Research and Coastal Oceans Monitoring (CERCOM), Molloy College. West Sayville, NY. Document and spreadsheet.
- Virginia Institute of Marine Science Multispecies Research Group. January 2015. Northeast Area Monitoring and Assessment Program (NEAMAP) selected bottom trawl data for NY/NJ. Gloucester Pt., VA. Spreadsheet.

BENTHIC HABITATS

Benthic habitats mapped in this atlas consist of submerged aquatic vegetation (SAV) and bivalve reefs. Benthic habitat was given the mapping qualifier of “High Ecological Value” as it provides spawning, nursery, and foraging habitat for fish and shellfish, habitat for macroinvertebrates, and food for waterfowl, fish, and mammals. The Hudson River estuary and Barnegat Bay have data sets for SAV inventories conducted in multiple years. In these cases, SAV in the most recent year for each area was

mapped with a concentration value of “Present” while SAV from prior years was given the concentration value of “Potential.” SAV may eventually recover or be restored in areas where it has been lost, and it was recommended by the data providers that these areas be included in the atlas.

Hudson River SAV was mapped using the combined Hudson River NERR/NYSDEC vector digital data from 1997, 2002, and 2007 (Cornell IRIS 2011). The most recently mapped year (2007) was used to differentiate SAV classified as “Present” from the past or “Potential” distribution. The dominant species in the Hudson River estuary SAV community is water celery (*Vallisneria americana*). The dominant seagrass in Barnegat Bay and the South Shore estuary is eelgrass (*Zostera marina*), with widgeon grass (*Ruppia maritima*) occurring in shallower areas with lower salinity. Barnegat Bay SAV was mapped with 1979, 2003, and 2009 data, with 2009 SAV mapped as “Present.” Long Island’s South Shore estuary benthic habitats were mapped using the 2002 NYSDOS benthic habitat data set and supplemented with Fire Island SAV data (Wang 2004). Fire Island SAV data was included only in areas where it did not overlap with the NYSDOS data. The only bivalve reefs mapped in this AOI were in South Oyster Bay. In addition to seagrass and reefs, areas with macroalgae (seaweed) are shown in the South Shore estuary.

Expert contacts for NY/NJ Metro Area, Hudson River and South Long Island benthic*:

Name	Agency	City	Phone	Species
Jeff Herter	NYSDOS	Albany, NY	518-486-7942	SAV
Rick Lathrop	Rutgers	New Brunswick, NJ	848-932-1580	SAV
Sara Fernald	NYSDEC	Staatsburg, NY	845-889-4745	SAV

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

Major Data Sources Used: Benthic

Cornell Institute for Resource Information Science (Cornell IRIS). 2011. Hudson River Estuary – Submerged Aquatic Vegetation (SAV). Hudson River national Estuarine Research Reserve (HRNERR) and New York State Department of Environmental Conservation (NYSDEC). Albany, NY. Vector digital data.

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- Lathrop, R. G. and S.M. Haag. 2011. Submerged aquatic vegetation (SAV) CRSSA image classification of the Barnegat Bay – Little Egg Harbor estuary, New Jersey: 2009. Grant F. Walton Center for Remote Sensing and Spatial Analysis (CRSSA), Rutgers University. New Brunswick, NJ. Vector digital data.
- Lathrop, R. G., P. Montesano, and S. Haag. 2011. Submerged aquatic vegetation (SAV) CRSSA image classification of the Barnegat Bay – Little Egg Harbor estuary, New Jersey: 2003; revision published 20110511. Grant F. Walton Center for Remote Sensing and Spatial Analysis (CRSSA), Rutgers University. New Brunswick, NJ. Vector digital data.
- Wang, Y.Q. and M. Traber. 2004. Classification of Submerged Aquatic Vegetation (SAV) from Quickbird-2 Satellite imagery for the Fire Island National Seashore. Kingston, RI. Raster Dataset.

HABITATS

Threatened, endangered, and rare plants and rare plant communities were mapped primarily with data from NY NHP and NJ NHP and were given the mapping qualifier of “Vulnerable Occurrence.” NJ NHP grid map contains cells that vary from 358-372 acres in size with a table of rare plant species and ecological communities that occur within each cell. Maritime holly forest, a globally rare forest type, was mapped on Fire Island and Sandy Hook using vegetation data provided by Fire Island National Seashore and Gateway National Recreation Area, respectively. The distribution of seabeach amaranth (NJ endangered, NY state and federally threatened) on Sandy Hook was mapped using information provided by Gateway National Recreation Area. Non-federally listed, state protected plant names were generalized to “Endangered Plant”, “Threatened Plant”, and “Rare Plant.” Although they do not have a listing status in NY, rare mosses were included as “Rare Plant” locations since they occur in wetlands and are vulnerable to oil spills. Small polygons (< 123 m²) representing plant locations in the NY NHP database were converted to points so that they would be visible on the ESI atlas maps. Critically imperiled, imperiled, and vulnerable wetland and upland plant community types were generalized as “Rare Upland Community” or “Rare Wetland Community” except for the maritime holly forest, vernal pool, and coastal dune woodland community types.

There was a high degree of overlap of certain wetland community types in the NY NHP Communities data with ESI wetland polygons (see shoreline habitat section). NY NHP wetland types that were already represented in the ESI wetland polygon data were not included in the habitat feature class. Rocky summit, cliff, and talus upland community types were not mapped due to their low vulnerability to oil spills. Vernal pools provide important amphibian breeding habitat and these were mapped with NY NHP Communities data, NJ DEP Vernal Habitat data, and Scenic Hudson’s Vernal Pools data. NJ vernal habitat areas have been field verified by the NJ DOS and provide documented habitat for amphibians.

Expert contacts for habitats and rare plants*:

Name	Agency	City	Phone	Species
Jordan Raphael	NPS	Ocean Beach, NY	631-687-4769	Vegetation
Mark Christiano	NPS	Staten Island, NY	718-354-4525	Vegetation
Mark Wong	NJDEP	Trenton, NJ	609-292-2797	Rare plants
Nick Conrad	NY NHP	Albany, NY	518-402-8944	Rare plants
Wendy Walsh	USFWS	Pleasantville, NJ	609-383-3938	Seabeach amaranth, swamp pink

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

Major Data Sources Used: Habitats

New Jersey Department of Environmental Protection, Division of Fish and Wildlife, Endangered Nongame Species Program. 2012. NJDEP Species Based Habitat, Vernal Habitat (Version 3.1, 20120221). Trenton, NJ. Vector digital data.

New Jersey Department of Environmental Protection, Office of Natural Lands Management. 2012. NJDEP Natural Heritage Grid Map, Version 200911. Trenton, NJ. Vector digital data.

New York Natural Heritage Program, SUNY College of Environmental Science and Forestry and New York State Department of Environmental Conservation. October, 2015. Biodiversity Databases, Element Occurrence Digital Data Set. Albany, NY. Vector digital data.

Scenic Hudson. 2014. Woodland Pools 2014 Updated. Vector digital data.

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.

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, an invasive floating aquatic plant found on the Hudson River, forms thick, impenetrable mats in June and July. Invasive species were not included in the 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.

Invasive Species Contacts:

New Jersey Invasive Species Strike Team: <http://www.njisst.org/>

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

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		Historical Site
	Access		Landfill
	Airport		Lock and Dam
	Anchorage		Marina
	Aquaculture		Military Installation
	Archaeological Sites		National Estuarine Research Reserve
	Army Corps of Engineers		National Park
	Artificial Reef		Nature Conservancy
	Beach		Oil Facility
	Boat Ramp		Port
	Campground		Recreational Fishing
	Coast Guard		Renewable Energy
	Critical Habitat		Repeated Measurement Site
	Diving Site		Surfing
	EPA Facility		Tribal Land
	EPA Region		Washover
	Essential Habitat		Waste Disposal
	FEMA Region		Water Intake
	Ferry		Wildlife Refuge

Abandoned Vessels: These areas depict sunken or derelict vessels that may be a hazard to response activities. These locations were obtained from the NOAA.

Access Sites: Access sites were mapped using data from NYSDEC and indicate beach access sites.

Airports: Information on the location of airports was downloaded from the National Transportation Atlas Databases maintained by the FAA.

Aquaculture Locations: Locations of aquaculture sites were obtained from NYSDEC and NJDEP.

Archaeological Site: Archaeological sites in New Jersey were provided by NJDEP and a few other sites were carried over from previous versions of the ESI atlases.

Army Corps of Engineers: Jurisdictional boundaries were obtained from the Army Corps of Engineers.

Artificial Reef: Locations were mapped using data from NOAA.

Beaches: Were mapped using the USGS and US Board of Geographic Names

Boat Ramps: Were mapped using information from NYSDEC and the National Park Service.

Campgrounds: Were mapped using information from the state of New York

Coast Guard Stations and Districts: USCG jurisdictional boundaries and stations were mapped using information from the USCG.

Diving Sites: Diving sites were mapped using the Mid-Atlantic Coastal and Recreation study.

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: Essential Habitat was mapped using NOAA NMFS Essential Fish Habitat, NYSDEC Significant Coastal Fish and Wildlife Habitat, and New York and New Jersey Audubon Important Bird Area data.

FEMA Regions: Were mapped using data from the Federal Emergency Management Agency (FEMA)

Ferry Terminals: Ferry terminals were mapped using New York City facilities data and New Jersey ferry terminal embarkation points.

Fishery Areas: Shellfish management areas in New York and New Jersey were mapped using data from NJDEP and SeaPlan.

Historic Sites: Data for historic sites came from NYS Office of Parks, Recreation, & Historic Preservation, NYS Office of Cyber Security, NJDEP Green Acres, and NJ Department of State

Landfills: Data for landfills came from the New York State Department of Environmental Conservation.

Locks and Dams: Selected locks and dams were mapped using NYSDEC dam inventory data.

Marinas and Anchorages: Marina locations were provided by the Mohawk Council of Yacht Clubs, the Hudson River Boat and Yacht Club Association, expert knowledge, and digitized using aerial imagery.

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

National Estuarine Research Reserve: Locations were provided from the NOAA NERRS Centralized Data Management Office

National Park: National park boundaries were provided by NPS.

Nature Conservancy: Boundaries of The Nature Conservancy (TNC) properties were obtained from TNC Lands database.

Oil Facilities: Oil facilities were mapped using data from NYSDEC and the USEPA.

Port: Major port location data were compiled from ACE National Transportation Atlas databases.

Recreational Fishing Areas: These areas include NYSDEC public fishing recommended sites, NJDEP sport ocean fishing grounds, and SeaPlan's recreational boater activity locations.

Renewable Energy Sites: Tidal, solar, and nuclear energy sites were mapped using NOAA's coastal energy facilities and offshore tidal hydrokinetic projects data.

Repeated Measurement Sites: These include Mussel Watch Sites, data buoys, and tide gauge stations and were mapped using data from NOAA, USGS, and NY/NJ Baykeeper.

Surfing: provided using data from the Surfrider foundation.

Tribal Land: Tribal land were downloaded from the U.S. Census Bureau's Census MAF/TIGER database.

Washover: A washover, or washover fan, is a relatively flat surface on the top of a barrier spit complex that slopes gently landward. It is usually created when water, forced landward by breaking waves, flows across the top of the barrier spit during high spring tides or storms. This process creates a flattened-off surface along which sand is transported across the top of the spit into the standing water (lagoon) or marsh landward of the spit. The resulting deposit usually has a fan-like shape. Washover locations are represented by points that were digitized from ESRI World Imagery by Research Planning, Inc. at a scale of 1:8,000.

Water Intakes: Water intakes were obscured for security reasons; otherwise they were mapped as provided by NJDEP, NYS DOW, and expert knowledge.

Wildlife Refuge: Locations of NWRs were provided by the USFWS.

GEOGRAPHIC INFORMATION SYSTEM

The entire atlas product is stored in digital form in a Geographic Information System (GIS) 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 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. Additional support was provided by Scientific Support Coordinators (SSC) Frank Csulak and Ed Levine.

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. Cover photo courtesy of Frank Csulak, NOAA.

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 by New York State Department of Environmental Conservation, New Jersey Department of Environmental Protection, Audubon of New York, New Jersey Audubon, the New York State Natural Heritage Program, the U.S. Fish and Wildlife Service, or other 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*
BENTHIC		BIRDS, cont.	
ALGAE		PELAGIC	
Macroalgae	-	Black-legged kittiwake	<i>Rissa tridactyla</i>
BIVALVE		Cory's shearwater	<i>Calonectris diomedea</i>
Oyster reef	-	Great shearwater	<i>Puffinus gravis</i>
SAV		Northern gannet	<i>Morus bassanus</i>
Submersed aquatic vegetation	-	Wilson's storm-petrel	<i>Oceanites oceanicus</i>
Water celery	<i>Vallisneria americana</i>	RAPTOR	
BIRDS		<u>Bald eagle</u>	<u><i>Haliaeetus leucocephalus</i></u>
ALCID		<u>Endangered raptor 1</u>	-
Razorbill	<i>Alca torda</i>	<u>Endangered raptor 2</u>	-
BIRD		<u>Northern harrier</u>	<u><i>Circus cyaneus</i></u>
Colonial waterbirds	-	Osprey	<i>Pandion haliaetus</i>
DIVING		<u>Peregrine falcon</u>	<u><i>Falco peregrinus</i></u>
Double-crested cormorant	<i>Phalacrocorax auritus</i>	Raptors	-
Great cormorant	<i>Phalacrocorax carbo</i>	<u>Short-eared owl</u>	<u><i>Asio flammeus</i></u>
Horned grebe	<i>Podiceps auritus</i>	<u>Threatened raptor</u>	-
<u>Pied-billed grebe</u>	<u><i>Podilymbus podiceps</i></u>	SHOREBIRD	
Red-throated loon	<i>Gavia stellata</i>	American oystercatcher	<i>Haematopus palliatus</i>
GULL/TERN		Black-bellied plover	<i>Pluvialis squatarola</i>
<u>Black skimmer</u>	<u><i>Rynchops niger</i></u>	Common snipe	<i>Gallinago gallinago</i>
Bonaparte's gull	<i>Larus philadelphia</i>	Dunlin	<i>Calidris alpina</i>
<u>Common tern</u>	<u><i>Sterna hirundo</i></u>	Greater yellowlegs	<i>Tringa melanoleuca</i>
Forster's tern	<i>Sterna forsteri</i>	<u>Piping plover</u>	<u><i>Charadrius melodus</i></u>
Great black-backed gull	<i>Larus marinus</i>	Plovers	<i>Charadrius spp.</i>
Gull-billed tern	<i>Gelochelidon nilotica</i>	<u>Red knot</u>	<u><i>Calidris canutus</i></u>
Herring gull	<i>Larus argentatus</i>	Ruddy turnstone	<i>Arenaria interpres</i>
Laughing gull	<i>Larus atricilla</i>	Sanderling	<i>Calidris alba</i>
<u>Least tern</u>	<u><i>Sternula antillarum</i></u>	Semipalmated plover	<i>Charadrius semipalmatus</i>
<u>Roseate tern</u>	<u><i>Sterna dougallii</i></u>	Semipalmated sandpiper	<i>Calidris pusilla</i>
PASSERINE		Shorebirds	-
Belted kingfisher	<i>Ceryle alcyon</i>	Short-billed dowitcher	<i>Limnodromus griseus</i>
Kentucky warbler	<i>Oporornis formosus</i>	Spotted sandpiper	<i>Actitis macularia</i>
Marsh wren	<i>Cistothorus palustris</i>	<u>Threatened shorebird</u>	-
Nelson's sparrow	<i>Ammodramus nelsoni</i>	<u>Upland sandpiper</u>	<u><i>Bartramia longicauda</i></u>
Prothonotary warbler	<i>Protonotaria citrea</i>	Willet	<i>Tringa semipalmata</i>
Seaside sparrow	<i>Ammodramus maritimus</i>	Wilson's snipe	<i>Gallinago delicata</i>
Swamp sparrow	<i>Melospiza georgiana</i>	WADING	
Willow flycatcher	<i>Empidonax traillii</i>	<u>American bittern</u>	<u><i>Botaurus lentiginosus</i></u>
		American woodcock	<i>Scolopax minor</i>
		<u>Black rail</u>	<u><i>Laterallus jamaicensis</i></u>

SPECIES LIST

Common Name*	Scientific Name*	Common Name*	Scientific Name*
BIRDS, cont.		BIRDS, cont.	
<u>Black-crowned night-heron</u>	<u><i>Nycticorax nycticorax</i></u>	Waterfowl	-
Cattle egret	<u><i>Bubulcus ibis</i></u>	White-winged scoter	<i>Melanitta fusca</i>
Clapper rail	<i>Rallus longirostris</i>	Wood duck	<i>Aix sponsa</i>
Glossy ibis	<i>Plegadis falcinellus</i>	FISH	
Great blue heron	<i>Ardea herodias</i>	DIADROMOUS	
Great egret	<i>Ardea alba</i>	Alewife	<i>Alosa pseudoharengus</i>
Green heron	<i>Butorides virescens</i>	American eel	<i>Anguilla rostrata</i>
Hérons	-	American shad	<i>Alosa sapidissima</i>
<u>King rail</u>	<u><i>Rallus elegans</i></u>	Anadromous fish	-
<u>Least bittern</u>	<u><i>Ixobrychus exilis</i></u>	<u>Atlantic sturgeon</u>	<u><i>Acipenser oxyrinchus</i></u>
Little blue heron	<i>Egretta caerulea</i>	Blueback herring	<i>Alosa aestivalis</i>
Snowy egret	<i>Egretta thula</i>	Brown trout	<i>Salmo trutta</i>
Sora	<i>Porzana carolina</i>	Rainbow trout	<i>Oncorhynchus mykiss</i>
Tricolored heron	<i>Egretta tricolor</i>	<u>Shortnose sturgeon</u>	<u><i>Acipenser brevirostrum</i></u>
Virginia rail	<i>Rallus limicola</i>	Striped bass	<i>Morone saxatilis</i>
Wading birds	-	ESTUARINE NURSERY	
<u>Yellow-crowned night-heron</u>	<u><i>Nyctanassa violacea</i></u>	Atlantic croaker	<i>Micropogonias undulatus</i>
WATERFOWL		Atlantic herring	<i>Clupea harengus</i>
American black duck	<i>Anas rubripes</i>	Atlantic menhaden	<i>Brevoortia tyrannus</i>
American wigeon	<i>Anas americana</i>	Bay anchovy	<i>Anchoa mitchilli</i>
Black scoter	<i>Melanitta americana</i>	Black drum	<i>Pogonias cromis</i>
Brant	<i>Branta bernicla</i>	Black sea bass	<i>Centropristis striata</i>
Bufflehead	<i>Bucephala albeola</i>	Bluefish	<i>Pomatomus saltatrix</i>
Canada goose	<i>Branta canadensis</i>	Northern kingfish	<i>Menticirrhus saxatilis</i>
Canvasback	<i>Aythya valisineria</i>	Northern puffer	<i>Spherooides maculatus</i>
Common eider	<i>Somateria mollissima</i>	Nursery fish	-
Common merganser	<i>Mergus merganser</i>	Scup	<i>Stenotomus chrysops</i>
Common moorhen	<i>Gallinula chloropus</i>	Spot	<i>Leiostomus xanthurus</i>
Gadwall	<i>Anas strepera</i>	Summer flounder	<i>Paralichthys dentatus</i>
Green-winged teal	<i>Anas crecca</i>	Weakfish	<i>Cynoscion regalis</i>
Hooded merganser	<i>Lophodytes cucullatus</i>	White perch	<i>Morone americana</i>
Long-tailed duck	<i>Clangula hyemalis</i>	Windowpane	<i>Scophthalmus aquosus</i>
Mallard	<i>Anas platyrhynchos</i>	Winter flounder	<i>Pleuronectes americanus</i>
Mergansers	-	ESTUARINE RESIDENT	
Red-breasted merganser	<i>Mergus serrator</i>	Atlantic silverside	<i>Menidia menidia</i>
Ring-necked duck	<i>Aythya collaris</i>	Killifish	<i>Fundulus spp.</i>
Ruddy duck	<i>Oxyura jamaicensis</i>	Northern pipefish	<i>Syngnathus fuscus</i>
Scaup	<i>Aythya spp.</i>	Silversides	-
Snow goose	<i>Chen caerulescens</i>		
Surf scoter	<i>Melanitta perspicillata</i>		

SPECIES LIST

Common Name*	Scientific Name*	Common Name*	Scientific Name*
FISH, cont.		FISH, cont.	
FRESHWATER		Spiny dogfish	<i>Squalus acanthias</i>
Banded sunfish	<i>Enneacanthus obesus</i>	Thresher shark	<i>Alopias vulpinus</i>
Black crappie	<i>Pomoxis nigromaculatus</i>	Tiger shark	<i>Galeocерdo cuvier</i>
Bluegill	<i>Lepomis macrochirus</i>	White shark	<i>Carcharodon carcharias</i>
Brook trout	<i>Salvelinus fontinalis</i>	Yellowfin tuna	<i>Thunnus albacares</i>
Brown bullhead	<i>Ameiurus nebulosus</i>		
Chain pickerel	<i>Esox niger</i>	HABITATS	
Common carp	<i>Cyprinus carpio</i>	PLANT	
Fathead minnow	<i>Pimephales promelas</i>	<u>Endangered plant</u>	-
Golden shiner	<i>Notemigonus crysoleucas</i>	<u>Federally endangered plant</u>	-
Largemouth bass	<i>Micropterus salmoides</i>	Rare plant	
Pumpkinseed	<i>Lepomis gibbosus</i>	<u>Threatened plant</u>	-
Smallmouth bass	<i>Micropterus dolomieu</i>	UPLAND	
Walleye	<i>Stizostedion vitreum vitreum</i>	Coastal dune woodland	-
White sucker	<i>Catostomus commersoni</i>	Rare upland community	-
Yellow perch	<i>Perca flavescens</i>	<u>Sandplain gerardia</u>	<i>Agalinis acuta</i>
MARINE BENTHIC		WETLAND	
American sand lance	<i>Ammodytes americanus</i>	<u>Knieskern's beaked rush</u>	<i>Rhynchospora knieskernii</i>
Atlantic cod	<i>Gadus morhua</i>	Maritime holly forest	-
Atlantic tomcod	<i>Microgadus tomcod</i>	Rare wetland community	-
Clearnose skate	<i>Raja eglanteria</i>	<u>Seabeach amaranth</u>	<i>Amaranthus pumilus</i>
Goosefish	<i>Lophius americanus</i>	<u>Swamp-pink</u>	<i>Helonias bullata</i>
Little skate	<i>Leucoraja erinacea</i>	Vernal pool	-
Ocean pout	<i>Macrozoarces americanus</i>		
Pollock	<i>Pollachius virens</i>	HERPETOFAUNA	
Red hake	<i>Urophycis chuss</i>	AMPHIBIAN	
Silver hake	<i>Merluccius bilinearis</i>	<u>Blue-spotted salamander</u>	<i>Ambystoma laterale</i>
Smooth dogfish	<i>Mustelus canis</i>	Eastern spadefoot	<i>Scaphiopus holbrookii</i>
Tautog	<i>Tautoga onitis</i>	<u>Eastern tiger salamander</u>	<i>Ambystoma tigrinum</i>
Winter skate	<i>Leucoraja ocellata</i>	<u>Endangered amphibian</u>	-
MARINE PELAGIC		Fowler's toad	<i>Anaxyrus fowleri</i>
Albacore	<i>Thunnus alalunga</i>	<u>Pine Barrens treefrog</u>	<i>Hyla andersonii</i>
Atlantic mackerel	<i>Scomber scombrus</i>	Rare amphibian	-
Bluefin tuna	<i>Thunnus thynnus</i>	Rare frog	-
Butterfish	<i>Peprilus triacanthus</i>	Rare salamander	-
Dusky shark	<i>Carcharhinus obscurus</i>	Southern leopard frog	<i>Lithobates sphenoccephalus</i>
Sand tiger	<i>Carcharias taurus</i>	REPTILE	
Sandbar shark	<i>Carcharhinus plumbeus</i>	<u>Endangered reptile 1</u>	-
Shortfin mako	<i>Isurus oxyrinchus</i>	<u>Threatened reptile 1</u>	-
Skipjack tuna	<i>Katsuwonus pelamis</i>	<u>Threatened reptile 2</u>	-

SPECIES LIST

Common Name*	Scientific Name*	Common Name*	Scientific Name*
HERPETOFAUNA , cont.		INVERTEBRATES , cont.	
<u>Threatened reptile 3</u>	-	CRAB	
SNAKE		Blue crab	<i>Callinectes sapidus</i>
Common wormsake	<i>Carphophis amoenus</i>	Horseshoe crab	<i>Limulus polyphemus</i>
Eastern milk snake	<i>Lampropeltis triangulum triangulum</i>	GASTROPOD	
Northern black racer	<i>Coluber constrictor constrictor</i>	Channeled whelk	<i>Busycon canaliculatum</i>
Northern pinesnake	<i>Pituophis melanoleucus melanoleucus</i>	Whelk	-
Rare snake	-	INSECT	
<u>Timber rattlesnake</u>	<u><i>Crotalus horridus</i></u>	Checkered white	<i>Pontia protodice</i>
TURTLE		Coastal barrens buckmoth	<i>Hemileuca maia ssp. 5</i>
<u>Bog turtle</u>	<u><i>Glyptemys muhlenbergii</i></u>	Eastern buckmoth	<i>Hemileuca maia maia</i>
Common map turtle	<i>Graptemys geographica</i>	<u>Frosted elfin</u>	<u><i>Callophrys irus</i></u>
Common snapping turtle	<i>Chelydra serpentina serpentina</i>	Gray petaltail	<i>Tachopteryx thoreyi</i>
Eastern box turtle	<i>Terrapene carolina carolina</i>	Hairy-necked tiger beetle	<i>Cicindela hirticollis</i>
<u>Eastern mud turtle</u>	<u><i>Kinosternon subrubrum</i></u>	<u>Hessel's hairstreak</u>	<u><i>Callophrys hesseli</i></u>
<u>Green sea turtle</u>	<u><i>Chelonia mydas</i></u>	Jersey jair underwing	<i>Catocala jair ssp. 2</i>
<u>Kemp's ridley sea turtle</u>	<u><i>Lepidochelys kempii</i></u>	Leonard's skipper	<i>Hesperia leonardus</i>
<u>Leatherback sea turtle</u>	<u><i>Dermochelys coriacea</i></u>	<u>Little bluet</u>	<u><i>Enallagma minusculum</i></u>
<u>Loggerhead sea turtle</u>	<u><i>Caretta caretta</i></u>	Monarch butterfly	<i>Danaus plexippus</i>
Northern diamondback terrapin	<i>Malaclemys terrapin terrapin</i>	<u>Myrina Fritillary</u>	<u><i>Boloria selene myrina</i></u>
Painted turtle	<i>Chrysemys picta</i>	<u>Northeastern beach tiger beetle</u>	<u><i>Cicindela dorsalis dorsalis</i></u>
Spotted turtle	<i>Clemmys guttata</i>	<u>Pine Barrens bluet</u>	<u><i>Enallagma recurvatum</i></u>
<u>Wood turtle</u>	<u><i>Glyptemys insculpta</i></u>	Pine Barrens underwing	<i>Catocala herodias gerhardi</i>
INVERTEBRATES		Rare insect	-
BIVALVE		Sandplain heterocampa	<i>Heterocampa varia</i>
Alewife floater	<i>Anodonta implicata</i>	<u>Scarlet bluet</u>	<u><i>Enallagma pictum</i></u>
Atlantic razor	<i>Siliqua costata</i>	INVERTEBRATES	
Atlantic surfclam	<i>Spisula solidissima</i>	Rare, LT, or LE invertebrate	-
Bay scallop	<i>Argopecten irradians</i>	LOBSTER	
Blue mussel	<i>Mytilus edulis</i>	American lobster	<i>Homarus americanus</i>
Eastern elliptio	<i>Elliptio complanata</i>	MARINE MAMMALS	
Eastern oyster	<i>Crassostrea virginica</i>	DOLPHIN	
Northern quahog	<i>Mercenaria mercenaria</i>	Bottlenose dolphin	<i>Tursiops truncatus</i>
Ocean quahog	<i>Arctica islandica</i>	Harbor porpoise	<i>Phocoena phocoena</i>
Softshell clam	<i>Mya arenaria</i>	PINNIPED	
Tidewater mucket	<i>Leptodea ochracea</i>	Gray seal	<i>Halichoerus grypus</i>
CEPHALOPOD		Harbor seal	<i>Phoca vitulina</i>
Longfin squid	<i>Loligo pealeii</i>	Harp seal	<i>Pagophilus groenlandicus</i>
		Seals	-

SPECIES LIST

Common Name*	Scientific Name*
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MARINE MAMMALS, cont.

WHALE

<u>Fin whale</u>	<u><i>Balaenoptera physalus</i></u>
<u>Humpback whale</u>	<u><i>Megaptera novaeangliae</i></u>
<u>North Atlantic right whale</u>	<u><i>Eubalaena glacialis</i></u>

TERRESTRIAL MAMMALS

BAT

<u>Eastern small-footed myotis</u>	<u><i>Myotis leibii</i></u>
<u>Indiana myotis</u>	<u><i>Myotis sodalis</i></u>
<u>Northern myotis</u>	<u><i>Myotis septentrionalis</i></u>

SMALL MAMMAL

<u>Allegheny woodrat</u>	<u><i>Neotoma magister</i></u>
<u>New England cottontail</u>	<u><i>Sylvilagus transitionalis</i></u>

* Underlined species are listed as either threatened or endangered under the federal ESA, and/or are listed as threatened, endangered, or special concern by New York and/or New Jersey

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 the outer coast
- Species density and diversity vary greatly depending on exposure and salinity, but barnacles, snails, mussels, amphipods, and macroalgae can be abundant

PREDICTED OIL BEHAVIOR

- In the lower estuary and outer coast, oil is held offshore by waves reflecting off the steep, hard surfaces; Any oil that is deposited is rapidly removed from exposed faces
- Along the river, oil can form a band at the high water line
- 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

RESPONSE CONSIDERATIONS

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

SHORELINE DESCRIPTIONS

EXPOSED, SOLID MAN-MADE STRUCTURES

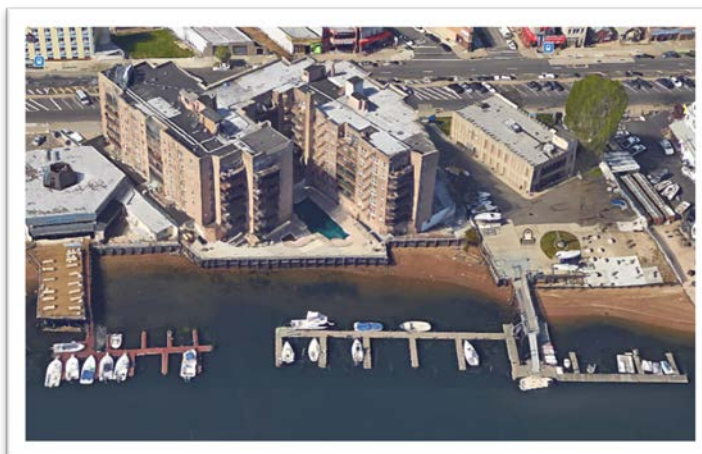
ESI = 1B

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 thus are exposed to relatively high-energy processes
- Attached animals and plants are variable in cover, with sparse biota in fresh/brackish areas and higher biota in salt water areas
- Common in highly developed industrial and port areas, as well as commercial zones

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 MUD

ESI = 2A

DESCRIPTION

- This habitat occurs where the shoreline is eroding across a wetland, leaving behind a wave-cut platform on the old marsh soils; there is often a thin sand/shell washover beach on top of the marsh
- The platform is usually composed of a hard compact peat-rich clay with numerous holes from old root cavities
- The platform width can vary from a few feet to tens of feet
- Species density and diversity are low because they are highly eroding

PREDICTED OIL BEHAVIOR

- Oil will not adhere to the wet muddy surface, but could penetrate root cavities if present
- Persistence of any stranded oil is usually short-term, except where trapped in slump blocks eroded from the marsh scarp



RESPONSE CONSIDERATIONS

- Cleanup is usually not required except for areas of high biological use and under heavy oil accumulations
- 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 MUD OR CLAY

ESI = 2B

DESCRIPTION

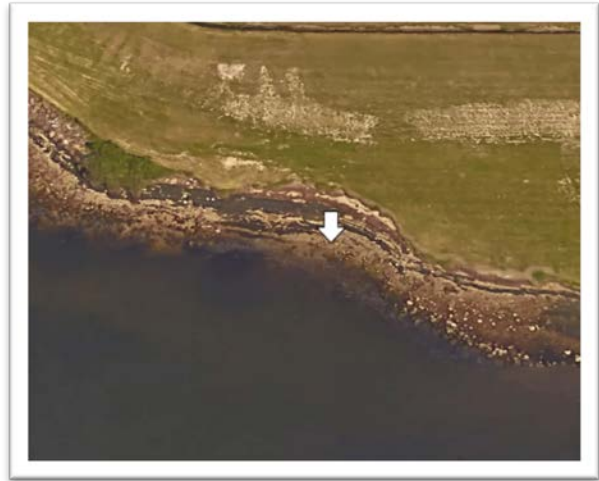
- These habitats generally occur along tidal channels and major river tributaries in the marsh where the currents cut a steep bank into the marsh soils
- Scarp heights vary from about 1 to 3 feet and usually consist of a heavily rooted, peaty soil
- May be fronted by a narrow beach of fine- to medium-grained sand
- Generally low biological utilization due to strong currents
- Typically backed by wetland vegetation
- Uncommon, occurring mostly along the outer exposed margins of marsh areas.

PREDICTED OIL BEHAVIOR

- Oil is not expected to adhere to the wet, impermeable clay surface
- There may be a thin band of oil left at or above the high water line

RESPONSE CONSIDERATIONS

- Cleanup is usually not required, because any stranded 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 the heavy oil accumulations and oiled debris in order to protect a near shore 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
- Beachface sediments are subject to regular reworking by waves
- There can be heavy accumulations of wrack present
- They are utilized by birds for nesting, foraging, and loafing, and by turtles for nesting
- 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 limited to prevent contamination of clean areas and disturbance of habitat and birds
- Manual cleanup is advised to minimize the volume of sand removed from the shore and requiring disposal, particularly for non-amenity beaches
- Mechanical sand sifters may be effective on oil in the form of tarballs and patties
- All efforts should focus on preventing the mixing of oil deeper into the sediments by vehicular and foot traffic
- Mechanical reworking of the sediment into the surf zone may be used as a final polishing step for stained sand treatment without sediment removal

SHORELINE DESCRIPTIONS

SCARPS AND STEEP SLOPES IN SAND

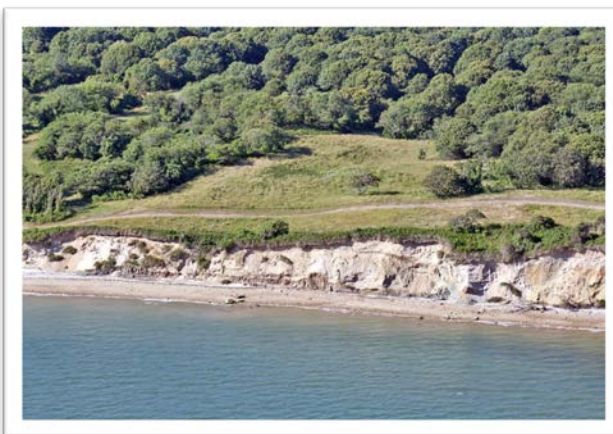
ESI = 3B

DESCRIPTION

- This shoreline type occurs where sandy bluffs are undercut by waves or currents and slump
- The scarps show evidence of active erosion, and beaches in front of the scarps are narrow or absent
- 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

- 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
- Large woody debris may be wiped down with sorbents to reduce contact hazards by wildlife; smaller debris can be cut into smaller pieces for removal

SHORELINE DESCRIPTIONS

COARSE-GRAINED SAND BEACHES

ESI = 4

DESCRIPTION

- These beaches are moderate-to-steeply sloping, are of variable width, and have soft sediments. These characteristics combine to lower their trafficability
- Species density and diversity is generally lower than on fine-grained sand beaches

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
- Biological impacts include temporary declines in infaunal populations, which can also affect important shorebird foraging areas
- Organisms living in the beaches may be killed by smothering or lethal oil concentrations in interstitial water

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 should comprise 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, pebble, or cobbles
- Sediment desiccation and mobility on exposed beaches can cause low densities of attached animals and plants
- There can be large-scale changes in the sediment distribution patterns depending on the season, due to the transport of the sand fraction offshore during storm events
- Substrate had medium-to-high permeability
- Very common throughout the study area



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)
- 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

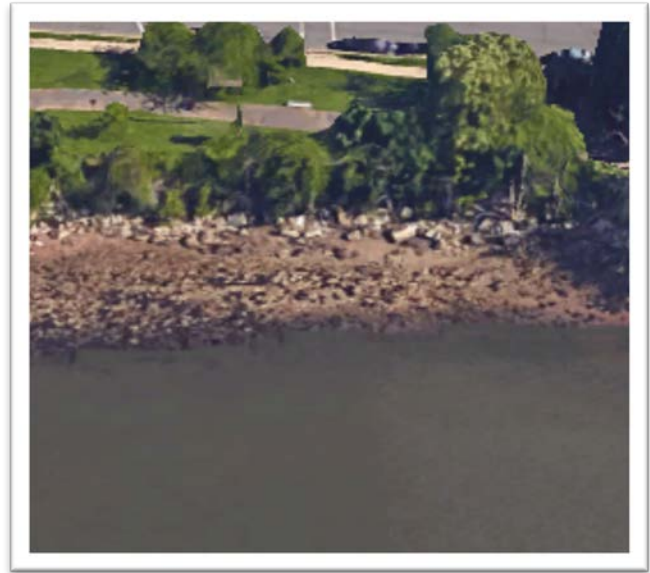
- Gravel beaches can be very steep, with multiple wave-built berms forming the upper beach. Gravel beaches have the lowest trafficability of all beach types and may contain shell and woody debris
- Because of the high mobility of sediments on exposed gravel beaches, there are low densities of animals and plants.
- There are low densities of infauna because the coarse sediments dry out during low tide
- Most permeable of all beach types

PREDICTED OIL BEHAVIOR

- Deep penetration of stranded oil is likely 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
- Long-term persistence will be controlled by the depth of routine reworking by the waves
- Along sheltered portions of the shorelines, chronic sheening and the formation of asphalt pavements is likely where accumulations are heavy

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



- High-pressure spraying should be avoided because of the potential for transporting contaminated finer sediments (sand) to the lower intertidal or subtidal zones
- Low-pressure flushing can be used to float fresh oil away from the sediments for recovery by skimmers or sorbents
- Mechanical reworking of oiled sediments from the high-tide line to the lower beachface can be effective in areas regularly exposed to wave activity; the presence of multiple storm berms is evidence of wave activity
- 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

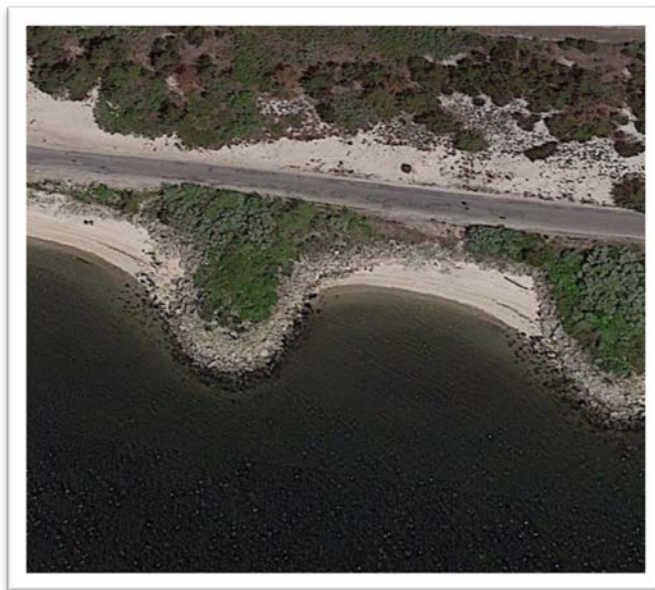
- Riprap structures are composed of cobble- to boulder-sized blocks of granite, limestone, bedrock or concrete
- Riprap structures are common along shorelines exposed to wave action and are used for shoreline protection and tidal inlet stabilization (jetties)
- Attached biota are sparse to moderate on exposed riprap

PREDICTED OIL BEHAVIOR

- Oil adheres readily to the rough surfaces of the blocks
- Deep penetration of oil between the blocks is likely
- 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
- The presence of sand and gravel 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



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, but can penetrate into the tops of the bars and burrows when they dry out at low tide

- 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, IMPERMEABLE ROCKY SHORES

ESI = 8A

DESCRIPTION

- The substrate is solid and composed of bedrock
- This shoreline type is sheltered from large waves and strong currents
- 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

PREDICTED OIL BEHAVIOR

- Heavy oils tend to coat the dry, irregular surface
- 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

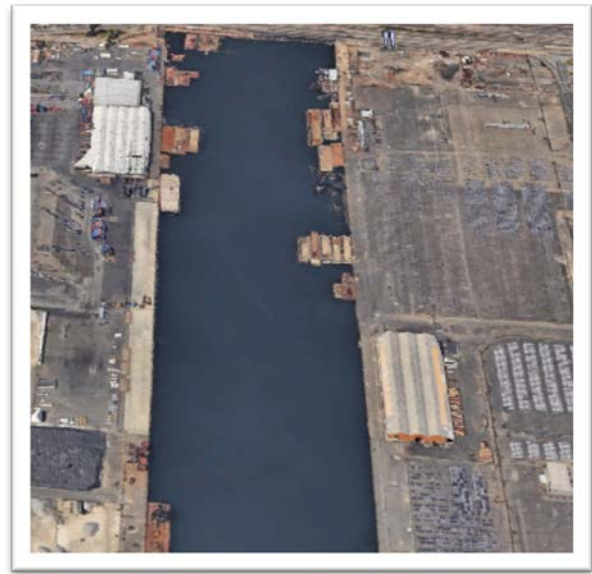
- These structures are solid man-made structures such as seawalls, groins, revetments, piers, and port facilities
- Most structures are constructed of concrete, wood, or metal
- Often there is no exposed beach at low tide, but multiple habitats are indicated if present
- Attached animal and plant life is highly variable

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
- High-pressure, hot-water flushing will be required for heavy and weathered oil

SHORELINE DESCRIPTIONS

SHELTERED RIPRAP

ESI = 8C

DESCRIPTION

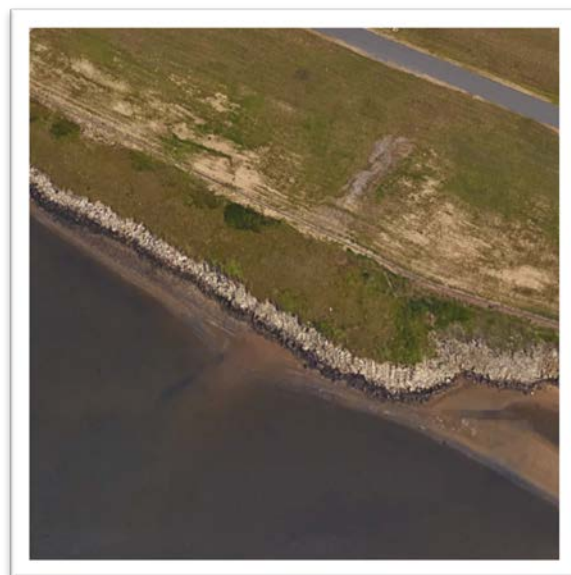
- Riprap structures are composed of cobble- to boulder-sized blocks of granite, limestone, bedrock or concrete
- These structures are found inside harbors and bays in developed areas, sheltered from direct exposure to waves
- Attached biota are highly variable

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
- They can have heavy wrack deposits along the upper fringe
- Sheltered tidal flats can be sparsely to heavily covered with algae and/or seagrass
- Large concentrations of shellfish, worms, and snails can be found on and in the sediments
- They are heavily utilized by birds for foraging



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 can 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 appropriate for use under heavy oiling

SHORELINE DESCRIPTIONS

VEGETATED LOW BANKS

ESI = 9B

DESCRIPTION

- These habitats are either low banks with grasses or low eroding banks with trees and tree roots exposed to the water
- They are flooded occasionally by high water
- These shorelines are most commonly found in fresh or brackish water settings
- These habitats can be important for fish, shellfish, birds and terrestrial mammals

PREDICTED OIL BEHAVIOR

- During low water stages there is little impact, though the oil can strand as 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 may be 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 by humans or wildlife

SHORELINE DESCRIPTIONS

SALT- AND BRACKISH-WATER MARSHES

ESI = 10A

DESCRIPTION

- These are intertidal wetlands containing emergent, herbaceous vegetation
- Width of the marsh can vary widely, from a narrow fringe to extensive areas
- Sediments are composed of organic-rich mud except on the margins of islands 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 one 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.
- 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

FRESHWATER MARSHES

ESI = 10B

DESCRIPTION

- These are grassy wetlands composed of emergent herbaceous vegetation
- They occur upstream of brackish vegetation and 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 substrate is seldom exposed because daily water level changes are low; greater changes result from floods
- 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

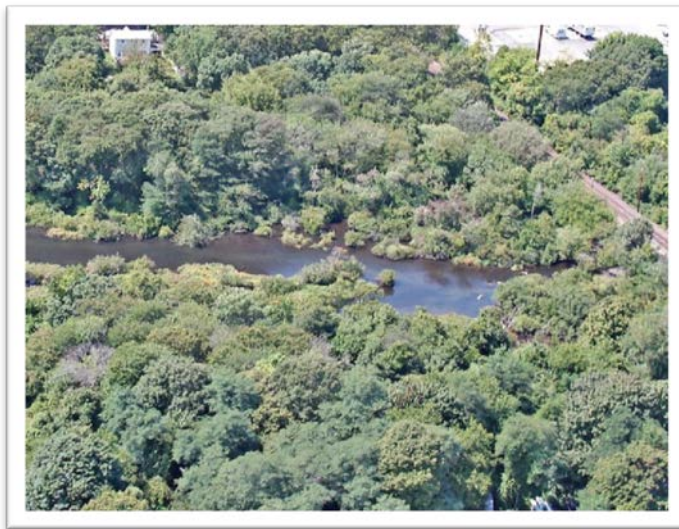
ESI = 10C

DESCRIPTION

- Swamps consist of shrubs and hardwood forested wetlands, essentially flooded forests; vegetation is taller, on average, greater than 6 m
- 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; use walking boards or restrict foot traffic

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

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
- There can be large amounts of oily debris
- During dry periods, terrestrial spills flow downhill and accumulate in depressions or reach water bodies

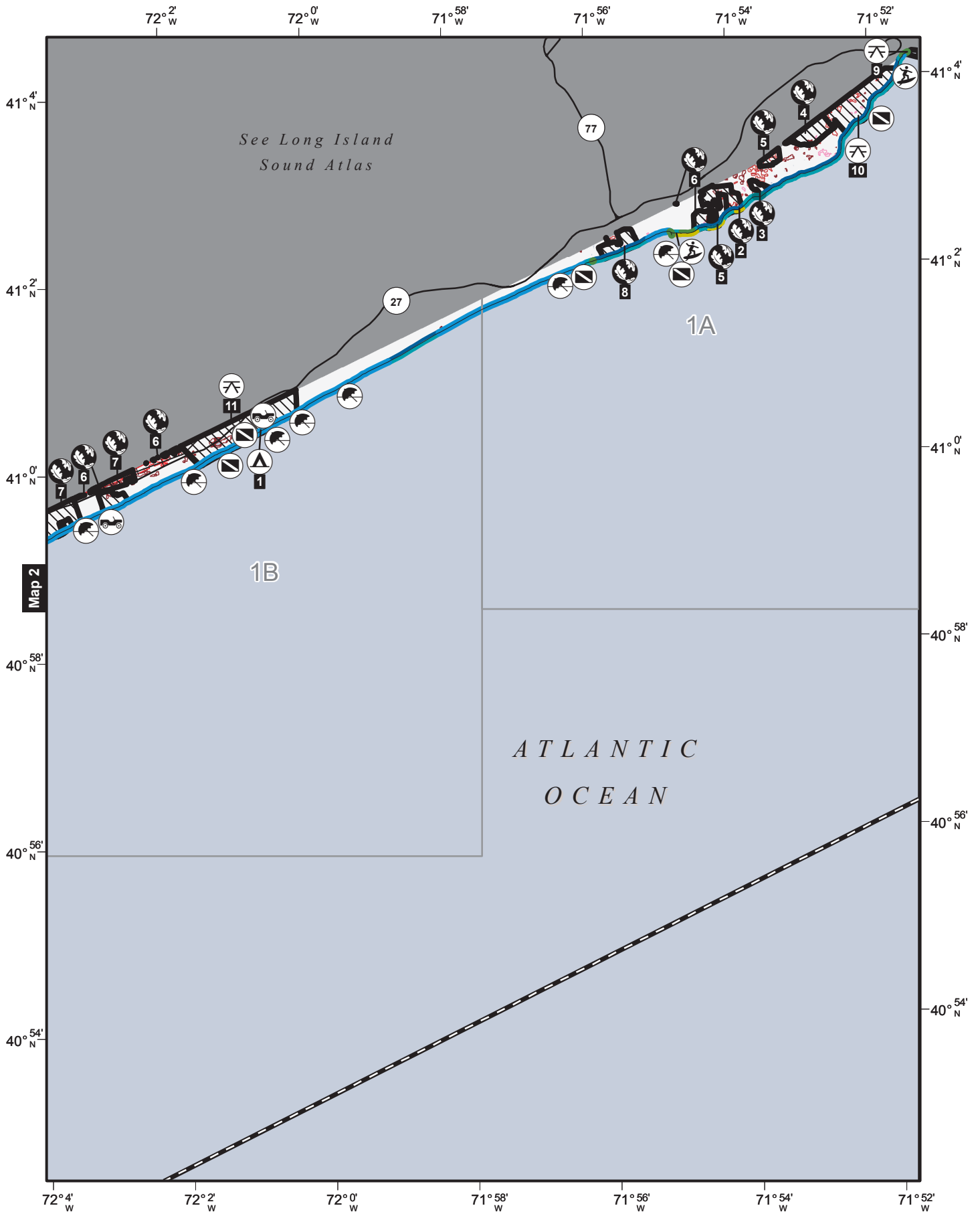


RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is 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 through the use of walking boards or restricting foot traffic
- Woody vegetation should not be cut

ENVIRONMENTAL SENSITIVITY INDEX MAPS





Map 1
South Long Island

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	CAMPGROUND	HITHER HILLS STATE PARK CAMPGROUND	
DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
2	NATURE CONSERVANCY	AMSTERDAM BEACH	
3	NATURE CONSERVANCY	ANDY WARHOL VISUAL ARTS PRESERVE	
4	NATURE CONSERVANCY	CAMP HERO	
5	NATURE CONSERVANCY	CASWELL CLIFFS	
6	NATURE CONSERVANCY	MONTAUK PENINSULA	
7	NATURE CONSERVANCY	NAPEAGUE	
8	NATURE CONSERVANCY	SHADMOOR	
9	STATE PARK	MONTAUK POINT STATE PARK	
10	STATE PARK	CAMP HERO STATE PARK	
11	STATE PARK	HITHER HILLS STATE PARK	
ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	EFH AREA	CHRIS BRUCE	434-951-0565
ESSENTIAL HABITAT	IMPORTANT BIRD AREA	IMPORTANT BIRD AREAS PROGRAM COORDINATOR	607-254-2437
ESSENTIAL HABITAT	SIGNIFICANT COASTAL HABITAT	NYS DEPARTMENT OF STATE COORDINATOR	518-474-6000
JURISDICTIONS			
COUNTY:	SUFFOLK COUNTY	FEMA:	REGION II
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	32.59	0.05
10B	Freshwater Marshes	9.84	0.02
10C	Swamps	45.19	0.07
10D	Scrub and Shrub Wetlands	58.93	0.09
7	Exposed Tidal Flats	13.14	0.02



ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
7	Exposed Tidal Flats	985.11	0.61	3%
6A	Gravel Beaches	171.76	0.11	1%
6B	Riprap	549.96	0.34	2%
5	Mixed Sand and Gravel Beaches	8,072.41	5.02	28%
4	Coarse Grained Sand Beaches	11,460.66	7.12	40%
3B	Scarps and Steep Slopes (Sand)	7,649.62	4.75	26%
Total ESI Shoreline:		28,889.52	17.95	
Total Shoreline:		20,334.12	12.64	

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

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



Map 1A
South Long Island

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	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
1	Shorebird	Piping plover	Nesting	E/E	T	1-5 Pairs	J	F	M	A	M	J	J	A	S	O	N	D	Apr-Aug	-	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
379	Diadromous	Atlantic sturgeon	Migration	-/E	E	High	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	May-Jul	May-Jul
380	Diadromous	Striped bass	Concentration Area			High													-	-	-	Mar-Nov	Mar-Nov
	Estuarine Nursery	Black sea bass	Concentration Area			High													-	-	-	Mar-Nov	Mar-Nov
	Estuarine Nursery	Bluefish	Concentration Area			High													-	-	-	May-Nov	May-Nov
	Estuarine Nursery	Scup	Concentration Area			High													-	-	-	Apr-Dec	Apr-Dec
	Estuarine Nursery	Weakfish	Concentration Area			High													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence																
520	Plant	Endangered plant	Vulnerable Occurrence	E/E		-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
521	Plant	Rare plant	Vulnerable Occurrence	C/C		-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Upland	Rare upland community	Vulnerable Occurrence			-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
522	Upland	Rare upland community	Vulnerable Occurrence			-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
524	Upland	Sandplain gerardia	Vulnerable Occurrence	E/-	E	-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
678	Pinniped	Seals	Concentration Area			High	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
679	Pinniped	Gray seal	Haul Out			Few	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
	Pinniped	Harbor seal	Haul Out			10 Avg	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
	Pinniped	Harp seal	Haul Out			Few	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
Waterfowl	Black scoter	Concentration Area			High	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-

FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
 Diadromous	Atlantic sturgeon	General Distribution	-/E	E	Low													-	-	Jan-Dec	Oct-Jun


REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	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	General Distribution	T/T	T	-													-	-	May-Nov	May-Nov
	K. ridley sea turtle	General Distribution	E/E	E	-													-	-	May-Nov	-
	Leatherback sea turtle	General Distribution	E/E	E	-													-	-	May-Nov	May-Nov
	Loggerhead sea turtle	General Distribution	T/E	T	-													-	-	May-Nov	May-Nov

INVERTEBRATES




Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
 Gastropod	Whelk	Harvest Area			-													Aug-Nov	-	Jan-Dec	Jan-Dec

MARINE MAMMALS


Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D			
 Whale	Fin whale	Concentration Area	E/E	E	Foraging													-	-	-
	Fin whale	General Distribution	E/E	E	Common													-	-	-
	Humpback whale	General Distribution	E/E	E	Common													-	-	-
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular													-	-	-
	N.A. right whale	Migration	E/E	E	-													-	-	-

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				
 Gull/Tern	G. black-backed gull													-	-	-	-
	Herring gull													-	-	-	-
 Pelagic	Great shearwater													-	-	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
 Waterfowl	Black scoter													-	-	-	-
	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					
 Diadromous	Alewife													-	-	-	Nov-Apr	Nov-Dec
	American eel													-	-	Jan-Feb	-	Sep-Dec
	American shad													-	-	-	Nov-Apr	Nov-Apr


FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Bluefish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	American sand lance													-	-	-	-	Oct-Jun
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Clearnose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													-	-	-	Jan-Dec	Jan-Dec
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Albacore													-	-	-	Jun-Sep	-
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-
	White shark													-	-	-	Jul-Oct	-
	Yellowfin tuna													-	-	-	Jul-Sep	-

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic surfclam													Jun-Oct*	Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec
	Ocean quahog													Jul-Nov	Jul-Nov	Jul-Dec	Jan-Dec	Jan-Dec
	Longfin squid													-	-	-	-	Jan-Dec
	Blue crab													-	-	Jun-Oct	-	Aug-Mar
	Horseshoe crab													-	-	-	Aug-Mar	Aug-Mar
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
	American lobster													-	-	-	Jan-Dec	Jan-Dec

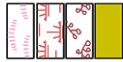
MARINE MAMMALS

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES



ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10B	Freshwater Marshes	9.71	0.02
10C	Swamps	45.19	0.07
10D	Scrub and Shrub Wetlands	21.02	0.03
7	Exposed Tidal Flats	13.14	0.02

ESI SHORELINE HABITAT TYPES

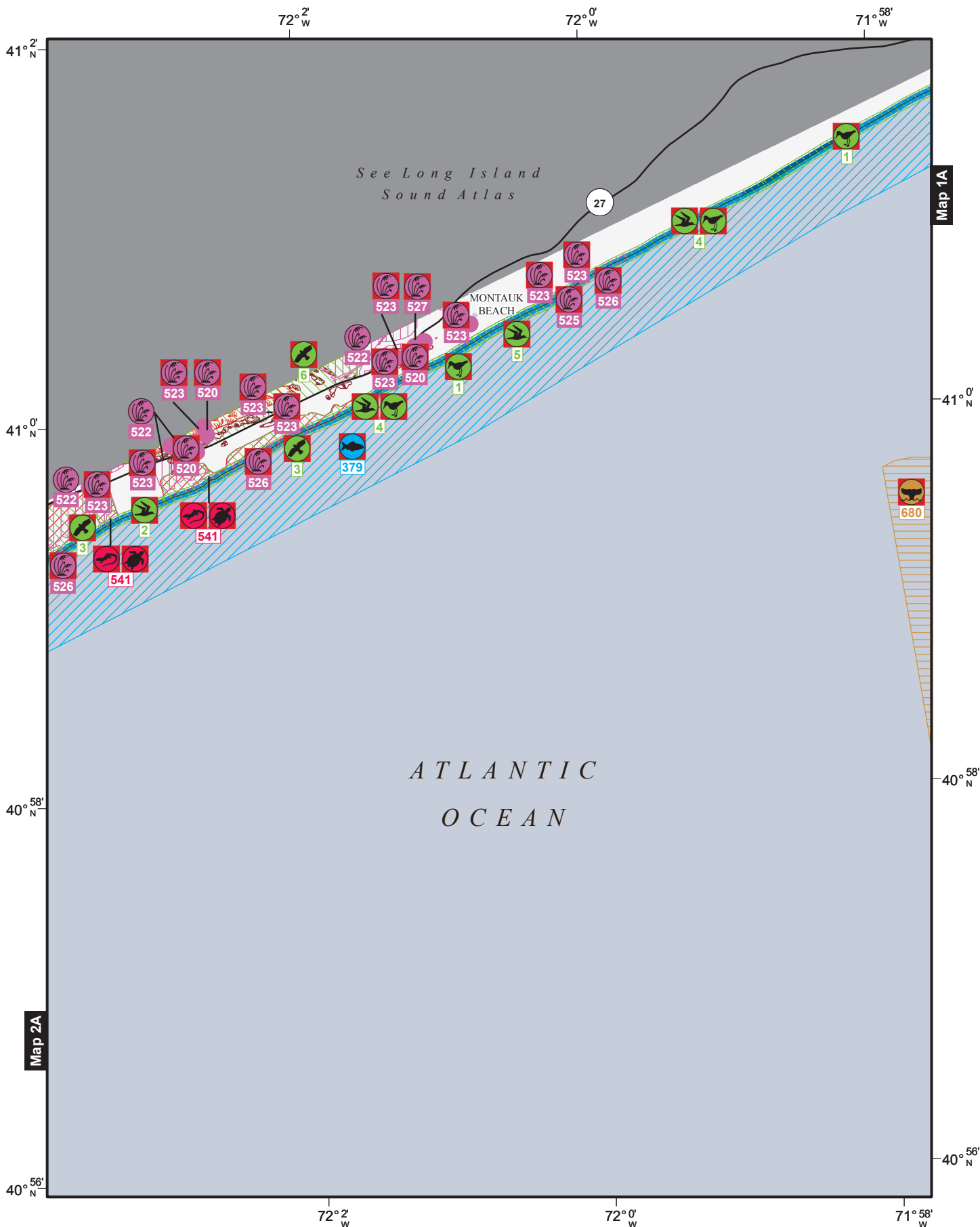


ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
7	Exposed Tidal Flats	985.11	0.61	5%
6A	Gravel Beaches	171.76	0.11	1%
6B	Riprap	549.96	0.34	3%
5	Mixed Sand and Gravel Beaches	6,905.93	4.29	39%
4	Coarse Grained Sand Beaches	2,821.89	1.75	16%
3B	Scarps and Steep Slopes (Sand)	6,483.14	4.03	36%
Total ESI Shoreline:		17,917.80	11.13	
Total Shoreline:		10,528.87	6.54	

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

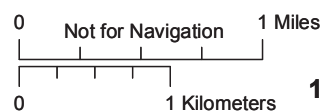




Map 1B
South Long Island



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



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Map 1B
South Long Island

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	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
1	Shorebird	Piping plover	Nesting	E/E	T	1-5 Pairs													Apr-Aug	-	-	-
2	Gull/Tern	Common tern	Migration	T/C		100S													-	-	Aug-Sep	-
	Gull/Tern	Roseate tern	Migration	E/E	E	10S													-	May	Aug-Sep	-
3	Raptor	Peregrine falcon	Migration	E/-		-													-	Mar-Apr	-	-
	Raptor	Raptors	Migration			-													-	-	Aug-Nov	-
4	Gull/Tern	Least tern	Nesting	T/E		10-50 Pairs													May-Sep	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													Apr-Aug	-	-	-
5	Gull/Tern	Common tern	Migration	T/C		10S													-	-	Aug-Sep	-
6	Raptor	Northern harrier	Nesting	T/E		-													Apr-Aug	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
379	Diadromous	Atlantic sturgeon	Migration	-/E	E	High													-	-	-	May-Jul	May-Jul

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
520	Plant	Endangered plant	Vulnerable Occurrence	E/E		-													-	-	-	-	-
522	Upland	Rare upland community	Vulnerable Occurrence			-													-	-	-	-	-
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-													-	-	-	-	-
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-													-	-	-	-	-
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-													-	-	-	-	-
527	Plant	Endangered plant	Vulnerable Occurrence	E/E		-													-	-	-	-	-
	Plant	Threatened plant	Vulnerable Occurrence	T/-		-													-	-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
541	Amphibian	Eastern spadefoot	Concentration Area	C/-		High													-	-	-	Mar-Sep	Mar-Sep
	Snake	Rare snake	Vulnerable Occurrence	C/C		Present And Active													-	-	-	-	Apr-Nov
	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Present And Active													-	-	-	-	Apr-Nov
	Turtle	Spotted turtle	Vulnerable Occurrence	C/C		Present And Active													-	-	-	-	Mar-Nov

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
680	Whale	Fin whale	Concentration Area	E/E	E	Foraging													-	-	-	-


WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Atlantic sturgeon	General Distribution	-/E	E	Low													-	-	-	Jan-Dec	Oct-Jun

Monthly Presence

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Hatch	Interstest	Juveniles	Adults
	Green sea turtle	General Distribution	T/T	T	-													-	-	-	May-Nov	May-Nov
	K. ridley sea turtle	General Distribution	E/E	E	-													-	-	-	May-Nov	-
	Leatherback sea turtle	General Distribution	E/E	E	-													-	-	-	May-Nov	May-Nov
	Loggerhead sea turtle	General Distribution	T/E	T	-													-	-	-	May-Nov	May-Nov


Monthly Presence

INVERTEBRATES

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Whelk	Harvest Area			-													Jun-Jul	Aug-Nov	-	Jan-Dec	Jan-Dec

Monthly Presence



MARINE MAMMALS

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molt
	Fin whale	General Distribution	E/E	E	Common													-	-	-	-
	Humpback whale	General Distribution	E/E	E	Common													-	-	-	-
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular													-	-	-	-
	N.A. right whale	Migration	E/E	E	-													-	-	-	-

Monthly Presence

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
	G. black-backed gull																	-	-	-	-
	Herring gull																	-	-	-	-
	Great shearwater																	-	-	-	-
	Northern gannet																	-	-	-	-
	Wilson's storm-petrel																	-	-	-	-
	Black scoter																	-	-	-	-
	Common eider																	-	-	-	-
	Surf scoter																	-	-	-	-
	White-winged scoter																	-	-	-	-

Monthly Presence

FISH




Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Alewife																	-	-	-	Nov-Apr	Nov-Apr
	American eel																	-	-	Jan-Feb	-	Sep-Dec

Monthly Presence

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
Estuarine Nursery	American shad													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Bluefish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
Estuarine Resident Marine Benthic	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	American sand lance													-	-	-	-	Oct-Jun
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Cleannose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Little skate													-	-	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
Marine Pelagic	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Albacore													-	-	-	Jun-Sep	-
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-
	White shark													-	-	-	Jul-Oct	-
	Yellowfin tuna													-	-	-	Jul-Sep	-

INVERTEBRATES

	Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve	Atlantic surfclam												Jun-Oct*	Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec	
		Ocean quahog												Jul-Nov	Jul-Nov	Jul-Dec	Jan-Dec	Jan-Dec	
		Longfin squid												-	-	-	-	Jan-Dec	
	Crab	Blue crab												-	-	Jun-Oct	-	Aug-Mar	
		Horseshoe crab												-	-	-	Jan-Dec	Jan-Dec	
		Horseshoe crab												-	-	-	Aug-Mar	Aug-Mar	
	Lobster	American lobster												-	-	-	Jan-Dec	Jan-Dec	

MARINE MAMMALS

<div></div> Subelement	Species	Monthly Presence												Mating	Calving	Pupping	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				
Dolphin	Bottlenose dolphin																-
	Harbor porpoise																-

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	32.59	0.05
10B	Freshwater Marshes	0.13	0.00
10D	Scrub and Shrub Wetlands	37.91	0.06



ESI SHORELINE HABITAT TYPES

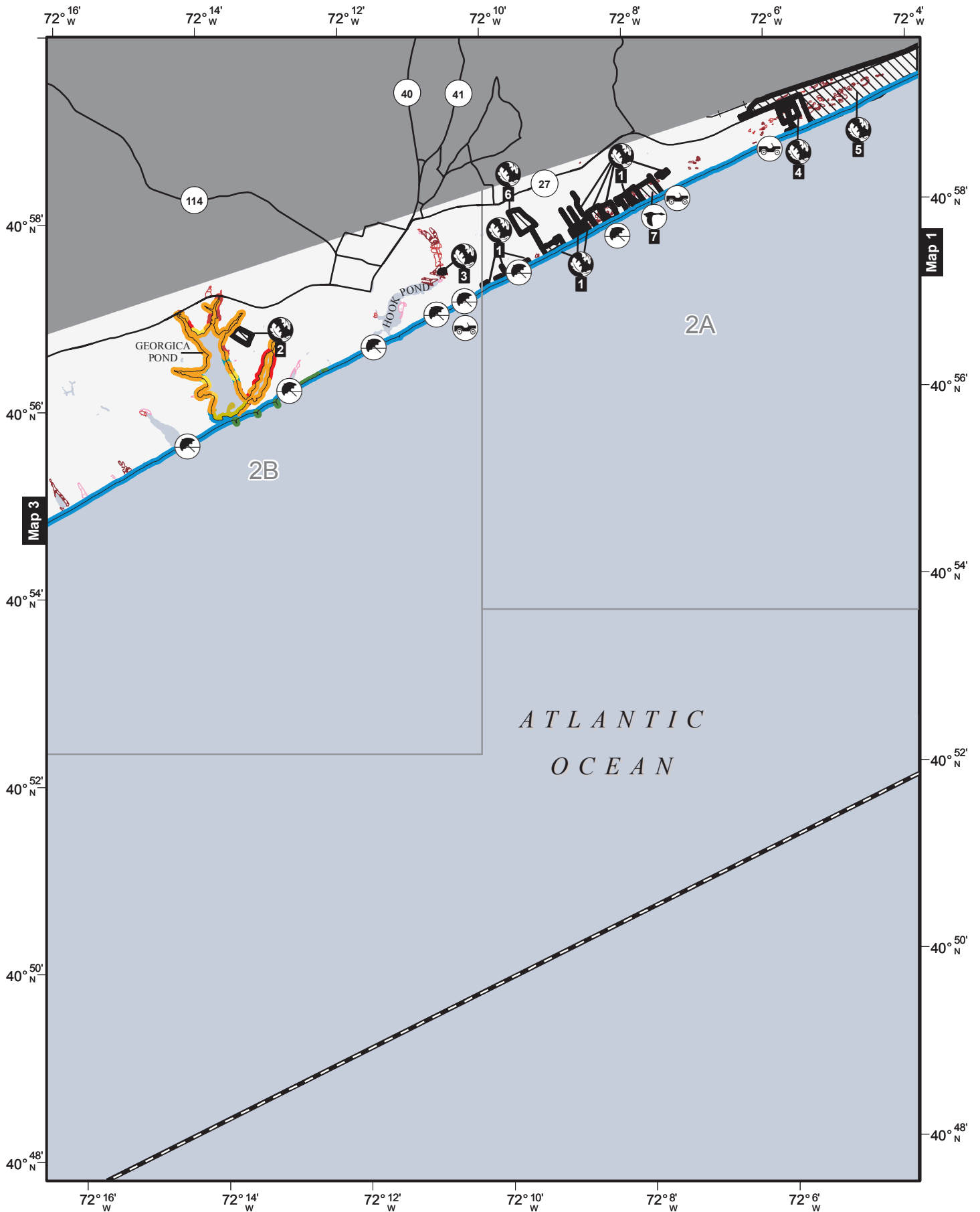
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
5	Mixed Sand and Gravel Beaches	1,166.48	0.72	11%
4	Coarse Grained Sand Beaches	8,639.32	5.37	79%
3B	Scarps and Steep Slopes (Sand)	1,166.48	0.72	11%

Total ESI Shoreline: 10,972.28 Total ESI Shoreline: 6.82
 Total Shoreline: 9,805.80 Total Shoreline: 6.09

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

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

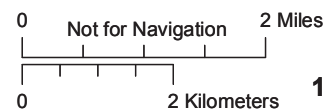




Map 2
South Long Island



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



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Map 2
South Long Island

HUMAN USE RESOURCES

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
1	NATURE CONSERVANCY	ATLANTIC DOUBLE DUNES PRESERVE	
2	NATURE CONSERVANCY	FULLING MILL FARM PRESERVE	
3	NATURE CONSERVANCY	HOOK POND	
4	NATURE CONSERVANCY	NAPEAGUE CRANBERRY BOG	
5	NATURE CONSERVANCY	NAPEAGUE	
6	NATURE CONSERVANCY	TYSON FIELD	
7	WILDLIFE REFUGE	AMAGANSETT NATIONAL WILDLIFE REFUGE	

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	EFH AREA	CHRIS BRUCE	434-951-0565
ESSENTIAL HABITAT	IMPORTANT BIRD AREA	IMPORTANT BIRD AREAS PROGRAM COORDINATOR	607-254-2437
ESSENTIAL HABITAT	SIGNIFICANT COASTAL HABITAT	NYS DEPARTMENT OF STATE COORDINATOR	518-474-6000

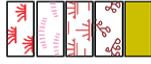
JURISDICTIONS

COUNTY:	SUFFOLK COUNTY	FEMA:	REGION II
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	9.51	0.01
10B	Freshwater Marshes	25.65	0.04
10C	Swamps	34.40	0.05
10D	Scrub and Shrub Wetlands	99.44	0.16
7	Exposed Tidal Flats	20.78	0.03



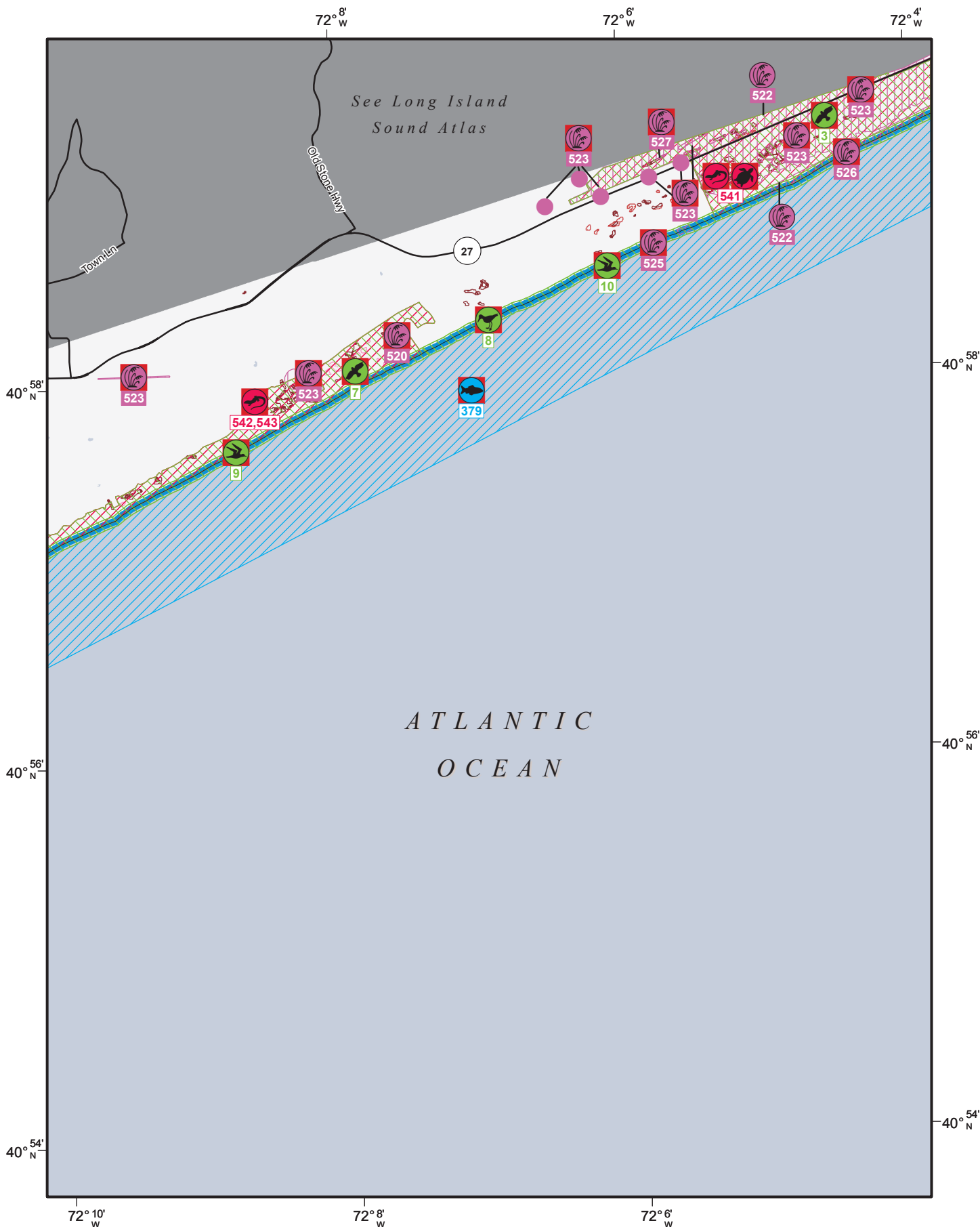
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	2,619.63	1.63	7%
10C	Swamps	1,131.84	0.70	3%
10D	Scrub and Shrub Wetlands	120.27	0.07	< 1%
9B	Vegetated Low Banks	11,569.20	7.19	29%
8B	Sheltered, Solid Man-Made Structures	811.90	0.50	2%
8C	Sheltered Riprap	258.93	0.16	1%
7	Exposed Tidal Flats	1,019.44	0.63	3%
6B	Riprap	866.02	0.54	2%
5	Mixed Sand and Gravel Beaches	642.12	0.40	2%
4	Coarse Grained Sand Beaches	20,322.35	12.63	52%
Total ESI Shoreline:		39,361.69	24.46	
Total Shoreline:		33,447.64	20.78	

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

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

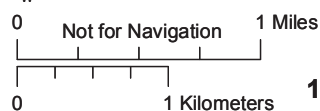




Map 2A
South Long Island



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



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Map 2A
South Long Island

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	S	F	Concentration	Monthly Presence												Nest	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
3	Raptor	Peregrine falcon	Migration	E/-		-													-				
	Raptor	Raptors	Migration			-													-				
7	Raptor	Northern harrier	Concentration Area	T/E		High													-				
	Raptor	Raptors	Migration			High													-				
8	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													-				
9	Gull/Tern	Least tern	Nesting	T/E		50-100 Pairs													-				
10	Gull/Tern	Least tern	Nesting	T/E		10-50 Pairs													-				

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
379	Diadromous	Atlantic sturgeon	Migration	-/E		High													-				

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
520	Plant	Endangered plant	Vulnerable Occurrence	E/E		-													-				
522	Upland	Rare upland community	Vulnerable Occurrence			-													-				
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-													-				
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-													-				
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-													-				
527	Plant	Endangered plant	Vulnerable Occurrence	E/E		-													-				
	Plant	Threatened plant	Vulnerable Occurrence	T/-		-													-				

REPTILES & AMPHIBIANS


Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
541	Amphibian	Eastern spadefoot	Concentration Area	C/-		High													-				
	Snake	Rare snake	Vulnerable Occurrence	C/C		Present And Active													-				
	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Present And Active													-				
	Turtle	Spotted turtle	Vulnerable Occurrence	C/C		Present And Active													-				
542	Amphibian	Eastern spadefoot	Vulnerable Occurrence	C/-		Present And Active													-				
	Amphibian	Fowler's toad	General Distribution	-/C		-													-				
543	Snake	Rare snake	Vulnerable Occurrence	C/C		Present And Active													-				

FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Atlantic sturgeon	General Distribution	-/E	E	Low													-	-	-	Jan-Dec	Oct-Jun

Monthly Presence

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Hatch	Interstest	Juveniles	Adults
	Green sea turtle	General Distribution	T/T	T	-													-	-	-	May-Nov	May-Nov
	K. ridley sea turtle	General Distribution	E/E	E	-													-	-	-	May-Nov	-
	Leatherback sea turtle	General Distribution	E/E	E	-													-	-	-	May-Nov	May-Nov
	Loggerhead sea turtle	General Distribution	T/E	T	-													-	-	-	May-Nov	May-Nov

Monthly Presence

INVERTEBRATES

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Whelk	Harvest Area			-													Jun-Jul	Aug-Nov	-	Jan-Dec	Jan-Dec

Monthly Presence


MARINE MAMMALS

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molt
	Fin whale	General Distribution	E/E	E	Common													-	-	-	-
	Humpback whale	General Distribution	E/E	E	Common													-	-	-	-
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular													-	-	-	-
	N.A. right whale	Migration	E/E	E	-													-	-	-	-

Monthly Presence

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
	G. black-backed gull																	-	-	-	-
	Herring gull																	-	-	-	-
	Great shearwater																	-	-	-	-
	Northern gannet																	-	-	-	-
	Wilson's storm-petrel																	-	-	-	-
	Black scoter																	-	-	-	-
	Common eider																	-	-	-	-
	Surf scoter																	-	-	-	-
	White-winged scoter																	-	-	-	-

Monthly Presence

FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Alewife																	-	-	-	Nov-Apr	Nov-Apr




Monthly Presence

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
Estuarine Nursery	American eel													-	-	Jan-Feb	-	Sep-Dec
	American shad													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Bluefish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	American sand lance													-	-	-	-	Oct-Jun
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Cleannose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Little skate													-	-	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
Marine Pelagic	Winter skate													-	-	-	Sep-May	Sep-Nov
	Albacore													-	-	-	Jun-Sep	-
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-
	White shark													-	-	-	Jul-Oct	-
	Yellowfin tuna													-	-	-	Jul-Sep	-

South Long Island: Map 2A

INVERTEBRATES

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

MARINE MAMMALS

<div></div>	Subelement	Species	Monthly Presence												Mating	Calving	Pupping	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				
	Dolphin													-	-	-	-	
	Bottlenose dolphin													-	-	-	-	
	Harbor porpoise													-	-	-	-	

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)
10B	Freshwater Marshes	5.95	0.01
10C	Swamps	6.09	0.01
10D	Scrub and Shrub Wetlands	62.23	0.10



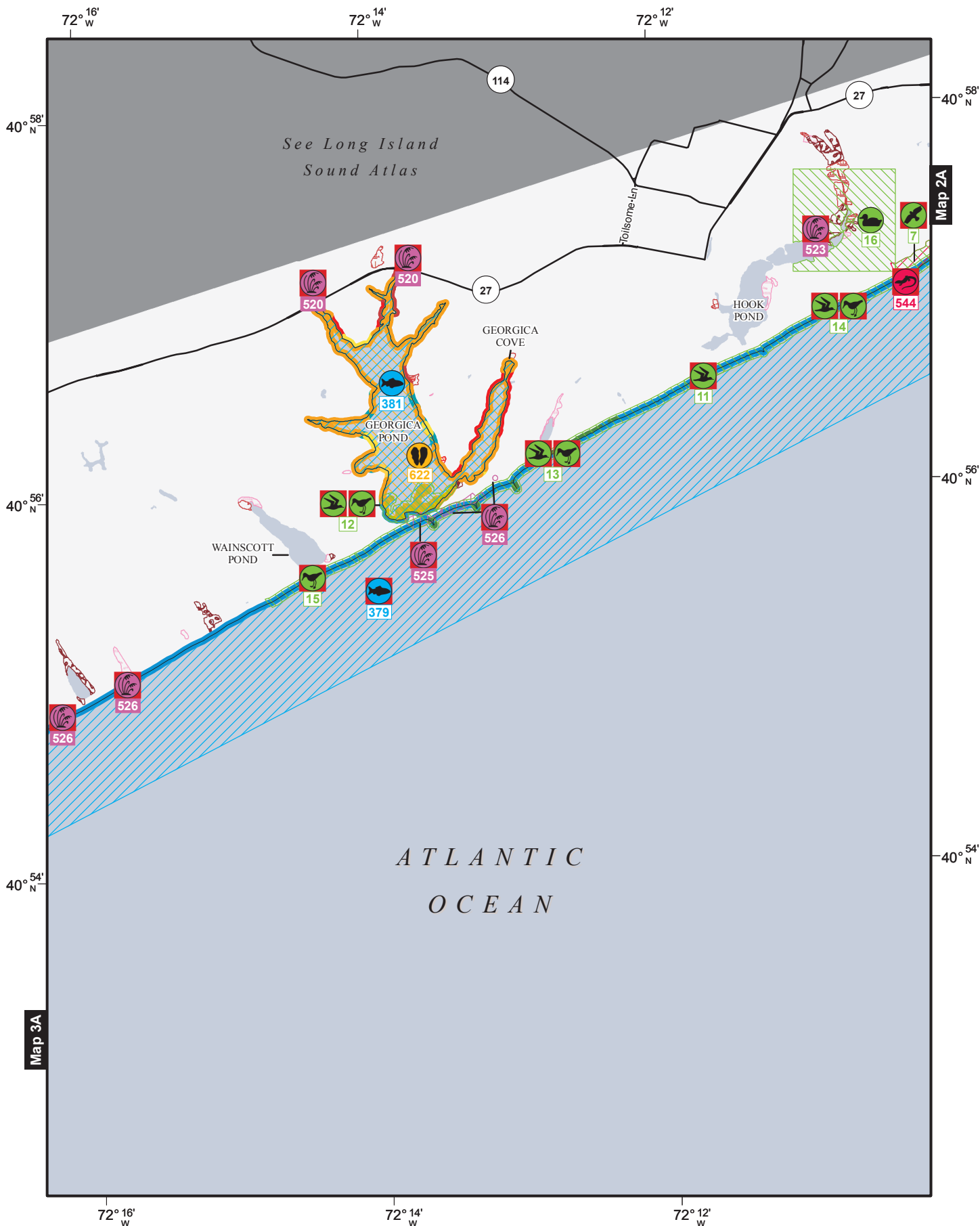
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
4	Coarse Grained Sand Beaches	9,680.41	6.02	100%
Total ESI Shoreline:		9,680.41	6.02	
Total Shoreline:		9,680.41	6.02	

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

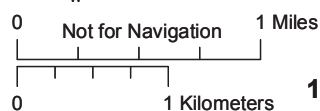




Map 2B
South Long Island



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



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Map 2B
South Long Island

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	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
7	Raptor	Northern harrier	Concentration Area	T/E		High													-	-	-	-
	Raptor	Raptors	Migration			High													-	-	-	-
11	Gull/Tern	Common tern	Migration	T/C		100S													-	-	-	-
12	Gull/Tern	Roseate tern	Migration	E/E	E	1S													-	-	-	-
	Shorebird	Piping plover	Migration	E/E	T	1S													-	-	-	-
	Shorebird	Sanderling	Migration	-/C		100S													-	-	-	-
13	Gull/Tern	Least tern	Nesting	T/E		10-50 Pairs													May-Sep	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	1-5 Pairs													Apr-Aug	-	-	-
14	Gull/Tern	Least tern	Nesting	T/E		50-100 Pairs													May-Sep	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													Apr-Aug	-	-	-
15	Shorebird	Piping plover	Nesting	E/E	T	5-10 Pairs													Apr-Aug	-	-	-
16	Waterfowl	Gadwall	Nesting			3 Pairs													May-Sep	-	-	-
	Waterfowl	Mallard	Nesting			25 Pairs													Mar-Sep	-	-	-
	Waterfowl	Wood duck	Nesting			2 Pairs													Mar-Sep	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
379	Diadromous	Atlantic sturgeon	Migration	-/E	E	High													-	-	-	-	-
381	Diadromous	Alewife	Nursery Area			-													-	-	-	-	-
	Diadromous	Alewife	Spawning Area			-													Mar-May	Mar-May	-	-	Mar-May
	Diadromous	American eel	Nursery Area			-													-	-	-	-	-

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
520	Plant	Endangered plant	Vulnerable Occurrence	E/E		-													-	-	-	-	-
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-													-	-	-	-	-
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-													-	-	-	-	-
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-													-	-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
544	Amphibian	Eastern spadefoot	Vulnerable Occurrence	C/-		Present And Active													-	-	-	-	Mar-Sep
	Amphibian	Fowler's toad	General Distribution	-/C		-													-	-	-	-	Apr-Nov
	Snake	Rare snake	Vulnerable Occurrence	C/C		Present And Active													-	-	-	-	Apr-Nov


INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
622	Bivalve	Atlantic razor	Harvest Area			3 Bushels/Yr Avg													Apr-May	Apr-May	Jan-Dec	Jan-Dec
	Bivalve	Eastern oyster	Harvest Area			854 Bushels/Yr Avg													Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area			2 Bushels/Yr Avg													Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
	Bivalve	Softshell clam	Harvest Area			1188 Bushels/Yr Avg													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)																						

FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
	Diadromous Atlantic sturgeon	General Distribution	-/E	E	Low													-	-	Jan-Dec	Oct-Jun


REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	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	General Distribution	T/T	T	-													-	-	May-Nov	May-Nov
	K. ridley sea turtle	General Distribution	E/E	E	-													-	-	May-Nov	-
	Leatherback sea turtle	General Distribution	E/E	E	-													-	-	May-Nov	May-Nov
	Loggerhead sea turtle	General Distribution	T/E	T	-													-	-	May-Nov	May-Nov

INVERTEBRATES




Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
	Gastropod Whelk	Harvest Area			-													Jun-Jul	Aug-Nov	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D			
	Whale Fin whale	General Distribution	E/E	E	Common													-	-	-
	Humpback whale	General Distribution	E/E	E	Common													-	-	-
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular													-	-	-
	N.A. right whale	Migration	E/E	E	-													-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D			
	Gull/Tern G. black-backed gull																	-	-	-
	Herring gull																	-	-	-
	Pelagic Great shearwater																	-	-	-
	Northern gannet																	-	-	-
	Wilson's storm-petrel																	-	-	-
	Waterfowl Black scoter																	-	-	-

BIRDS (continued)

Subelement	Species	Monthly Presence												Molt
		J	F	M	A	M	J	J	A	S	O	N	D	
	Common eider													-
	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					
Diadromous	Alewife													-	-	-	Nov-Apr	Nov-Apr
	American eel													-	-	Jan-Feb	-	Sep-Dec
	American shad													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
Estuarine Nursery	Bluefish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	White perch													Mar-Jun	Mar-Jun	Mar-Jun	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
Estuarine Resident	American sand lance													-	-	-	-	Oct-Jun
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Cleannose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Little skate													-	-	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
Marine Benthic	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Albacore													-	-	-	Jun-Sep	-
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec


FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-
	White shark													-	-	-	Jul-Oct	-
	Yellowfin tuna													-	-	-	Jul-Sep	-

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-Oct*	Jan-Dec	Jan-Dec
	Atlantic surfclam													Jul-Nov	Jul-Nov	Jul-Dec	Jan-Dec	Jan-Dec
	Cephalopod													-	-	-	-	Jan-Dec
	Crab													-	-	-	-	Jan-Dec
	Longfin squid													-	-	-	-	Jan-Dec
	Blue crab													-	-	-	-	Aug-Mar
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Aug-Mar	Aug-Mar
	Lobster													-	-	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	9.51	0.01
10B	Freshwater Marshes	19.70	0.03
10C	Swamps	28.31	0.04
10D	Scrub and Shrub Wetlands	37.21	0.06
7	Exposed Tidal Flats	20.78	0.03

ESI SHORELINE HABITAT TYPES

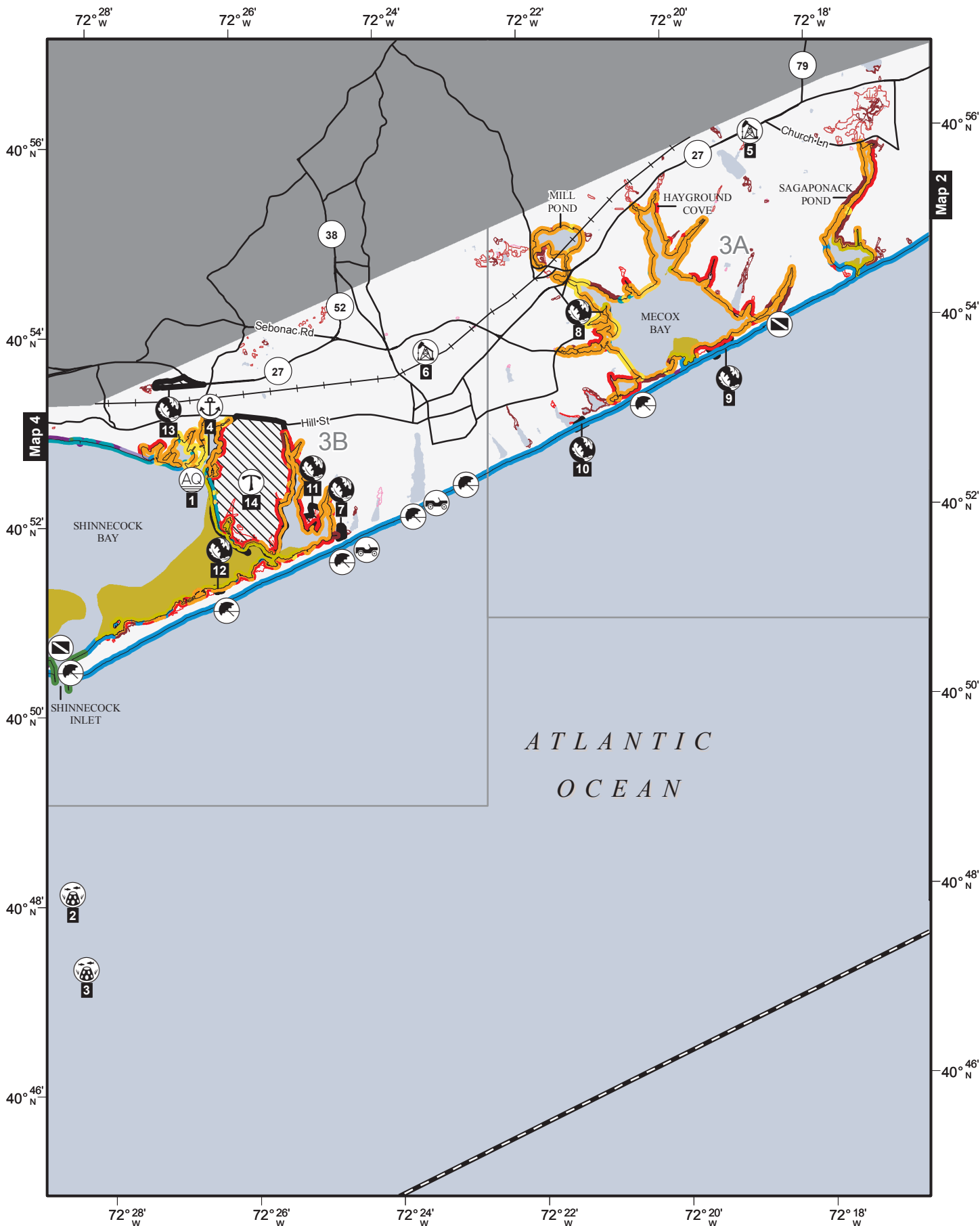
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	2,619.63	1.63	9%
10C	Swamps	1,131.84	0.70	4%
10D	Scrub and Shrub Wetlands	120.27	0.07	< 1%
9B	Vegetated Low Banks	11,569.20	7.19	39%
8B	Sheltered, Solid Man-Made Structures	811.90	0.50	3%
8C	Sheltered Riprap	258.93	0.16	1%
7	Exposed Tidal Flats	1,019.44	0.63	3%
6B	Riprap	866.02	0.54	3%
5	Mixed Sand and Gravel Beaches	642.12	0.40	2%
4	Coarse Grained Sand Beaches	10,642.55	6.61	36%

Total ESI Shoreline: 29,681.89 Total ESI Shoreline: 18.44
Total Shoreline: 23,767.84 Total Shoreline: 14.77

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

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

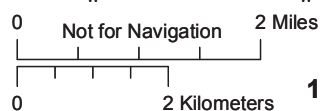




Map 3
South Long Island



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



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Map 3
South Long Island

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AQUACULTURE	AQUACULTURE AREA	631-444-0481
2	ARTIFICIAL REEF	SHINNECOCK REEF	
3	ARTIFICIAL REEF	ARTIFICIAL REEF	
4	MARINA	MARINA	
5	OIL FACILITY	SOUTH FORK TERMINAL	
6	OIL FACILITY	SOUTHAMPTON COAL AND PRODUCE COMPANY	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
7	NATURE CONSERVANCY	ARCHIBALD MANNING BROWN PRESERVE	
8	NATURE CONSERVANCY	HUNTER GOODRICH PRESERVE	
9	NATURE CONSERVANCY	MECOX BAY PRESERVE	
10	NATURE CONSERVANCY	PHILLIPS POND	
11	NATURE CONSERVANCY	RUTH WALES DUPONT SANCTUARY	
12	NATURE CONSERVANCY	SHINNECOCK BAY TIDAL WETLANDS AREA	
13	NATURE CONSERVANCY	SHINNECOCK PRESERVE	
14	TRIBAL LANDS	SHINNECOCK (STATE) RESERVATION	

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	EFH AREA	CHRIS BRUCE	434-951-0565
ESSENTIAL HABITAT	IMPORTANT BIRD AREA	IMPORTANT BIRD AREAS PROGRAM COORDINATOR	607-254-2437
ESSENTIAL HABITAT	SIGNIFICANT COASTAL HABITAT	NYS DEPARTMENT OF STATE COORDINATOR	518-474-6000

JURISDICTIONS			
COUNTY:	SUFFOLK COUNTY	FEMA:	REGION II
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	241.31	0.38
10B	Freshwater Marshes	12.07	0.02
10C	Swamps	168.74	0.26
10D	Scrub and Shrub Wetlands	156.27	0.24
9A	Sheltered Tidal Flats	12.28	0.02
7	Exposed Tidal Flats	981.79	1.53

ESI SHORELINE HABITAT TYPES

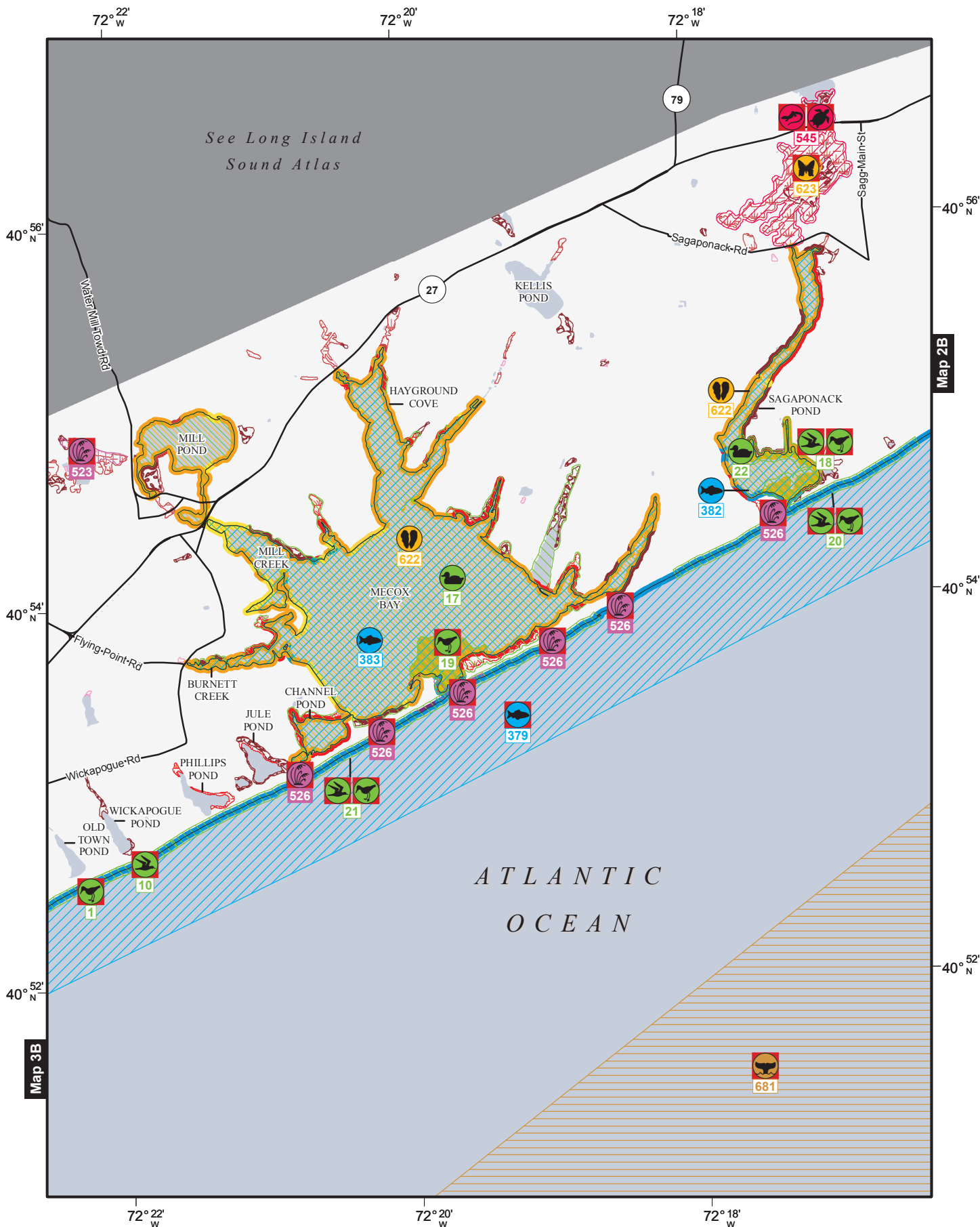
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	28,835.93	17.92	18%
10C	Swamps	566.75	0.35	< 1%
10D	Scrub and Shrub Wetlands	8,446.71	5.25	5%
9A	Sheltered Tidal Flats	2,414.43	1.50	2%
9B	Vegetated Low Banks	59,957.89	37.26	38%
8B	Sheltered, Solid Man-Made Structures	8,326.96	5.17	5%
8C	Sheltered Riprap	697.08	0.43	< 1%
7	Exposed Tidal Flats	14,269.85	8.87	9%
6B	Riprap	1,681.04	1.04	1%
5	Mixed Sand and Gravel Beaches	5,717.71	3.55	4%
4	Coarse Grained Sand Beaches	23,315.17	14.49	15%
3A	Fine to Medium Grained Sand Beaches	62.92	0.04	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	726.48	0.45	< 1%
1B	Exposed, Solid Man-Made Structures	1,497.04	0.93	1%

Total ESI Shoreline: 156,515.96
Total ESI Shoreline: 97.25
Total Shoreline: 99,566.32
Total Shoreline: 61.87

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

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

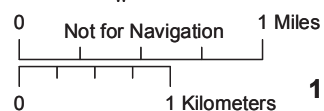




Map 3A
South Long Island



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



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Map 3A
South Long Island

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	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
1	Shorebird	Piping plover	Nesting	E/E	T	1-5 Pairs													Apr-Aug	-	-	-
10	Gull/Tern	Least tern	Nesting	T/E		10-50 Pairs													May-Sep	-	-	-
17	Waterfowl	Canada goose	Wintering			1000S													-	-	-	-
	Waterfowl	Waterfowl	Migration			High													-	Mar-Apr	Oct-Nov	-
	Waterfowl	Waterfowl	Wintering			1000S													-	-	-	-
18	Gull/Tern	Common tern	Migration	T/C		100S													-	-	Aug-Sep	-
	Gull/Tern	Least tern	Migration	T/E		1S													-	-	Aug-Sep	-
	Gull/Tern	Roseate tern	Migration	E/E	E	1S													-	May	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	1S													-	-	Aug-Sep	-
	Shorebird	Red knot	Migration	-E	T	1S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-C		100S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-C		10S													-	Apr-May	Aug-Sep	-
19	Shorebird	Piping plover	Migration	E/E	T	10S													-	-	Aug-Sep	-
	Shorebird	Sanderling	Migration	-C		100S													-	-	Aug-Sep	-
	Shorebird	Semipalmated plover	Migration			100S													-	-	Aug-Sep	-
20	Gull/Tern	Least tern	Nesting	T/E		100-200 Pairs													May-Sep	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	1-5 Pairs													Apr-Aug	-	-	-
21	Gull/Tern	Least tern	Nesting	T/E		50-100 Pairs													May-Sep	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	5-10 Pairs													Apr-Aug	-	-	-
22	Waterfowl	Canada goose	Wintering			High													-	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
379	Diadromous	Atlantic sturgeon	Migration	-E		High													-	-	-	May-Jul	May-Jul
382	Diadromous	American eel	Nursery Area			-													-	-	-	Jan-Dec	-
383	Diadromous	Alewife	Nursery Area			-													-	-	-	Apr-Oct	-
	Diadromous	Alewife	Spawning Area			-													Mar-May	Mar-May	-	-	Mar-May

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Vulnerable Occurrence	Vulnerable Occurrence	Vulnerable Occurrence	Vulnerable Occurrence
							J	F	M	A	M	J	J	A	S	O	N	D				
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-													-	-	-	-
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-													-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
545	Amphibian	B. spotted salamander	General Distribution	C/E	-	-													Mar-Apr	Apr-May	-	Apr-Jul	Mar-Apr
	Amphibian	E. tiger salamander	General Distribution	E/-	-	-													-	-	-	-	Jan-Dec
	Amphibian	Rare salamander	General Distribution	C/C	-	-													Aug-Nov	Sep-Apr*	-	Mar-Jun	Mar-Nov
	Snake	Rare snake	General Distribution	C/C	-	-													-	-	-	Apr-Nov	Apr-Nov
	Turtle	Spotted turtle	General Distribution	C/C	-	-													-	-	-	Mar-Nov	Mar-Nov

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
622	Bivalve	Atlantic razor	Harvest Area			3 Bushels/Yr Avg													Apr-May	Apr-May	Apr-May	Jan-Dec	Jan-Dec
	Bivalve	Eastern oyster	Harvest Area			854 Bushels/Yr Avg													Jul-Aug	Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area			2 Bushels/Yr Avg													Jun-Aug	Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
	Bivalve	Softshell clam	Harvest Area			1188 Bushels/Yr Avg													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
623	Insect	Hessel's hairstreak	Vulnerable Occurrence	E/-	-	-													Apr-May	Apr-May	Apr-May	Jan-Dec	Apr-May

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
681	Whale	N.A. right whale	Migration	E/E	E	-													-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults	
						J	F	M	A	M	J	J	A	S	O	N	D						
	Diadromous	Atlantic sturgeon	General Distribution	-/E	E	Low													-	-	-	Jan-Dec	Oct-Jun


REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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Turtle	Green sea turtle	General Distribution	T/T	T	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

INVERTEBRATES




Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults	
						J	F	M	A	M	J	J	A	S	O	N	D						
	Gastropod	Whelk	Harvest Area			-													Jun-Jul	Aug-Nov	-	Jan-Dec	Jan-Dec

MARINE MAMMALS




Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Fin whale	General Distribution	E/E	E	Common													-	-	-	-
	Humpback whale	General Distribution	E/E	E	Common													-	-	-	-
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular													-	-	-	-

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													-	-	-	-
	G. black-backed gull													-	-	-	-
	Herring gull													-	-	-	-
	Great shearwater													-	-	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Black scoter													-	-	-	-
	Common eider													-	-	-	-
	Long-tailed duck													-	-	-	-
	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					
	Alewife													-	-	-	Nov-Apr	Nov-Apr
	American eel													-	-	Jan-Feb	-	Sep-Dec
	American shad													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Bluefish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	White perch													Mar-Jun	Mar-Jun	Mar-Jun	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr


FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Marine Benthic													-	-	-	Oct-Jun
	American sand lance													-	-	-	Nov-Apr
	Atlantic cod													-	-	-	Apr-Nov
	Clearnose skate													-	-	-	Jan-Jun
	Goosefish													-	-	-	Jan-Dec
	Little skate													-	-	-	Jan-Dec
	Little skate													-	-	-	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug
	Red hake													-	-	-	Jan-Dec
	Silver hake													-	-	-	Jan-Dec
	Smooth dogfish													-	-	-	Apr-Oct
	Tautog													-	-	-	Mar-Nov
	Tautog													-	-	-	Jan-Dec
	Winter skate													-	-	-	Sep-Nov
	Albacore													-	-	-	Jun-Sep
	Atlantic mackerel													-	-	-	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep
	Butterfish													-	-	-	May-Dec
	Dusky shark													-	-	-	May-Sep
	Sand tiger													-	-	-	Jun-Oct
	Sandbar shark													-	-	-	Jun-Oct
	Shortfin mako													-	-	-	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr
	Thresher shark													-	-	-	May-Nov
	Tiger shark													-	-	-	Jul-Oct
	White shark													-	-	-	Jul-Oct
	Yellowfin tuna													-	-	-	Jul-Sep

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Bivalve													-	-	-	Jan-Dec
	Atlantic surfclam													-	-	-	Jan-Dec
	Cephalopod													-	-	-	Jan-Dec
	Ocean quahog													-	-	-	Jan-Dec
	Crab													-	-	-	Jan-Dec
	Longfin squid													-	-	-	Jan-Dec
	Blue crab													-	-	-	Aug-Mar
	Horseshoe crab													-	-	-	Jan-Dec
	Horseshoe crab													-	-	-	Aug-Mar
	Lobster													-	-	-	Jan-Dec
	American lobster													-	-	-	Jan-Dec

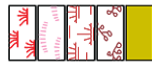
MARINE MAMMALS

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

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	77.37	0.12
10B	Freshwater Marshes	6.18	0.01
10C	Swamps	141.96	0.22
10D	Scrub and Shrub Wetlands	131.91	0.21
7	Exposed Tidal Flats	87.55	0.14

ESI SHORELINE HABITAT TYPES

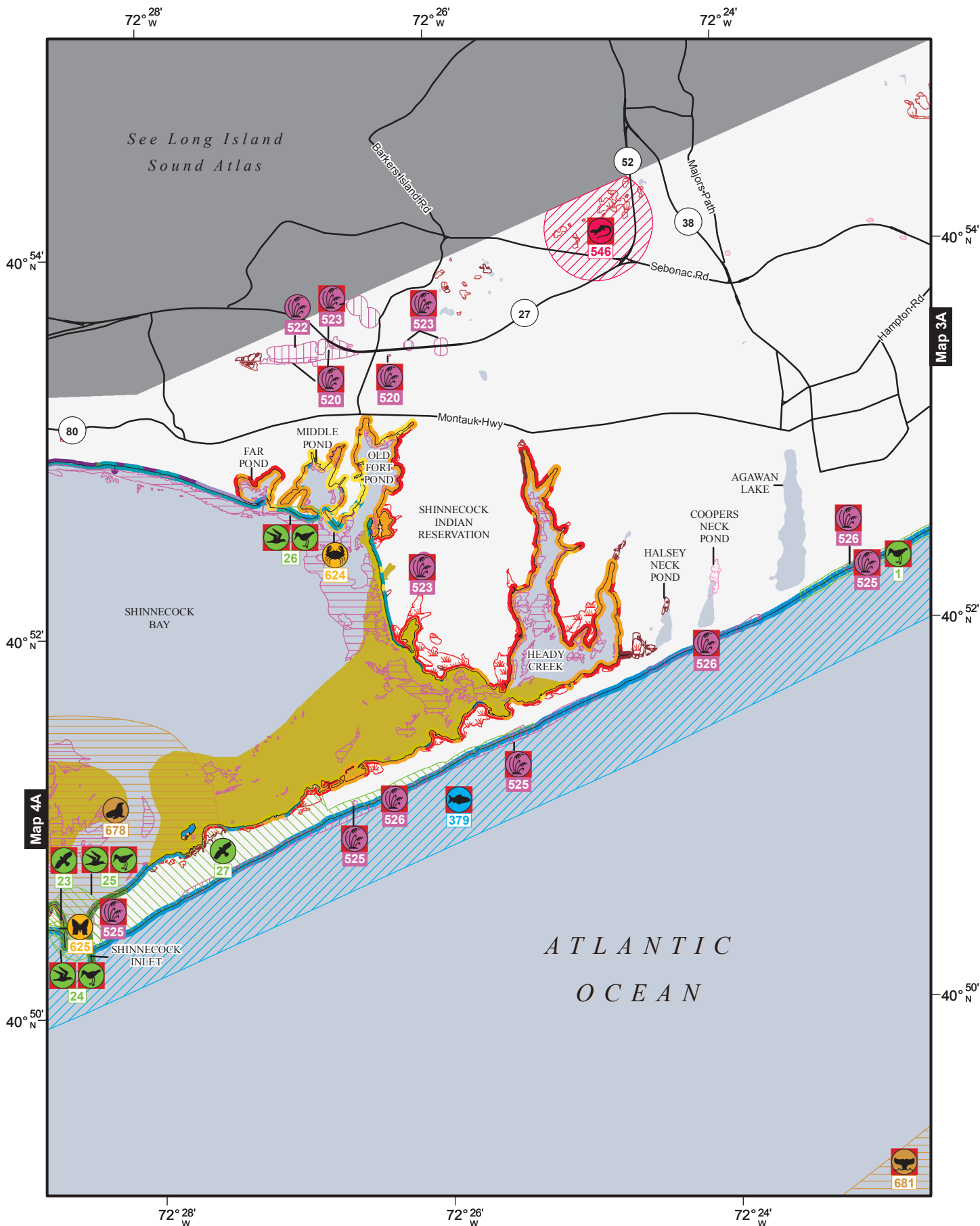
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	10,936.65	6.80	14%
10C	Swamps	566.75	0.35	1%
10D	Scrub and Shrub Wetlands	7,397.36	4.60	10%
9B	Vegetated Low Banks	36,542.96	22.71	48%
8B	Sheltered, Solid Man-Made Structures	4,479.52	2.78	6%
8C	Sheltered Riprap	548.06	0.34	1%
7	Exposed Tidal Flats	3,842.36	2.39	5%
5	Mixed Sand and Gravel Beaches	621.06	0.39	1%
4	Coarse Grained Sand Beaches	11,669.02	7.25	15%
1B	Exposed, Solid Man-Made Structures	255.98	0.16	< 1%

Total ESI Shoreline: 76,859.71 Total ESI Shoreline: 47.76
Total Shoreline: 53,722.41 Total Shoreline: 33.38

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

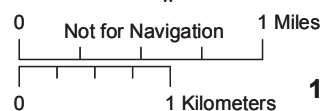




Map 3B
South Long Island



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



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Map 3B
South Long Island

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	S	F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
SAV	Submersed aquatic veg	High Ecological Value			Present												
Algae	Macroalgae	High Ecological Value			Present												

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
				E/E	T		J	F	M	A	M	J	J	A	S	O	N	D
1	Shorebird	Piping plover	Nesting			1-5 Pairs												
23	Raptor	Northern harrier	Migration	T/E		High												
	Raptor	Osprey	Migration	C/-		High												
	Raptor	Peregrine falcon	Migration	E/-		High												
24	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs												
	Gull/Tern	Least tern	Nesting	T/E		50-100 Pairs												
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs												
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs												
25	Gull/Tern	Common tern	Migration	T/C		100S												
	Shorebird	American oystercatcher	Migration	-/C		50S												
	Shorebird	Black-bellied plover	Migration			100S												
26	Gull/Tern	Least tern	Nesting	T/E		1-10 Pairs												
	Shorebird	Piping plover	Nesting	E/E	T	1-5 Pairs												
27	Raptor	Raptors	Migration			High												

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
				-/E	E		J	F	M	A	M	J	J	A	S	O	N	D
379	Diadromous	Atlantic sturgeon	Migration			High												

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
				E/E			J	F	M	A	M	J	J	A	S	O	N	D
520	Plant	Endangered plant	Vulnerable Occurrence			-												
522	Upland	Rare upland community	Vulnerable Occurrence			-												
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-												
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-												
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-												

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
546	Amphibian	E. tiger salamander	Vulnerable Occurrence	E/-		-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
624	Crab	Horseshoe crab	Spawning Area			-	J	F	M	A	M	J	J	A	S	O	N	D	May-Jun	May-Jul	-	-	May-Jun
625	Insect	Monarch butterfly	Migration			High													-	-	-	-	Aug-Oct

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
678	Pinniped	Seals	Concentration Area			High	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
681	Whale	N.A. right whale	Migration	E/E	E	-													-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

<div><div></div></div>	Subelement	Species	Mapping Qualifier	S		F		Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F	J	F		M	A	M	J	J	A	S	O	N	D						
<div><div></div></div>	Waterfowl	Mergansers	Wintering					1000S										-	-	-	-			
		Scaup	Wintering					1000S										-	-	-	-			
		Waterfowl	Migration					High										-	Mar-Apr	Oct-Nov	-			
		Waterfowl	Wintering					1000S										-	-	-	-			


FISH

	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
	Diadromous	Atlantic sturgeon	General Distribution	-/E	E	Low	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Jan-Dec	Oct-Jun


REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	S		F		Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
			T/T	E	T	E		J	F	M	A	M	J	J	A	S	O	N	D																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	Green sea turtle	General Distribution					-												-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												</


INVERTEBRATES

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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INVERTEBRATES (continued)





						Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
	Eastern oyster	Harvest Area	1436 Bushels/Yr Avg														
	Northern quahog	Harvest Area	961 Bushels/Yr Avg														
	Softshell clam	Harvest Area	13 Bushels/Yr Avg														
	Whelk	Harvest Area	-														

MARINE MAMMALS



						Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
	Fin whale	Mapping Qualifier	S	F	Concentration												
		General Distribution	E/E	E	Common												
	Humpback whale	General Distribution	E/E	E	Common												
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular												

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

						Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
	Razorbill																
	G. black-backed gull																
	Herring gull																
	Northern gannet																
	Wilson's storm-petrel																
	Black scoter																
	Common eider																
	Long-tailed duck																
	Surf scoter																
	White-winged scoter																

FISH

							Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
	Alewife	Species																
	Alewife																	
	American eel																	
	American eel																	
	American shad																	
	American shad																	
	Blueback herring																	
	Blueback herring																	
	Striped bass																	
	Striped bass																	
	Atlantic croaker																	
	Atlantic croaker																	
	Atlantic herring																	
	Atlantic herring																	
	Atlantic menhaden																	
	Atlantic menhaden																	





FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													-	-	-	Apr-Nov	Apr-Nov
	Bluefish													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Bluefish													-	-	-	May-Oct	Apr-Dec
	Northern kingfish													-	-	-	May-Nov	May-Nov
	Northern puffer													-	-	-	Jun-Nov	Jun-Nov
	Scup													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Spot													-	-	-	May-Nov	May-Nov
	Spot													-	-	-	Apr-Nov	Apr-Nov
	Summer flounder													-	-	-	Sep-Nov	Jun-Nov
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Weakfish													-	-	-	Apr-Oct	Apr-Oct
	Weakfish													May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
	White perch													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Winter flounder													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Atlantic silverside													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	American sand lance													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	American sand lance													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Atlantic cod													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Atlantic cod													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Atlantic tomcod													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Cleannose skate													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Goosefish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Little skate													-	-	-	Jan-Jun	Jan-Jun
	Little skate													-	-	-	Jan-Dec	Jan-Dec
	Ocean pout													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Red hake													-	-	-	Dec-Aug	Dec-Aug
	Silver hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Tautog													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Winter skate													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Albacore													-	-	-	Sep-May	Sep-Nov


FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Atlantic mackerel													-	-	Nov-Apr*	Nov-Apr*
	Atlantic mackerel													-	-	Nov-Apr	-
	Bluefin tuna													-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	May-Sep	May-Sep
	Sand tiger													-	-	Jun-Oct	-
	Sandbar shark													-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	May-Nov	May-Nov
	Tiger shark													-	-	Jul-Oct	-
	White shark													-	-	Jul-Oct	-
	Yellowfin tuna													-	-	Jul-Sep	-

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-Oct*	Jan-Dec	Jan-Dec
	Atlantic surfclam													Jul-Nov	Jul-Dec	Jan-Dec	Jan-Dec
	Cephalopod													-	-	-	Jan-Dec
	Crab													May-Oct	Jun-Oct	Jan-Dec	Jan-Dec
	Longfin squid													-	-	-	Jan-Dec
	Blue crab													-	-	-	Jan-Dec
	Blue crab													-	-	-	Jan-Dec
	Horseshoe crab													-	-	-	Aug-Mar
	Horseshoe crab													-	-	-	Aug-Mar
	Horseshoe crab													-	-	-	Jan-Dec
	American lobster													-	-	-	Jan-Dec

MARINE MAMMALS

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	163.94	0.26
10B	Freshwater Marshes	5.90	0.01
10C	Swamps	26.78	0.04
10D	Scrub and Shrub Wetlands	24.36	0.04
9A	Sheltered Tidal Flats	12.28	0.02
7	Exposed Tidal Flats	894.40	1.40

ESI SHORELINE HABITAT TYPES

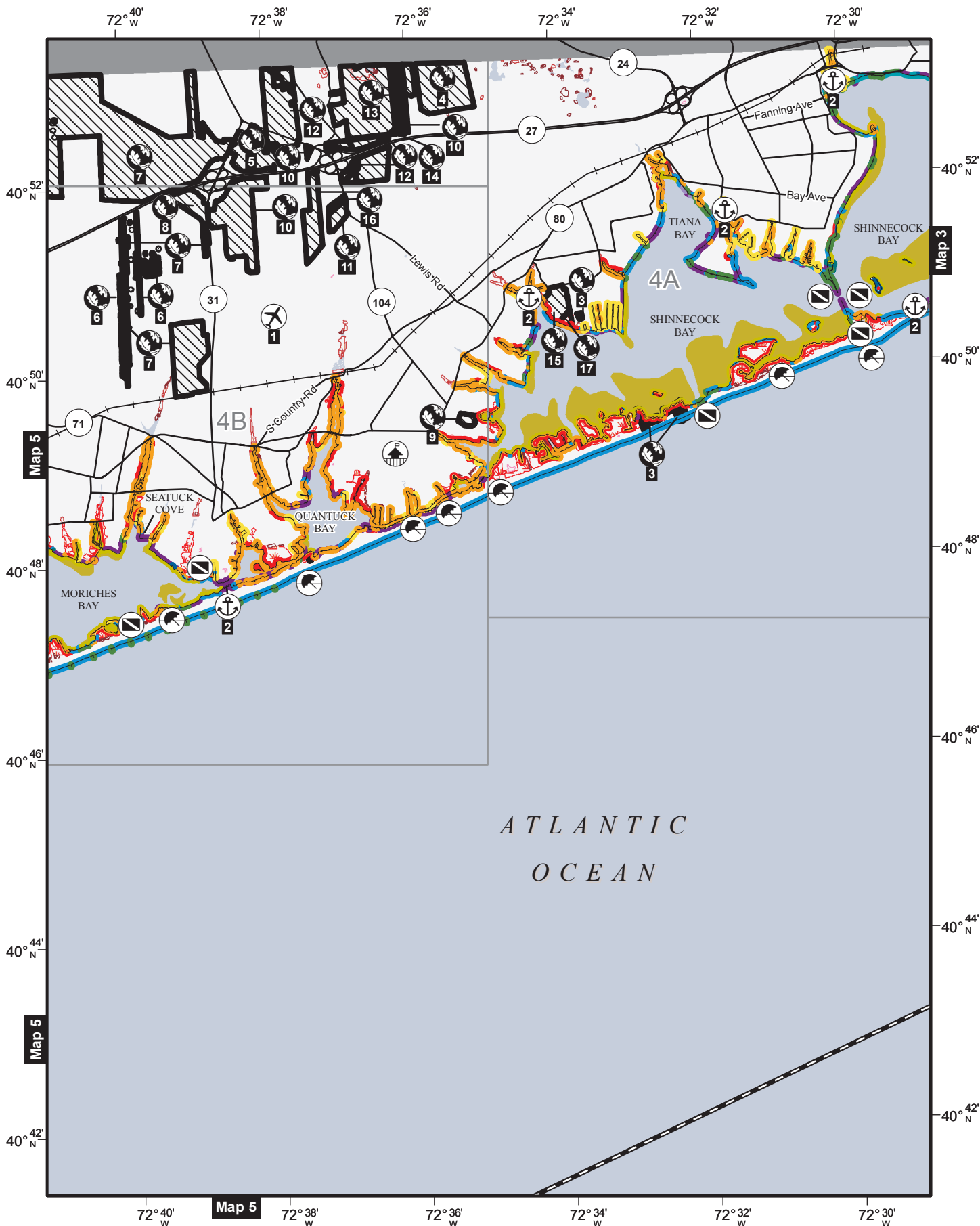
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	17,899.28	11.12	22%
10D	Scrub and Shrub Wetlands	1,049.35	0.65	1%
9A	Sheltered Tidal Flats	2,414.43	1.50	3%
9B	Vegetated Low Banks	23,414.94	14.55	29%
8B	Sheltered, Solid Man-Made Structures	3,847.45	2.39	5%
8C	Sheltered Riprap	149.02	0.09	< 1%
7	Exposed Tidal Flats	10,427.49	6.48	13%
6B	Riprap	1,681.04	1.04	2%
5	Mixed Sand and Gravel Beaches	5,097.44	3.17	6%
4	Coarse Grained Sand Beaches	11,646.54	7.24	15%
3A	Fine to Medium Grained Sand Beaches	62.92	0.04	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	726.48	0.45	1%
1B	Exposed, Solid Man-Made Structures	1,244.27	0.77	2%

Total ESI Shoreline: 79,660.64 Total ESI Shoreline: 49.50
 Total Shoreline: 45,847.50 Total Shoreline: 28.49

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

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





Map 4
South Long Island



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

0 Not for Navigation 2 Miles
 0 2 Kilometers

1:100,000



Map 4
South Long Island

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AIRPORT	FRANCIS S GABRESKI	
2	MARINA	MARINA	
DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
3	NATURE CONSERVANCY	ATLANTIC OCEAN BEACHES	
4	NATURE CONSERVANCY	BIRCH CREEK OWL POND COUNTY PARK	
5	NATURE CONSERVANCY	DAVID A SARNOFF	
6	NATURE CONSERVANCY	DWARF PINE BARRENS PRESERVE	
7	NATURE CONSERVANCY	DWARF PINE BARRENS	
8	NATURE CONSERVANCY	DWARF PINE PLAINS COUNTY NATURE PRESERVE (UNDEVEL *	
9	NATURE CONSERVANCY	GRIFFITH PRESERVE	
10	NATURE CONSERVANCY	LONG ISLAND PINE BARRENS	
11	NATURE CONSERVANCY	LONG ISLAND STATE PINE BARRENS PRESERVE	
12	NATURE CONSERVANCY	LONG ISLAND	
13	NATURE CONSERVANCY	MAPLE SWAMP COUNTY PARK	
14	NATURE CONSERVANCY	MAPLE SWAMP	
15	NATURE CONSERVANCY	PINE NECK PRESERVE	
16	NATURE CONSERVANCY	WEST HAMPTON MANAGEMENT AREA	
17	NATURE CONSERVANCY	ZOE B. DEROPP SANCTUARY	
ALSO PRESENT IN MAPPED AREA (POINTS)			
Type	Name	Contact	Phone
COAST GUARD	COAST GUARD STATION SHINNECOCK	COMMANDING OFFICER	631-728-0078
ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	EFH AREA	CHRIS BRUCE	434-951-0565
ESSENTIAL HABITAT	IMPORTANT BIRD AREA	IMPORTANT BIRD AREAS PROGRAM COORDINATOR	607-254-2437
ESSENTIAL HABITAT	SIGNIFICANT COASTAL HABITAT	NYS DEPARTMENT OF STATE COORDINATOR	518-474-6000
JURISDICTIONS			
COUNTY:	SUFFOLK COUNTY	FEMA:	REGION II
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	834.51	1.30
10B	Freshwater Marshes	7.19	0.01
10C	Swamps	72.80	0.11
10D	Scrub and Shrub Wetlands	89.85	0.14
9A	Sheltered Tidal Flats	8.76	0.01
7	Exposed Tidal Flats	1,756.13	2.74

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	53,908.63	33.50	19%
10C	Swamps	370.62	0.23	< 1%
10D	Scrub and Shrub Wetlands	1,782.34	1.11	1%
9A	Sheltered Tidal Flats	848.25	0.53	< 1%
9B	Vegetated Low Banks	73,079.90	45.41	26%
8B	Sheltered, Solid Man-Made Structures	32,484.29	20.18	12%
8C	Sheltered Riprap	878.62	0.55	< 1%
7	Exposed Tidal Flats	46,147.51	28.67	16%
6A	Gravel Beaches	49.98	0.03	< 1%
6B	Riprap	5,390.02	3.35	2%
5	Mixed Sand and Gravel Beaches	1,879.93	1.17	1%
4	Coarse Grained Sand Beaches	36,034.19	22.39	13%
3A	Fine to Medium Grained Sand Beaches	1,729.54	1.07	1%
3B	Scarps and Steep Slopes (Sand)	125.16	0.08	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	417.48	0.26	< 1%
1B	Exposed, Solid Man-Made Structures	26,516.59	16.48	9%
Total ESI Shoreline:		281,643.05	175.00	
Total Shoreline:		170,933.94	106.21	

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 4A
South Long Island

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	S	F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
SAV	Submersed aquatic veg	High Ecological Value			Present												
Algae	Macroalgae	High Ecological Value			Present												

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
23	Raptor	Northern harrier	Migration	T/E		High												
	Raptor	Osprey	Migration	C/-		High												
	Raptor	Peregrine falcon	Migration	E/-		High												
24	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs												
	Gull/Tern	Least tern	Nesting	T/E		50-100 Pairs												
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs												
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs												
28	Gull/Tern	Common tern	Nesting	T/C		100-500 Pairs												
	Gull/Tern	Roseate tern	Nesting	E/E	E	1-10 Pairs												
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs												
29	Raptor	Short-eared owl	Wintering	E/E		-												
30	Passerine	Seaside sparrow	General Distribution	C/-		-												
31	Gull/Tern	Common tern	Nesting	T/C		500-1000 Pairs												
	Gull/Tern	Roseate tern	Nesting	E/E	E	1-10 Pairs												
	Passerine	Seaside sparrow	General Distribution	C/-		-												
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs												
	Waterfowl	American black duck	Nesting			4 Pairs												
	Waterfowl	Canada goose	Nesting			3 Pairs												
	Waterfowl	Common merganser	Nesting			1 Pair												
	Waterfowl	Mallard	Nesting			2 Pairs												
32	Gull/Tern	G. black-backed gull	Nesting			100-500 Pairs												
	Gull/Tern	Herring gull	Nesting			1-10 Pairs												
	Passerine	Seaside sparrow	General Distribution	C/-		-												
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs												
	Wading	BC night-heron	Nesting	-/T		50-100 Pairs												
	Wading	Glossy ibis	Nesting	-/C		10-50 Pairs												
	Wading	Great egret	Nesting			10-50 Pairs												
	Wading	Snowy egret	Nesting	-/C		10-50 Pairs												
33	Gull/Tern	Common tern	Nesting	T/C		1-10 Pairs												
	Gull/Tern	G. black-backed gull	Nesting			100-500 Pairs												
	Gull/Tern	Herring gull	Nesting			500-1000 Pairs												

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	J	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
								J	F	M	A	M	J	J	A	S	O	N	D				
	Passerine	Seaside sparrow	General Distribution	C/-		-														May-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs														Apr-Aug	-	-	-
	Wading	BC night-heron	Nesting	-/T		50-100 Pairs														Apr-Aug	-	-	-
	Wading	Glossy ibis	Nesting	-/C		1-10 Pairs														Apr-Aug	-	-	-
	Wading	Great egret	Nesting			50-100 Pairs														Apr-Aug	-	-	-
	Wading	Snowy egret	Nesting	-/C		10-50 Pairs														Apr-Aug	-	-	-
34	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs														Apr-Aug	-	-	-
35	Gull/Tern	Common tern	Nesting	T/C		1-10 Pairs														May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs														Apr-Aug	-	-	-
36	Gull/Tern	Roseate tern	Migration	E/E	E	1S														-	May	Aug-Sep	-
	Shorebird	American oystercatcher	Migration	-/C		10S														-	-	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	1S														-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		100S														-	Apr-May	Aug-Sep	-
37	Passerine	Seaside sparrow	Nesting	C/-		-														May-Aug	-	-	-
38	Shorebird	Dunlin	Migration			-														-	Apr-May	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	-														-	Apr-May	-	-
	Shorebird	Ruddy turnstone	Migration			-														-	Apr-May	-	-
	Shorebird	Sanderling	Migration	-/C		-														-	Apr-May	-	-
39	Gull/Tern	Common tern	Nesting	T/C		1-10 Pairs														May-Sep	-	-	-
40	Gull/Tern	Least tern	Nesting	T/E		10-50 Pairs														May-Sep	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	5-10 Pairs														Apr-Aug	-	-	-
41	Shorebird	Piping plover	Migration	E/E	T	10S														-	Apr-May	-	-
42	Shorebird	Short-billed dowitcher	Migration			50S														-	-	Aug-Sep	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	J	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
								J	F	M	A	M	J	J	A	S	O	N	D					
379	Diadromous	Atlantic sturgeon	Migration	-/E	E	High														-	-	-	May-Jul	May-Jul

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	J	Monthly Presence												J	M	A	M	J	J	A	S	O	N	D
								J	F	M	A	M	J	J	A	S	O	N	D											
520	Plant	Endangered plant	Vulnerable Occurrence	E/E		-														-	-	-	-	-	-	-	-	-	-	-
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-														-	-	-	-	-	-	-	-	-	-	-
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-														-	-	-	-	-	-	-	-	-	-	-
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-														-	-	-	-	-	-	-	-	-	-	-
528	Plant	Endangered plant	Vulnerable Occurrence	E/E		-														-	-	-	-	-	-	-	-	-	-	-
	Plant	Rare plant	Vulnerable Occurrence	C/C		-														-	-	-	-	-	-	-	-	-	-	-
529	Plant	Rare plant	Vulnerable Occurrence	C/C		-														-	-	-	-	-	-	-	-	-	-	-
	Plant	Threatened plant	Vulnerable Occurrence	T/-		-														-	-	-	-	-	-	-	-	-	-	-
530	Wetland	Rare wetland community	Vulnerable Occurrence			-														-	-	-	-	-	-	-	-	-	-	-
531	Plant	Threatened plant	Vulnerable Occurrence	T/-		-														-	-	-	-	-	-	-	-	-	-	-
	Wetland	Rare wetland community	Vulnerable Occurrence			-														-	-	-	-	-	-	-	-	-	-	-

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
623	Insect	Hessel's hairstreak	Vulnerable Occurrence	E/-		-													Apr-May	Apr-May	Jan-Dec	Apr-May
624	Crab	Horseshoe crab	Spawning Area			-													May-Jun	-	-	May-Jun
625	Insect	Monarch butterfly	Migration			High													-	-	-	Aug-Oct
626	Invertebrate	R, LT, or LE invertebrate	Vulnerable Occurrence			-													Apr-Jun	Jan-Dec	-	Jan-Dec
627	Insect	Scarlet bluet	Vulnerable Occurrence	T/C		-													-	-	-	May-Sep
628	Insect	C. barrens buckmoth	Vulnerable Occurrence	C/-		-													Oct-Jun	May-Jul	Jan-Dec	Oct
629	Insect	Hessel's hairstreak	Vulnerable Occurrence	E/-		-													Apr-May	Apr-May	Jan-Dec	Apr-May
	Insect	Pine Barrens bluet	Vulnerable Occurrence	T/-		-													May-Jul	May-Feb	-	May-Jul
630	Insect	Pine Barrens bluet	Vulnerable Occurrence	T/-		-													May-Jul	May-Feb	-	May-Jul
631	Bivalve	Atlantic razor	Harvest Area			1123 Bushels/Yr Avg													Apr-May	Apr-May	Jan-Dec	Jan-Dec
	Bivalve	Bay scallop	Harvest Area			31 Bushels/Yr Avg													Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Bivalve	Blue mussel	Harvest Area			133 Bushels/Yr Avg													Apr-Nov	Apr-Nov	Jan-Dec	Jan-Dec
	Bivalve	Eastern oyster	Harvest Area			1436 Bushels/Yr Avg													Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area			961 Bushels/Yr Avg													Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
	Bivalve	Softshell clam	Harvest Area			13 Bushels/Yr Avg													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Calving	Pupping	Molt
							J	F	M	A	M	J	J	A	S	O	N	D			
678	Pinniped	Seals	Concentration Area			High													-	-	-
681	Whale	N.A. right whale	Migration	E/E	E	-													-	-	-
682	Pinniped	Gray seal	Haul Out			Few													-	-	-
	Pinniped	Harbor seal	Haul Out			50-150													-	-	-
	Pinniped	Harp seal	Haul Out			Few													-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D			
	Waterfowl	Mergansers	Wintering			1000S													-	-	-
		Scaup	Wintering			1000S													-	-	-
		Waterfowl	Migration			High													Mar-Apr	Oct-Nov	-
		Waterfowl	Wintering			1000S													-	-	-



FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
	Diadromous	Atlantic sturgeon	General Distribution	-/E	E	Low													-	-	Jan-Dec	Oct-Jun


REPTILES & AMPHIBIANS

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

INVERTEBRATES









Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic razor	Harvest Area			94 Bushels/Yr Avg													Apr-May	Apr-May	Apr-May	Jan-Dec	Jan-Dec
	Atlantic surfclam	Harvest Area			Few Bushels/Yr Avg													Jun-Oct*	Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec
	Bay scallop	Harvest Area			28 Bushels/Yr Avg													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Blue mussel	Harvest Area			13 Bushels/Yr Avg													Apr-Nov	Apr-Nov	Apr-Nov	Jan-Dec	Jan-Dec
	Eastern oyster	Harvest Area			7 Bushels/Yr Avg													Jul-Aug	Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			128 Bushels/Yr Avg													Jun-Aug	Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
	Softshell clam	Harvest Area			5 Bushels/Yr Avg													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Whelk	Harvest Area			-													Jun-Jul	Aug-Nov	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Fin whale	General Distribution	E/E	E	Common													-	-	-	-
	Humpback whale	General Distribution	E/E	E	Common													-	-	-	-
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular													-	-	-	-




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													-	-	-	-
	G. black-backed gull													-	-	-	-
	Herring gull													-	-	-	-
	Nelson's sparrow													May-Aug	-	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Clapper rail													Apr-Sep	-	-	-
	Black scoter													-	-	-	-
	Canada goose													Mar-Jun	-	-	-
	Common eider													-	-	-	-
	Gadwall													May-Sep	-	-	-
	Green-winged teal													May-Aug	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Sep	-	-	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	-	-	-

FISH

Monthly Presence

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Alewife													-	-	-	Jan-Dec	Feb-Jun
	Alewife													-	-	-	Nov-Apr	Nov-Apr
	American eel													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American eel													-	-	Jan-Feb	-	Sep-Dec
	American shad													-	-	-	Nov-Apr	Nov-Apr
	American shad													-	-	-	Apr-Nov	Apr-Jul
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	May-Nov	Mar-Jul
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Striped bass													-	-	-	Apr-Nov	Mar-Nov
	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic croaker													-	-	-	-	Nov-Apr
	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic herring													-	-	-	Oct-Apr	Oct-Apr
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Apr-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	Jan-Dec	Jan-Dec
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Black sea bass													-	-	-	Apr-Nov	Apr-Nov
	Bluefish													-	-	-	May-Nov	May-Nov
	Bluefish													-	-	-	May-Oct	Apr-Dec
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Northern puffer													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Scup													-	-	-	May-Nov	May-Nov
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Spot													-	-	-	Apr-Nov	Apr-Nov
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Summer flounder													-	-	-	Apr-Oct	Apr-Oct
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Weakfish													May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
	White perch													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Winter flounder													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	American sand lance													-	-	-	-	Oct-Jun
	American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr





FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Cleanose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Little skate													-	-	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Mar-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Albacore													-	-	-	Jun-Sep	-
	Atlantic mackerel													-	-	-	Nov-Apr	-
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-
	White shark													-	-	-	Jul-Oct	-
	Yellowfin tuna													-	-	-	Jul-Sep	-

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic surfclam													Jun-Oct*	Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec
	Ocean quahog													Jul-Nov	Jul-Nov	Jul-Dec	Jan-Dec	Jan-Dec
	Longfin squid													-	-	-	-	Jan-Dec
	Blue crab													-	-	Jun-Oct	-	Aug-Mar
	Blue crab													May-Oct	Jun-Oct	Jun-Oct	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Aug-Mar	Aug-Mar
	American lobster													-	-	-	Jan-Dec	Jan-Dec

South Long Island: Map 4A

MARINE MAMMALS

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	491.20	0.77
10B	Freshwater Marshes	3.94	0.01
10C	Swamps	16.50	0.03
10D	Scrub and Shrub Wetlands	53.62	0.08
7	Exposed Tidal Flats	1,527.58	2.39

ESI SHORELINE HABITAT TYPES

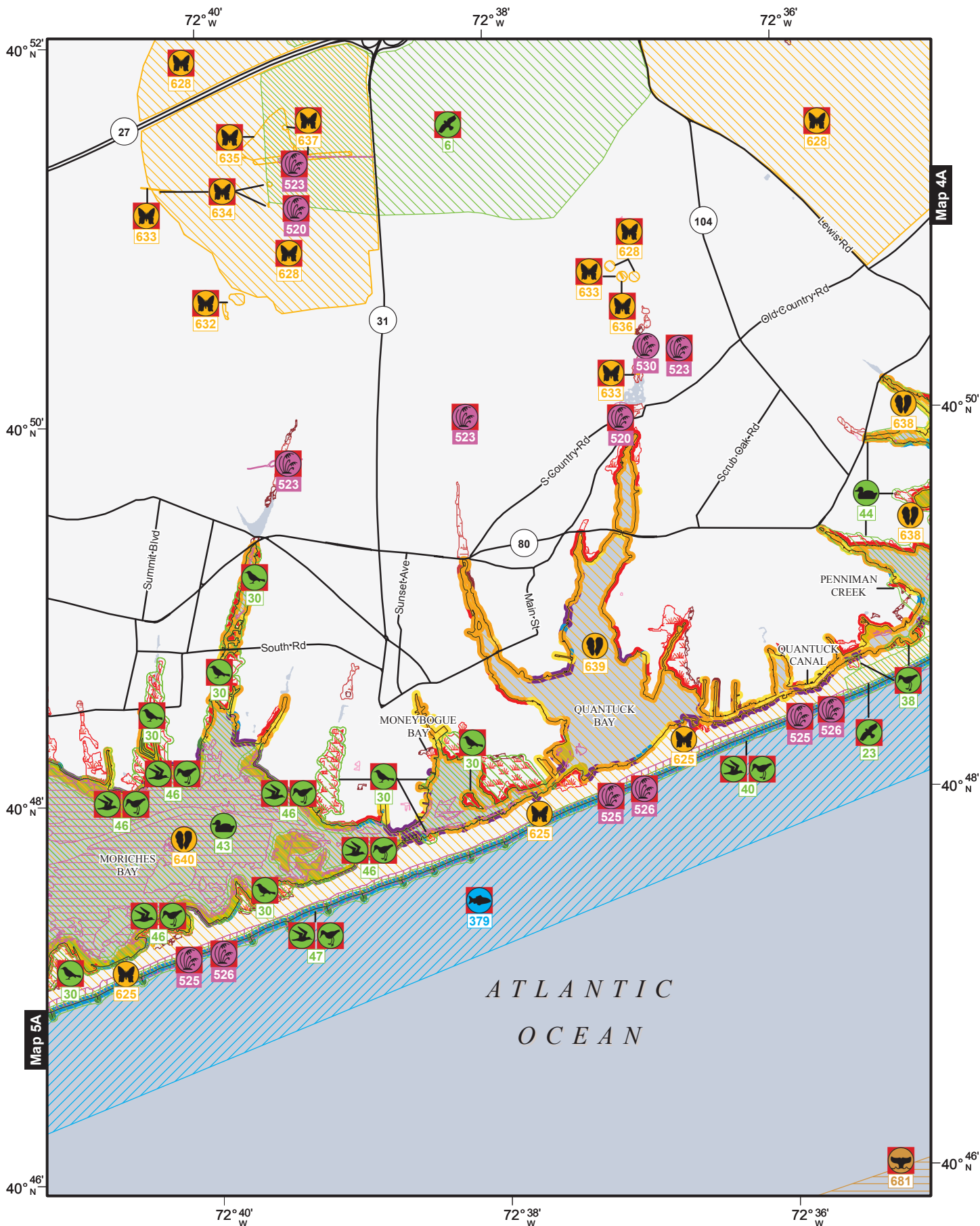
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	29,008.51	18.03	18%
10C	Swamps	62.78	0.04	< 1%
10D	Scrub and Shrub Wetlands	773.20	0.48	< 1%
9A	Sheltered Tidal Flats	489.41	0.30	< 1%
9B	Vegetated Low Banks	33,476.32	20.80	21%
8B	Sheltered, Solid Man-Made Structures	20,378.22	12.66	13%
8C	Sheltered Riprap	319.56	0.20	< 1%
7	Exposed Tidal Flats	31,245.16	19.41	19%
6A	Gravel Beaches	31.14	0.02	< 1%
6B	Riprap	3,869.99	2.40	2%
5	Mixed Sand and Gravel Beaches	1,879.85	1.17	1%
4	Coarse Grained Sand Beaches	23,125.66	14.37	14%
3A	Fine to Medium Grained Sand Beaches	1,659.59	1.03	1%
3B	Scarps and Steep Slopes (Sand)	90.29	0.06	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	417.48	0.26	< 1%
1B	Exposed, Solid Man-Made Structures	14,435.94	8.97	9%

Total ESI Shoreline: 161,263.11 Total ESI Shoreline: 100.20
Total Shoreline: 93,680.25 Total Shoreline: 58.21

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 4B
South Long Island



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

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 4B
South Long Island

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	S	F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
SAV	Submersed aquatic veg	High Ecological Value			Present												
Algae	Macroalgae	High Ecological Value			Present												

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				T/E			J	F	M	A	M	J	J	A	S	O	N	D				
6	Raptor	Northern harrier	Nesting			-													Apr-Aug	-	-	-
23	Raptor	Northern harrier	Migration	T/E		High													-	Mar-Apr	Sep-Nov	-
	Raptor	Osprey	Migration	C/-		High													-	Apr-May	Sep-Nov	-
	Raptor	Peregrine falcon	Migration	E/-		High													-	-	Aug-Nov	-
30	Passerine	Seaside sparrow	General Distribution	C/-		-													May-Aug	-	-	-
38	Shorebird	Dunlin	Migration			-													-	Apr-May	Aug-Sep	-
	Shorebird	Red knot	Migration	-E	T	-													-	Apr-May	-	-
	Shorebird	Ruddy turnstone	Migration			-													-	Apr-May	-	-
	Shorebird	Sanderling	Migration	-C		-													-	Apr-May	-	-
40	Gull/Tern	Least tern	Nesting	T/E		10-50 Pairs													May-Sep	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	5-10 Pairs													Apr-Aug	-	-	-
43	Waterfowl	American black duck	Wintering			1000S													-	-	-	-
	Waterfowl	Scaup	Wintering			1000S													-	-	-	-
	Waterfowl	Waterfowl	Wintering			1000S													-	-	-	-
44	Waterfowl	Mergansers	Wintering			1000S													-	-	-	-
	Waterfowl	Scaup	Wintering			1000S													-	-	-	-
	Waterfowl	Waterfowl	Migration			High													-	Mar-Apr	Oct-Nov	-
	Waterfowl	Waterfowl	Wintering			1000S													-	-	-	-
45	Waterfowl	Waterfowl	Migration			High													-	Mar-Apr	Oct-Nov	-
46	Gull/Tern	Roseate tern	Migration	E/E	E	Low													-	May	Aug-Sep	-
	Shorebird	Red knot	Migration	-E	T	Low													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-C		High													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-C		High													-	Apr-May	Aug-Sep	-
47	Gull/Tern	Least tern	Nesting	T/E		100-200 Pairs													May-Sep	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													Apr-Aug	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
				-E			J	F	M	A	M	J	J	A	S	O	N	D					
379	Diadromous	Atlantic sturgeon	Migration			High													-	-	-	May-Jul	May-Jul

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
520	Plant	Endangered plant	Vulnerable Occurrence	E/E	-	-												
523	Plant	Threatened plant	Vulnerable Occurrence	T/-	-	-												
525	Plant	Rare plant	Vulnerable Occurrence	C/C	-	-												
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-												
530	Wetland	Rare wetland community	Vulnerable Occurrence		-	-												

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
625	Insect	Monarch butterfly	Migration			High												
628	Insect	C. barrens buckmoth	Vulnerable Occurrence	C/-	-	-												
632	Insect	Frosted elfin	Vulnerable Occurrence	T/-	-	-												
633	Insect	Pine Barrens underwing	Vulnerable Occurrence	C/-	-	-												
634	Insect	Jersey jair underwing	Vulnerable Occurrence	C/-	-	-												
	Insect	Pine Barrens underwing	Vulnerable Occurrence	C/-	-	-												
	Insect	Sandplain heterocampa	Vulnerable Occurrence	C/-	-	-												
635	Insect	Jersey jair underwing	Vulnerable Occurrence	C/-	-	-												
	Insect	Pine Barrens underwing	Vulnerable Occurrence	C/-	-	-												
636	Insect	Jersey jair underwing	Vulnerable Occurrence	C/-	-	-												
637	Insect	Sandplain heterocampa	Vulnerable Occurrence	C/-	-	-												
638	Bivalve	Atlantic razor	Harvest Area			94 Bushels/Yr Avg												
	Bivalve	Atlantic surfclam	Harvest Area			Few Bushels/Yr Avg												
	Bivalve	Bay scallop	Harvest Area			28 Bushels/Yr Avg												
	Bivalve	Blue mussel	Harvest Area			13 Bushels/Yr Avg												
	Bivalve	Eastern oyster	Harvest Area			7 Bushels/Yr Avg												
	Bivalve	Northern quahog	Harvest Area			128 Bushels/Yr Avg												
	Bivalve	Softshell clam	Harvest Area			5 Bushels/Yr Avg												
639	Bivalve	Atlantic razor	Harvest Area			3 Bushels/Yr Avg												
	Bivalve	Northern quahog	Harvest Area			386 Bushels/Yr Avg												
	Bivalve	Softshell clam	Harvest Area			1 Bushel/Yr Avg												
640	Bivalve	Atlantic razor	Harvest Area			96 Bushels/Yr Avg												
	Bivalve	Bay scallop	Harvest Area			4 Bushels/Yr Avg												
	Bivalve	Blue mussel	Harvest Area			19 Bushels/Yr Avg												
	Bivalve	Eastern oyster	Harvest Area			9 Bushels/Yr Avg												
	Bivalve	Northern quahog	Harvest Area			4461 Bushels/Yr Avg												
	Bivalve	Softshell clam	Harvest Area			17 Bushels/Yr Avg												

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
681	Whale	N.A. right whale	Migration	E/E	-	-												

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Larvae	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
						-/E	E	Low	J	F	M	A	M	J	J	A	S				O	N	D	Spawn	Eggs																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Atlantic sturgeon	General Distribution	-/E	E	Low																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												


Monthly Presence

HABITATS & RARE PLANTS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
 Upland	Rare upland community	Vulnerable Occurrence			-	J	F	M	A	M	J	J	A	S	O	N	D
																	

Monthly Presence

REPTILES & AMPHIBIANS

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



































Monthly Presence

INVERTEBRATES

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults	
						J	F	M	A	M	J	J	A	S	O	N	D						
	Whelk	Harvest Area			-													Jun-Jul	Aug-Nov	-			Jan-Dec

Monthly Presence






















































































































MARINE MAMMALS

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molt
	Fin whale	General Distribution	E/E	E	Common												-	-	-	-	-
	Humpback whale	General Distribution	E/E	E	Common												-	-	-	-	-
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular												-	-	-	-	-

Monthly Presence

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS



Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
	Razorbill																-	-	-	-	-
	G. black-backed gull																-	-	-	-	-
	Herring gull																-	-	-	-	-
	Nelson's sparrow																May-Aug	-	-	-	-
	Northern gannet																-	-	-	-	-
	Wilson's storm-petrel																-	-	-	-	-
	Willet																May-Aug	-	-	-	-
	Clapper rail																Apr-Sep	-	-	-	-
	American black duck																Apr-Aug	-	-	-	-
	Black scoter																-	-	-	-	-

Monthly Presence




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-Jun	-	-	-
	Common eider													-	-	-	-
	Gadwall													May-Sep	-	-	-
	Green-winged teal													May-Aug	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Sep	-	-	-
	Surf scoter													-	-	-	-
	White-winged scoter													-	-	-	-

FISH

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Diadromous													-	-	Jan-Dec	Feb-Jun
	Alewife													-	-	Apr-Nov	Mar-Jun
	Alewife													-	-	Nov-Apr	Nov-Apr
	American eel													-	-	Jan-Dec	Sep-Nov
	American eel													-	-	Jan-Dec	Sep-Dec
	American shad													-	-	Jan-Feb	Nov-Apr
	American shad													-	-	Apr-Jul	Nov-Apr
	Blueback herring													-	-	Nov-Apr	Apr-Jul
	Blueback herring													-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	May-Nov	Mar-Jul
	Striped bass													-	-	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	Apr-Nov	Mar-Nov
	Atlantic herring													-	-	-	Jun-Dec
	Atlantic herring													-	-	Nov-May	Nov-May
	Atlantic menhaden													-	-	Nov-Apr	Nov-Apr
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Apr	Oct-Apr
	Bay anchovy													-	-	Apr-Nov	Mar-Nov
	Bay anchovy													May-Nov	May-Nov	Jan-Dec	Jan-Dec
	Black sea bass													May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													-	-	Apr-Nov	Apr-Nov
	Bluefish													May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Bluefish													-	-	May-Nov	May-Nov
	Northern kingfish													-	-	May-Oct	Apr-Dec
	Northern puffer													-	-	Jun-Nov	Jun-Nov
	Scup													May-Aug	Jun-Oct	May-Oct	May-Oct
	Scup													-	-	Apr-Dec	Apr-Dec
	Scup													-	-	May-Nov	May-Nov
	Spot													-	-	Sep-Nov	Jun-Nov
	Spot													-	-	Apr-Nov	Apr-Nov
	Summer flounder													-	-	Apr-Oct	Apr-Oct
	Summer flounder													Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Weakfish													May-Aug	Jun-Aug	May-Nov	Apr-Nov
	Weakfish													Apr-Sep	May-Sep	Apr-Nov	Apr-Nov

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	White perch													Feb-Apr	Mar-Jun	Jun-Nov	Jan-Dec	Jan-Dec
	White perch													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Winter flounder													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	American sand lance													-	-	-	-	Oct-Jun
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Cleanose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Little skate													-	-	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Mar-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Albacore													-	-	-	Jun-Sep	-
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Atlantic mackerel													-	-	-	Nov-Apr	-
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-
	White shark													-	-	-	Jul-Oct	-
	Yellowfin tuna													-	-	-	Jul-Sep	-

REPTILES & AMPHIBIANS

Subelement	Species	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					

	N. diamondback terrapin													-	-	-	Apr-Nov	Apr-Nov
---	-------------------------	--	--	--	--	--	--	--	--	--	--	--	--	---	---	---	---------	---------

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					

	Atlantic surfclam													Jun-Oct*	Jun-Oct*	Jun-Oct	Jan-Dec	Jan-Dec
	Ocean quahog													Jul-Nov	Jul-Nov	Jul-Dec	Jan-Dec	Jan-Dec
	Longfin squid													-	-	-	-	Jan-Dec
	Blue crab													-	-	Jun-Oct	-	Aug-Mar
	Blue crab													May-Oct	Jun-Oct	Jun-Oct	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Aug-Mar	Aug-Mar
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
	American lobster													-	-	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				

	Bottlenose dolphin													-	-	-	-
	Harbor porpoise													-	-	-	-

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	343.41	0.54
10B	Freshwater Marshes	2.68	0.00
10C	Swamps	41.00	0.06
10D	Scrub and Shrub Wetlands	32.16	0.05
9A	Sheltered Tidal Flats	8.76	0.01
7	Exposed Tidal Flats	228.53	0.36

ESI SHORELINE HABITAT TYPES

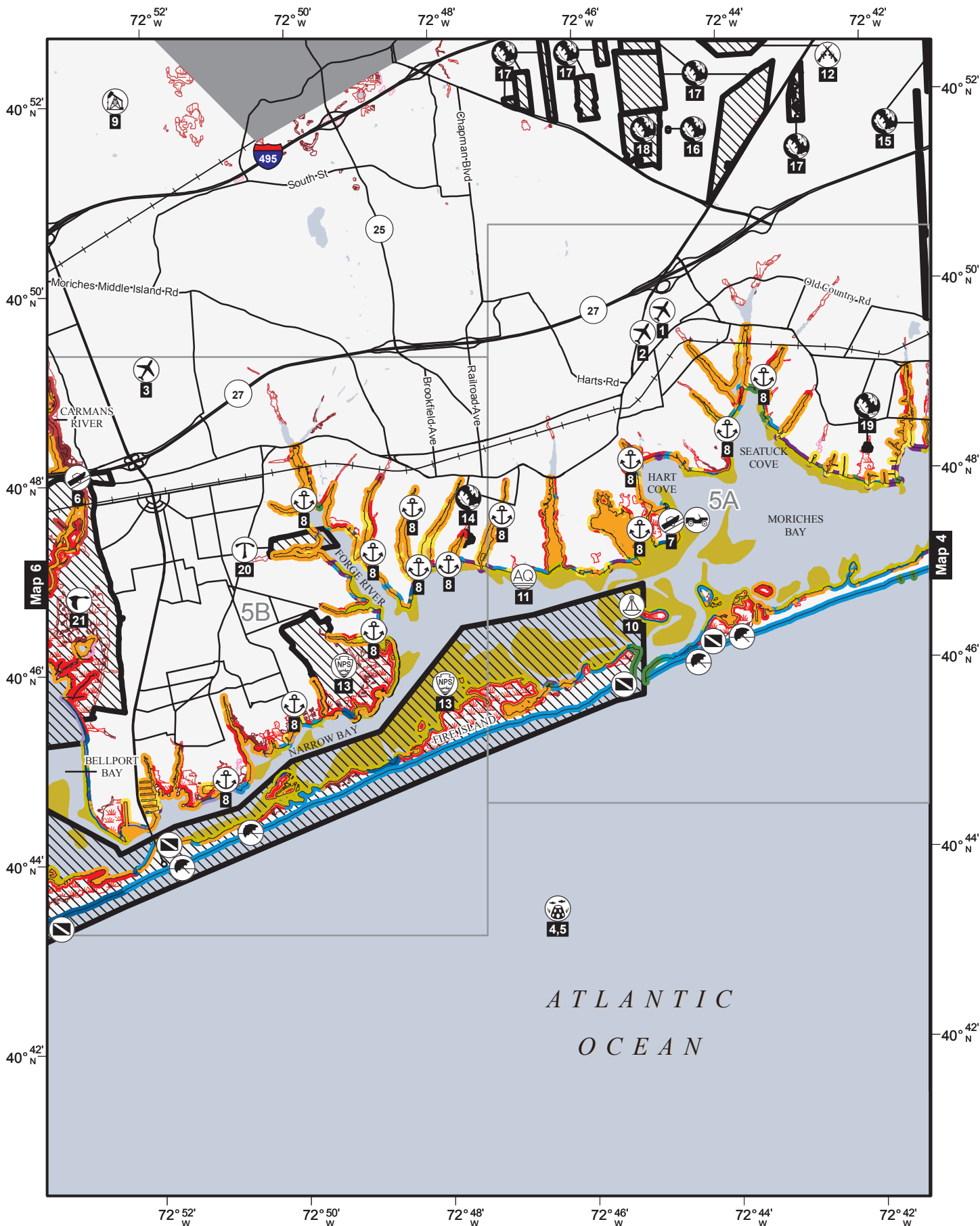
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	24,902.28	15.47	21%
10C	Swamps	307.84	0.19	< 1%
10D	Scrub and Shrub Wetlands	1,009.15	0.63	1%
9A	Sheltered Tidal Flats	358.84	0.22	< 1%
9B	Vegetated Low Banks	39,603.67	24.61	33%
8B	Sheltered, Solid Man-Made Structures	12,105.92	7.52	10%
8C	Sheltered Riprap	559.06	0.35	< 1%
7	Exposed Tidal Flats	14,904.51	9.26	12%
6A	Gravel Beaches	18.83	0.01	< 1%
6B	Riprap	1,520.02	0.94	1%
4	Coarse Grained Sand Beaches	12,910.94	8.02	11%
3A	Fine to Medium Grained Sand Beaches	69.95	0.04	< 1%
3B	Scarps and Steep Slopes (Sand)	34.87	0.02	< 1%
1B	Exposed, Solid Man-Made Structures	12,079.22	7.51	10%

Total ESI Shoreline: 120,385.11 Total ESI Shoreline: 74.80
Total Shoreline: 77,254.62 Total Shoreline: 48.00

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

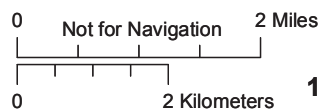




Map 5
South Long Island



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



Map 5
South Long Island

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AIRPORT	SPADARO	
2	AIRPORT	LUFKER	
3	AIRPORT	BROOKHAVEN	
4	ARTIFICIAL REEF	MORICHES ANGLERS REEF	
5	ARTIFICIAL REEF	ARTIFICIAL REEF	
6	BOAT RAMP	CARMANS RIVER	
7	BOAT RAMP	STATE BOAT LAUNCH	
8	MARINA	MARINA	
9	OIL FACILITY	BROOKHAVEN NATIONAL LABORATORY	
10	REPEATED MEASUREMENT SITE	MUSSEL WATCH SITE - MBTH	301-713-3028
		MUSSEL WATCH PROJECT MANAGER	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
11	AQUACULTURE	AQUACULTURE AREA	
12	MILITARY	NAVAL WEAPONS INDUSTRIAL RESERVE PLANT	
13	NATIONAL PARK	FIRE ISLAND NATIONAL SEASHORE	
14	NATURE CONSERVANCY	ARESKONK CREEK	
15	NATURE CONSERVANCY	DWARF PINE BARRENS	
16	NATURE CONSERVANCY	LIPB (SECTION 511)	
17	NATURE CONSERVANCY	LONG ISLAND PINE BARRENS	
18	NATURE CONSERVANCY	OTIS PIKE PRESERVE	
19	NATURE CONSERVANCY	STOKES PGGUE MARSH	
20	TRIBAL LANDS	POOSPATUCK (STATE) RESERVATION	
21	WILDLIFE REFUGE	WERTHEIM NATIONAL WILDLIFE REFUGE	

ALSO PRESENT IN MAPPED AREA (POINTS)			
Type	Name	Contact	Phone
COAST GUARD	COAST GUARD STATION MORICHES	COMMANDING OFFICER	631-395-4400

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	EFH AREA	CHRIS BRUCE	434-951-0565
ESSENTIAL HABITAT	IMPORTANT BIRD AREA	IMPORTANT BIRD AREAS PROGRAM COORDINATOR	607-254-2437
ESSENTIAL HABITAT	SIGNIFICANT COASTAL HABITAT	NYS DEPARTMENT OF STATE COORDINATOR	518-474-6000

JURISDICTIONS			
COUNTY:	SUFFOLK COUNTY	FEMA:	REGION II
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	1,633.20	2.55
10B	Freshwater Marshes	53.76	0.08
10C	Swamps	439.16	0.69
10D	Scrub and Shrub Wetlands	284.38	0.44
9A	Sheltered Tidal Flats	365.53	0.57
7	Exposed Tidal Flats	2,898.87	4.53

ESI SHORELINE HABITAT TYPES

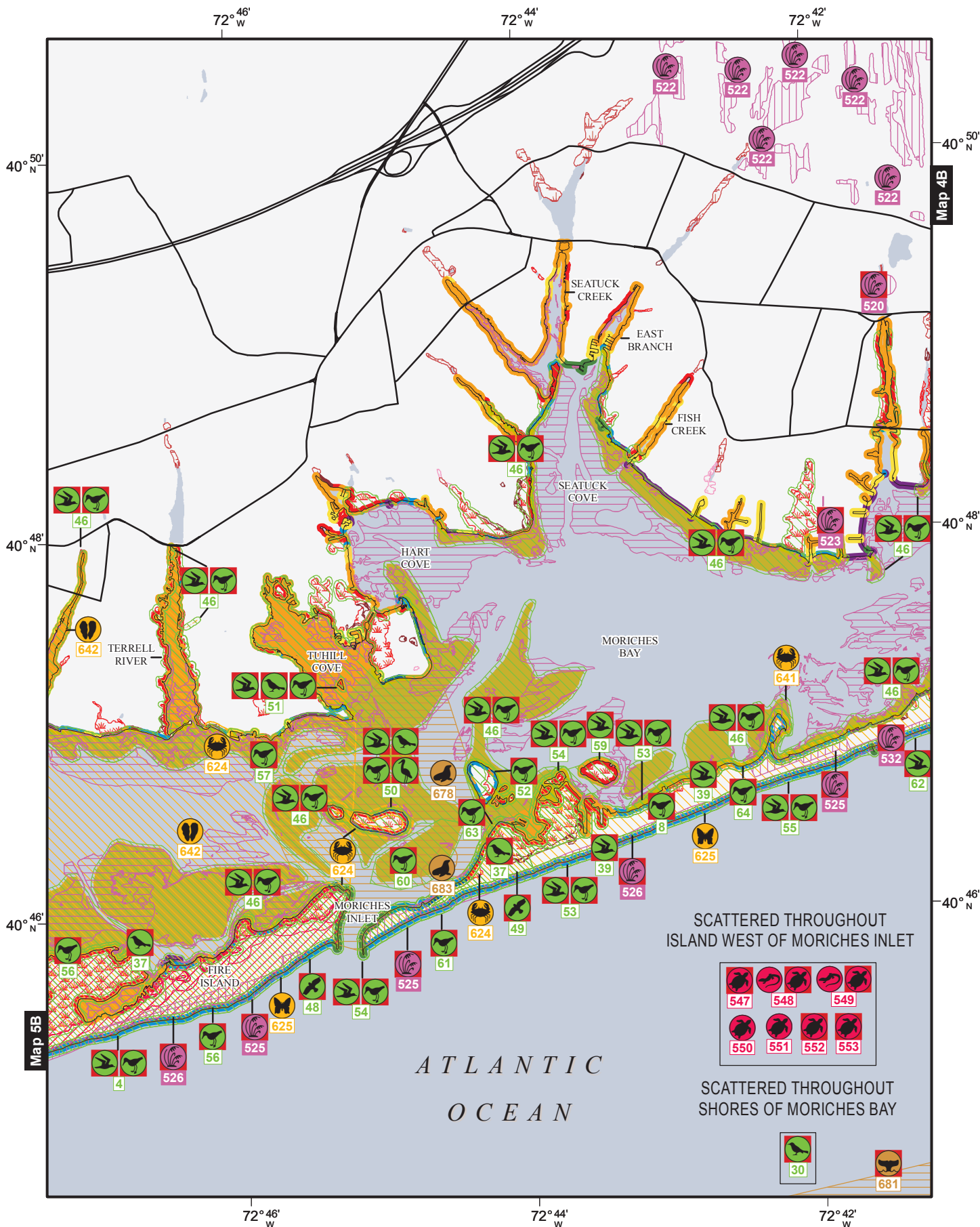
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	82,998.22	51.57	20%
10B	Freshwater Marshes	565.03	0.35	< 1%
10C	Swamps	6,954.67	4.32	2%
10D	Scrub and Shrub Wetlands	6,231.02	3.87	2%
9A	Sheltered Tidal Flats	27,660.09	17.19	7%
9B	Vegetated Low Banks	131,575.56	81.76	32%
8B	Sheltered, Solid Man-Made Structures	33,289.28	20.69	8%
8C	Sheltered Riprap	657.05	0.41	< 1%
7	Exposed Tidal Flats	52,895.99	32.87	13%
6A	Gravel Beaches	114.67	0.07	< 1%
6B	Riprap	3,839.96	2.39	1%
5	Mixed Sand and Gravel Beaches	1,021.71	0.63	< 1%
4	Coarse Grained Sand Beaches	38,822.42	24.12	10%
3A	Fine to Medium Grained Sand Beaches	8,462.28	5.26	2%
3B	Scarps and Steep Slopes (Sand)	697.50	0.43	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	2,762.53	1.72	1%
1B	Exposed, Solid Man-Made Structures	9,385.68	5.83	2%

Total ESI Shoreline: 407,933.66 Total ESI Shoreline: 253.48
 Total Shoreline: 223,278.86 Total Shoreline: 138.74

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 5A
South Long Island



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

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 5A
South Long Island

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	S	F	Concentration	Monthly Presence											
SAV	Submersed aquatic veg	High Ecological Value			Present	J	F	M	A	M	J	J	A	S	O	N	D
	Algae	High Ecological Value			Present												

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
				T/E	E/E	T	J	F	M	A	M	J	J	A	S	O	N	D
4	Gull/Tern	Least tern	Nesting			10-50 Pairs												
	Shorebird	Piping plover	Nesting			10-25 Pairs												
8	Shorebird	Piping plover	Nesting			10-25 Pairs												
30	Passerine	Seaside sparrow	General Distribution			-												
37	Passerine	Seaside sparrow	Nesting			-												
39	Gull/Tern	Common tern	Nesting			1-10 Pairs												
46	Gull/Tern	Roseate tern	Migration			Low												
	Shorebird	Red knot	Migration			Low												
	Shorebird	Sanderling	Migration			High												
	Shorebird	Semipalmated sandpiper	Migration			High												
48	Raptor	Northern harrier	Migration			High												
	Raptor	Osprey	Migration			-												
	Raptor	Peregrine falcon	Migration			High												
49	Raptor	Northern harrier	Migration			High												
	Raptor	Osprey	Migration			Moderate												
	Raptor	Peregrine falcon	Migration			High												
50	Gull/Tern	Common tern	Nesting			50-100 Pairs												
	Gull/Tern	G. black-backed gull	Nesting			100-500 Pairs												
	Gull/Tern	Herring gull	Nesting			500-1000 Pairs												
	Passerine	Seaside sparrow	General Distribution			-												
	Shorebird	American oystercatcher	Nesting			5-10 Pairs												
	Wading	Glossy ibis	Nesting			10-50 Pairs												
	Wading	Great egret	Nesting			50-100 Pairs												
	Wading	Snowy egret	Nesting			10-50 Pairs												
51	Gull/Tern	Black skimmer	Nesting			1-10 Pairs												
	Gull/Tern	Common tern	Nesting			50-100 Pairs												
	Passerine	Seaside sparrow	General Distribution			-												
	Shorebird	American oystercatcher	Nesting			1-5 Pairs												
52	Shorebird	American oystercatcher	Nesting			1-5 Pairs												
	Shorebird	Piping plover	Nesting			1-5 Pairs												
53	Gull/Tern	Least tern	Nesting			50-100 Pairs												

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
54	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Migration	T/C		10S													-	-	Aug-Sep	-
	Gull/Tern	Least tern	Migration	T/E		1S													-	-	Aug-Sep	-
	Gull/Tern	Roseate tern	Migration	E/E	E	10S													-	May	Aug-Sep	-
	Shorebird	American oystercatcher	Migration	-/C		10S													-	-	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	100S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Gull/Tern	Roseate tern	Migration	E/E	E	1S													-	May	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	1S													-	-	Aug-Sep	-
55	Shorebird	Red knot	Migration	-/E	T	10S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	10S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
56	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	10S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	10S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	10S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
57	Shorebird	Roseate tern	Migration	E/E	E	Low													-	May	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	Low													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		High													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		High													-	Apr-May	Aug-Sep	-
	Gull/Tern	Common tern	Nesting	T/C		500-1000 Pairs													May-Sep	-	-	-
59	Shorebird	Dunlin	Migration	E/E	T	100S													-	Apr-May	Aug-Sep	-
	Shorebird	Piping plover	Migration	-/E	T	1S													-	-	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	1S-50S													-	Apr-May	Jul-Sep	-
	Shorebird	Semipalmated plover	Migration	-/C		100S													-	-	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	-	Aug-Sep	-
61	Shorebird	Short-billed dowitcher	Migration	-/C		100S													-	-	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	1S													-	-	Aug-Sep	-
	Shorebird	Least tern	Nesting	T/E		100-200 Pairs													May-Sep	-	-	-
	Gull/Tern	Dunlin	Migration	-/E	T	100S													-	Apr-May	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	1S-50S													-	Apr-May	Jul-Sep	-
63	Shorebird	Semipalmated plover	Migration	-/C		100S													-	-	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	-	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	-	Aug-Sep	-
	Shorebird	Short-billed dowitcher	Migration	-/C		100S													-	-	Aug-Sep	-
	Shorebird	Dunlin	Migration	E/E	T	100S													-	Apr-May	Aug-Sep	-
64	Shorebird	Piping plover	Migration	-/E	T	1S													-	Apr-May	-	-
	Shorebird	Red knot	Migration	-/E	T	10S													-	Apr-May	-	-
	Shorebird	Ruddy turnstone	Migration	-/C		100S													-	Apr-May	-	-
	Shorebird	Sanderling	Migration	-/C		100S													-	Apr-May	-	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	Apr-May	-	-

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
520	Plant	Endangered plant	Vulnerable Occurrence	E/E	-	-												
522	Upland	Rare upland community	Vulnerable Occurrence	-	-	-												
523	Plant	Threatened plant	Vulnerable Occurrence	T/-	-	-												
525	Plant	Rare plant	Vulnerable Occurrence	C/C	-	-												
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-												
532	Plant	Rare plant	Vulnerable Occurrence	C/C	-	-												
	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-												

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
547	Turtle	Eastern mud turtle	Nesting	E/-	-	-												
548	Snake	Northern black racer	Nesting	-	-	-												
	Turtle	Common snapping turtle	Nesting	-	-	-												
	Turtle	Eastern box turtle	General Distribution	C/C	Present And Active	-												
	Turtle	Eastern box turtle	Nesting	C/C	-	-												
	Turtle	Eastern mud turtle	Nesting	E/-	-	-												
549	Snake	Northern black racer	Nesting	-	-	-												
	Turtle	Eastern box turtle	General Distribution	C/C	Present And Active	-												
	Turtle	Eastern box turtle	Nesting	C/C	-	-												
550	Turtle	Common snapping turtle	Nesting	-	-	-												
551	Turtle	N. diamondback terrapin	Nesting	-	Potential Nesting	-												
552	Turtle	Eastern mud turtle	General Distribution	E/-	Present And Active	-												
553	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C	Thermal Regulation	-												


INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
624	Crab	Horseshoe crab	Spawning Area	-	-	-												
625	Insect	Monarch butterfly	Migration	High	High	High												
641	Crab	Horseshoe crab	Spawning Area	High	High	High												
642	Bivalve	Northern quahog	Harvest Area	516 Bushels/Yr Avg	-	-												

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
678	Pinniped	Seals	Concentration Area	High	High	High												
681	Whale	N.A. right whale	Migration	E/E	E	-												
683	Pinniped	Gray seal	Haul Out	1-5	1-5	1-5												
	Pinniped	Harbor seal	Haul Out	50-150	50-150	50-150												
	Pinniped	Harp seal	Haul Out	Few	Few	Few												


BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Waterfowl	American black duck			1000S													-	-	-	-
		Scaup			1000S													-	-	-	-
		Waterfowl			High													-	Mar-Apr	Oct-Nov	-
		Waterfowl			1000S													-	-	-	-



FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous	Atlantic sturgeon			Low													-	-	-	Jan-Dec	Oct-Jun
		Atlantic sturgeon			High													-	-	-	May-Jul	May-Jul


REPTILES & AMPHIBIANS

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







INVERTEBRATES

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve	Atlantic razor			96 Bushels/Yr Avg													Apr-May	Apr-May	Apr-May	Jan-Dec	Jan-Dec
		Bay scallop			4 Bushels/Yr Avg													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
		Blue mussel			19 Bushels/Yr Avg													Apr-Nov	Apr-Nov	Apr-Nov	Jan-Dec	Jan-Dec
		Eastern oyster			9 Bushels/Yr Avg													Jul-Aug	Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
		Northern quahog			4461 Bushels/Yr Avg													Jun-Aug	Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
		Softshell clam			17 Bushels/Yr Avg													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
		Whelk			-													Jun-Jul	Aug-Nov	-	Jan-Dec	Jan-Dec



MARINE MAMMALS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Whale	Fin whale			Common													-	-	-	-
		Humpback whale			Common													-	-	-	-
		N.A. right whale			Uncommon, Regular													-	-	-	-




BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Razorbill													-	-	-	-
	G. black-backed gull													-	-	-	-
	Herring gull													-	-	-	-
	Nelson's sparrow													May-Aug	-	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Willet													May-Aug	-	-	-
	Clapper rail													Apr-Sep	-	-	-
	American black duck													Apr-Aug	-	-	-
	Black scoter													-	-	-	-
	Common eider													-	-	-	-
	Gadwall													May-Sep	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Sep	-	-	-
	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					
	Alewife													-	-	-	Nov-Apr	Nov-Apr
	American eel													-	-	Apr-Aug	Apr-Nov	Mar-Jun
	American eel													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American shad													-	-	Jan-Feb	-	Sep-Dec
	American shad													-	-	-	Apr-Nov	Apr-Jul
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	May-Nov	Mar-Jul
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Striped bass													-	-	-	Apr-Nov	Mar-Nov
	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic herring													-	-	-	Nov-Apr	Nov-Apr
	Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Black sea bass													-	-	-	Apr-Nov	Apr-Nov
	Bluefish													-	-	-	May-Nov	May-Nov
	Bluefish													-	-	-	May-Oct	Apr-Dec
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J F M A M J J A S O N D																
		J	F	M	A	M	J	J	A	S	O	N	D					
	Northern puffer													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Spot													-	-	-	Apr-Nov	Apr-Nov
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Summer flounder													-	-	-	Apr-Oct	Apr-Oct
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Weakfish													May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
	White perch													Feb-Apr	Mar-Jun	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Winter flounder													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	American sand lance													-	-	-	-	Oct-Jun
	American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Cleannose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Little skate													-	-	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Mar-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Albacore													-	-	-	Jun-Sep	-
	Atlantic mackerel													-	-	-	Nov-Apr	-
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep





FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-
	White shark													-	-	-	Jul-Oct	-
	Yellowfin tuna													-	-	-	Jul-Sep	-


REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic razor													Apr-May	Apr-May	Apr-May	Jan-Dec	Jan-Dec
	Atlantic surfclam													Jun-Oct*	Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec
	Bay scallop													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Eastern oyster													Jul-Aug	Jul-Sep	Jul-Sep	Jan-Dec	Jan-Dec
	Ocean quahog													Jul-Nov	Jul-Nov	Jul-Dec	Jan-Dec	Jan-Dec
	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Longfin squid													-	-	-	-	Jan-Dec
	Blue crab													May-Oct	Jun-Oct	Jun-Oct	Jan-Dec	Jan-Dec
	Blue crab													-	-	Jun-Oct	-	Aug-Mar
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Aug-Mar	Aug-Mar
	Channeled whelk													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec
	American lobster													-	-	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

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

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	527.81	0.82
10B	Freshwater Marshes	5.08	0.01
10C	Swamps	65.27	0.10
10D	Scrub and Shrub Wetlands	35.39	0.06
9A	Sheltered Tidal Flats	295.50	0.46
7	Exposed Tidal Flats	1,662.17	2.60

ESI SHORELINE HABITAT TYPES

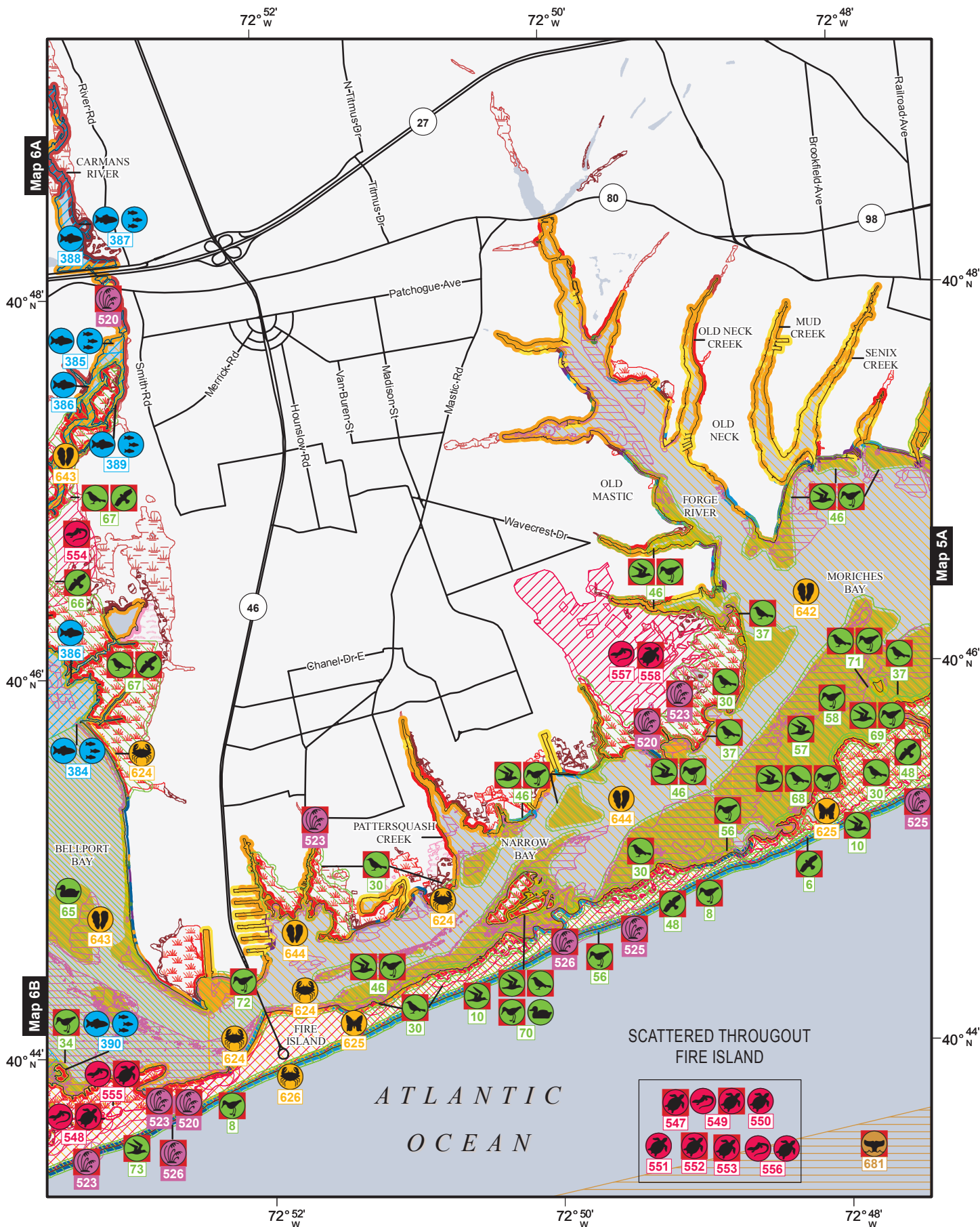
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	33,432.08	20.77	19%
10C	Swamps	47.88	0.03	< 1%
10D	Scrub and Shrub Wetlands	970.94	0.60	1%
9A	Sheltered Tidal Flats	19,396.08	12.05	11%
9B	Vegetated Low Banks	48,918.43	30.40	27%
8B	Sheltered, Solid Man-Made Structures	13,529.77	8.41	8%
8C	Sheltered Riprap	449.09	0.28	< 1%
7	Exposed Tidal Flats	26,848.17	16.68	15%
6A	Gravel Beaches	63.84	0.04	< 1%
6B	Riprap	3,252.31	2.02	2%
5	Mixed Sand and Gravel Beaches	606.76	0.38	< 1%
4	Coarse Grained Sand Beaches	24,445.87	15.19	14%
3A	Fine to Medium Grained Sand Beaches	980.77	0.61	1%
3B	Scarps and Steep Slopes (Sand)	697.50	0.43	< 1%
1B	Exposed, Solid Man-Made Structures	5,695.02	3.54	3%

Total ESI Shoreline: 179,334.51 Total ESI Shoreline: 111.43
Total Shoreline: 96,404.24 Total Shoreline: 59.90

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

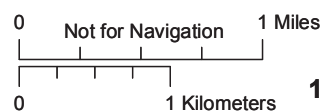




Map 5B
South Long Island



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



1:50,000



Map 5B
South Long Island

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	S	F	Concentration	Monthly Presence											
SAV	Submersed aquatic veg	High Ecological Value			Present	J	F	M	A	M	J	J	A	S	O	N	D
	Algae	High Ecological Value			Present												

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
				T/E	E/E	T	J	F	M	A	M	J	J	A	S	O	N	D
6	Raptor	Northern harrier	Nesting			-												
8	Shorebird	Piping plover	Nesting			10-25 Pairs												
10	Gull/Tern	Least tern	Nesting			10-50 Pairs												
30	Passerine	Seaside sparrow	General Distribution			-												
34	Shorebird	American oystercatcher	Nesting			1-5 Pairs												
37	Passerine	Seaside sparrow	Nesting			-												
46	Gull/Tern	Roseate tern	Migration			Low												
	Shorebird	Red knot	Migration			Low												
	Shorebird	Sanderling	Migration			High												
	Shorebird	Semipalmated sandpiper	Migration			High												
48	Raptor	Northern harrier	Migration			High												
	Raptor	Osprey	Migration			-												
	Raptor	Peregrine falcon	Migration			High												
56	Shorebird	Red knot	Migration			10S												
	Shorebird	Sanderling	Migration			100S												
	Shorebird	Semipalmated sandpiper	Migration			100S												
57	Gull/Tern	Roseate tern	Migration			Low												
58	Shorebird	Red knot	Migration			Low												
	Shorebird	Sanderling	Migration			High												
	Shorebird	Semipalmated sandpiper	Migration			High												
65	Waterfowl	Brant	Wintering			1000S												
	Waterfowl	Mergansers	Wintering			1000S												
	Waterfowl	Waterfowl	Wintering			10000S												
66	Raptor	Endangered raptor 2	Nesting			-												
67	Passerine	Seaside sparrow	General Distribution			-												
	Raptor	Northern harrier	General Distribution			-												
	Raptor	Osprey	General Distribution			-												
68	Gull/Tern	Common tern	Nesting			100-500 Pairs												
	Gull/Tern	Roseate tern	Nesting			1-10 Pairs												
	Passerine	Seaside sparrow	General Distribution			-												
	Shorebird	American oystercatcher	Nesting			1-5 Pairs												

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
	Shorebird	Red knot	Migration	-	E	10S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-	J	100S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-	C	100S													-	Apr-May	Aug-Sep	-
69	Gull/Tern	Common tern	Nesting	T	C	100-500 Pairs													May-Sep	-	-	-
	Gull/Tern	Herring gull	Nesting	-	-	1-10 Pairs													Apr-Sep	-	-	-
	Gull/Tern	Roseate tern	Nesting	E	E	1-10 Pairs													May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-	C	1-5 Pairs													Apr-Aug	-	-	-
70	Gull/Tern	Common tern	Nesting	T	C	10-50 Pairs													May-Sep	-	-	-
	Passerine	Seaside sparrow	General Distribution	C	-	-													May-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	-	C	1-5 Pairs													Apr-Aug	-	-	-
	Waterfowl	American black duck	Nesting	-	C	2 Pairs													Apr-Aug	-	-	-
	Waterfowl	Canada goose	Nesting	-	-	11 Pairs													Mar-Jun	-	-	-
	Waterfowl	Common merganser	Nesting	-	-	3 Pairs													May-Aug	-	-	-
	Waterfowl	Mallard	Nesting	-	-	5 Pairs													Mar-Sep	-	-	-
71	Passerine	Seaside sparrow	Nesting	C	-	-													May-Aug	-	-	-
	Shorebird	Red knot	Migration	-	E	10S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-	C	100S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-	C	100S													-	Apr-May	Aug-Sep	-
72	Shorebird	Semipalmated sandpiper	Migration	-	C	100S													-	Apr-May	Aug-Sep	-
73	Gull/Tern	Common tern	Nesting	T	C	1-10 Pairs													May-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T	E	50-100 Pairs													May-Sep	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
384	Diadromous	Alewife	Nursery Area	-	-	-													-	-	Mar-May	Apr-Oct	-
	Diadromous	American eel	Nursery Area	-	-	-													-	-	-	Jan-Dec	-
	Diadromous	Blueback herring	Nursery Area	-	-	-													-	-	Apr-Jun	May-Nov	-
	Diadromous	Striped bass	Nursery Area	-	-	-													-	-	-	Apr-Nov	-
	Estuarine Nursery	Atlantic menhaden	Nursery Area	-	-	-													-	-	-	Apr-Nov	-
	Estuarine Nursery	Bluefish	Nursery Area	-	-	-													-	-	-	May-Oct	-
	Estuarine Nursery	White perch	Nursery Area	-	-	-													-	-	Mar-Jun	Jan-Dec	Jan-Dec
	Estuarine Resident	Atlantic silverside	Nursery Area	-	-	-													-	-	May-Sep	Jan-Dec	-
	Estuarine Resident	Atlantic silverside	Spawning Area	-	-	-													May-Aug	May-Aug	-	-	May-Aug
	Estuarine Resident	Killifish	Nursery Area	-	-	-													-	-	May-Sep	Jan-Dec	-
	Estuarine Resident	Killifish	Spawning Area	-	-	-													May-Aug	May-Aug	-	-	May-Aug
385	Diadromous	Alewife	Nursery Area	-	-	-													-	-	Mar-May	Apr-Oct	-
	Diadromous	American eel	Nursery Area	-	-	-													-	-	-	Jan-Dec	-
	Diadromous	Blueback herring	Nursery Area	-	-	-													-	-	Apr-Jun	May-Nov	-
	Estuarine Nursery	White perch	Nursery Area	-	-	-													-	-	Mar-Jun	Jan-Dec	Jan-Dec
386	Diadromous	Alewife	Migration	-	-	-													-	-	-	Apr-Oct	Mar-May
	Diadromous	Blueback herring	Migration	-	-	-													-	-	-	May-Nov	Apr-Jun
	Diadromous	Alewife	Spawning Area	-	-	-													Mar-May	Mar-May	-	-	Mar-May
	Diadromous	Blueback herring	Spawning Area	-	-	-													Apr-Jun	Apr-Jun	-	-	Apr-Jun

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
	Diadromous	Brown trout	Harvest Area			-													-	-	-	Jan-Dec
	Diadromous	Rainbow trout	Harvest Area			-													-	-	-	Jan-Dec
	Estuarine Nursery	White perch	Spawning Area			-													Mar-Jun	-	-	Mar-Jun
	Freshwater	Brook trout	Harvest Area			-													Sep-Nov	Nov-Dec	Jan-Dec	Jan-Dec
	Freshwater	Brook trout	Nursery Area			-													-	Nov-Dec	Jan-Dec	-
	Freshwater	Brook trout	Spawning Area			-													Sep-Nov	-	-	Sep-Nov
	Freshwater	Yellow perch	Harvest Area			-													Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
388	Freshwater	Black crappie	Harvest Area			-													Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Bluegill	Harvest Area			-													Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Chain pickerel	Harvest Area			-													Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Largemouth bass	Harvest Area			-													Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Pumpkinseed	Harvest Area			-													Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
389	Diadromous	Striped bass	Nursery Area			-													-	-	Apr-Nov	-
	Estuarine Nursery	Atlantic menhaden	Nursery Area			-													-	-	Apr-Nov	-
	Estuarine Nursery	Bluefish	Nursery Area			-													-	-	May-Oct	-
	Estuarine Resident	Atlantic silverside	Nursery Area			-													-	May-Sep	Jan-Dec	-
	Estuarine Resident	Atlantic silverside	Spawning Area			-													May-Aug	May-Aug	-	May-Aug
	Estuarine Resident	Killifish	Nursery Area			-													-	May-Sep	Jan-Dec	-
	Estuarine Resident	Killifish	Spawning Area			-													May-Aug	May-Aug	-	May-Aug
390	Diadromous	Striped bass	Concentration Area			High													-	-	Apr-Nov	Mar-Nov
	Estuarine Nursery	Black sea bass	Concentration Area			High													May-Oct	May-Nov	-	-
	Estuarine Nursery	Bluefish	Concentration Area			High													-	-	May-Oct	Apr-Dec
	Marine Benthic	American sand lance	Concentration Area			High													Nov-Feb	Nov-Feb	Dec-Jun	Nov-May
	Marine Benthic	Tautog	Concentration Area			High													May-Aug	Jun-Aug	-	-

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
520	Plant	Endangered plant	Vulnerable Occurrence	E/E		-													-	-	-	-	-
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-													-	-	-	-	-
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-													-	-	-	-	-
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-													-	-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
547	Turtle	Eastern mud turtle	Nesting	E/-		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
548	Snake	Northern black racer	Nesting			-													Jun-Jul	Aug-Sep	-	-	-
	Turtle	Common snapping turtle	Nesting			-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active													-	-	-	Apr-Nov	Apr-Nov
	Turtle	Eastern box turtle	Nesting	C/C		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
	Turtle	Eastern mud turtle	Nesting	E/-		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
549	Snake	Northern black racer	Nesting			-													Jun-Jul	Aug-Sep	-	-	-
	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active													-	-	-	Apr-Nov	Apr-Nov

REPTILES & AMPHIBIANS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
	Turtle	Eastern box turtle	Nesting	C/C	-	-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
550	Turtle	Common snapping turtle	Nesting		-	-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
551	Turtle	N. diamondback terrapin	Nesting			Potential Nesting													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
552	Turtle	Eastern mud turtle	General Distribution	E/-		Present And Active													-	-	-	Apr-Nov	Apr-Nov
553	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Thermal Regulation													-	-	-	-	Jul-Sep
554	Reptile	Endangered reptile 1	Vulnerable Occurrence	E/-	-	-													-	-	-	-	Apr-Nov
555	Snake	Northern black racer	Nesting	C/C	-	-													Jun-Jul	Aug-Sep	-	-	-
	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active													-	-	-	Apr-Nov	Apr-Nov
	Turtle	Eastern box turtle	Nesting	C/C	-	-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
	Turtle	Eastern mud turtle	Nesting	E/-		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
556	Snake	Northern black racer	Nesting		-	-													Jun-Jul	Aug-Sep	-	-	-
	Turtle	Common snapping turtle	Nesting		-	-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
	Turtle	Painted turtle	Nesting		-	-													Jun-Jul	Aug-Sep	-	-	Jun-Jul
557	Snake	Eastern milk snake	Nesting		-	-													Jun-Jul	Aug-Sep	-	-	Jun-Jul
558	Turtle	Eastern box turtle	General Distribution	C/C	-	-													-	-	-	Apr-Nov	Apr-Nov

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
624	Crab	Horseshoe crab	Spawning Area		-	-													May-Jun	May-Jul	-	-	May-Jun
625	Insect	Monarch butterfly	Migration		High	-													-	-	-	-	Aug-Oct
626	Invertebrate	R, LT, or LE invertebrate	Vulnerable Occurrence		-	-													Apr-Jun	Apr-Jun	Jan-Dec	-	Jan-Dec
642	Bivalve	Northern quahog	Harvest Area		516 Bushels/Yr Avg	-													Jun-Aug	Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
643	Bivalve	Northern quahog	Harvest Area		84 Bushels/Yr Avg	-													Jun-Aug	Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
644	Bivalve	Northern quahog	Harvest Area		11 Bushels/Yr Avg	-													Jun-Aug	Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec

MARINE MAMMALS


Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
681	Whale	N.A. right whale	Migration	E/E		-													-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
	Waterfowl	American black duck	Wintering		1000S	-													-	-	-	-
		Scaup	Wintering		1000S	-													-	-	-	-
	Waterfowl	Waterfowl	Migration		High	-													-	Mar-Apr	Oct-Nov	-
	Waterfowl	Waterfowl	Wintering		1000S	-													-	-	-	-

FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
	Diadromous	Atlantic sturgeon	-/E	E	Low													-	-	Jan-Dec	Oct-Jun
		Atlantic sturgeon	-/E	E	High													-	-	May-Jul	May-Jul


REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	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	T/T	T	-													-	-	May-Nov	May-Nov
		K. ridley sea turtle	E/E	E	-													-	-	May-Nov	-
		Leatherback sea turtle	E/E	E	-													-	-	May-Nov	May-Nov
		Loggerhead sea turtle	T/E	T	-													-	-	May-Nov	May-Nov

INVERTEBRATES

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
	Gastropod	Whelk			-													Jun-Jul	Aug-Nov	Jan-Dec	Jan-Dec

MARINE MAMMALS






Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D			
	Whale	Fin whale	E/E	E	Common													-	-	-
		Humpback whale	E/E	E	Common													-	-	-
		N.A. right whale	E/E	E	Uncommon, Regular													-	-	-

TERRESTRIAL MAMMALS


Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Bat	Northern myotis	T/-	T	-													-	-	-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)



BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Alcid	Razorbill																-	-	-	-
	Gull/Tern	G. black-backed gull																-	-	-	-
	Passerine	Herring gull																-	-	-	-
		Marsh wren																Apr-Aug	-	-	-
		Nelson's sparrow																May-Aug	-	-	-
	Pelagic	Northern gannet																-	-	-	-
		Wilson's storm-petrel																-	-	-	-
	Shorebird	Willet																May-Aug	-	-	-
	Wading	American woodcock																Mar-Aug	-	-	-
		Clapper rail																Apr-Sep	-	-	-
		Green heron																Apr-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				
	Virginia rail													Apr-Sep	-	-	-
	American black duck													Apr-Aug	-	-	-
	Black scoter													-	-	-	-
	Common eider													May-Sep	-	-	-
	Gadwall													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Sep	-	-	-
	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					
	Alewife													-	-	-	Apr-Nov	Mar-Jun
	Alewife													-	-	-	Nov-Apr	Nov-Apr
	American eel													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American eel													-	-	Jan-Feb	-	Sep-Dec
	American shad													-	-	-	Nov-Apr	Nov-Apr
	American shad													-	-	-	Apr-Nov	Apr-Jul
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	May-Nov	Mar-Jul
	Striped bass													-	-	-	Apr-Nov	Mar-Nov
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic herring													-	-	-	Nov-Apr	Nov-Apr
	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
	Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
	Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Black sea bass													-	-	-	Apr-Nov	Apr-Nov
	Bluefish													-	-	-	May-Nov	May-Nov
	Bluefish													-	-	-	May-Oct	Apr-Dec
	Northern kingfish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Northern puffer													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Scup													-	-	-	May-Nov	May-Nov
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Spot													-	-	-	Apr-Nov	Apr-Nov
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Summer flounder													-	-	-	Apr-Oct	Apr-Oct
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Weakfish													May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov





FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	White perch													-	-	-	Jan-Dec	Jan-Dec
	White perch													Feb-Apr	Mar-Jun	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Winter flounder													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	American sand lance													-	-	-	-	Oct-Jun
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Clearnose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Pollock													-	-	-	Mar-Jun	-
	Red hake													-	-	-	May-Oct	May-Oct
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Mar-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Atlantic mackerel													-	-	-	Nov-Apr	-
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic razor													Apr-May	Apr-May	Apr-May	Jan-Dec	Jan-Dec
	Atlantic surfclam													Jun-Oct*	Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec
	Bay scallop													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Blue mussel													Apr-Nov	Apr-Nov	Apr-Nov	Jan-Dec	Jan-Dec
	Eastern oyster													Jul-Aug	Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Longfin squid													-	-	-	-	Jan-Dec
	Blue crab													-	-	Jun-Oct	-	Aug-Mar
	Blue crab													May-Oct	Jun-Oct	Jun-Oct	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Aug-Mar	Aug-Mar
	Channeled whelk													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec
	American lobster													-	-	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,105.54	1.73
10B	Freshwater Marshes	34.03	0.05
10C	Swamps	268.39	0.42
10D	Scrub and Shrub Wetlands	215.70	0.34
9A	Sheltered Tidal Flats	70.03	0.11
7	Exposed Tidal Flats	1,236.74	1.93

ESI SHORELINE HABITAT TYPES

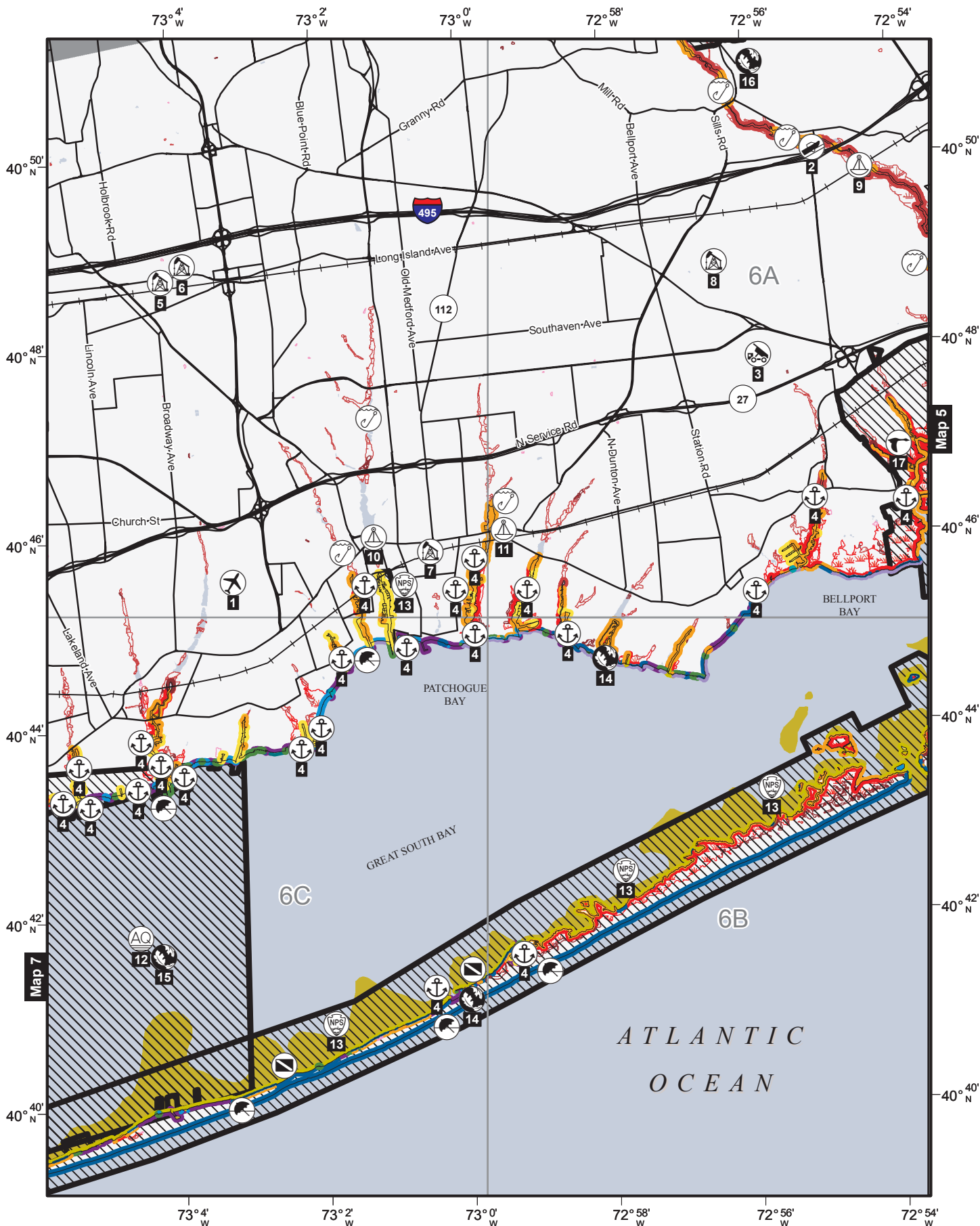
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	49,568.52	30.80	22%
10B	Freshwater Marshes	565.03	0.35	< 1%
10C	Swamps	6,908.79	4.29	3%
10D	Scrub and Shrub Wetlands	5,260.08	3.27	2%
9A	Sheltered Tidal Flats	8,264.14	5.14	4%
9B	Vegetated Low Banks	82,663.96	51.37	36%
8B	Sheltered, Solid Man-Made Structures	19,759.48	12.28	9%
8C	Sheltered Riprap	207.96	0.13	< 1%
7	Exposed Tidal Flats	26,047.05	16.18	11%
6A	Gravel Beaches	50.83	0.03	< 1%
6B	Riprap	587.65	0.37	< 1%
5	Mixed Sand and Gravel Beaches	414.95	0.26	< 1%
4	Coarse Grained Sand Beaches	14,374.22	8.93	6%
3A	Fine to Medium Grained Sand Beaches	7,482.00	4.65	3%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	2,762.53	1.72	1%
1B	Exposed, Solid Man-Made Structures	3,690.65	2.29	2%

Total ESI Shoreline: 228,607.83 Total ESI Shoreline: 142.05
Total Shoreline: 126,879.55 Total Shoreline: 78.84

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 6
South Long Island



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

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 6
South Long Island

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AIRPORT	BAYPORT AERODROME	
2	BOAT RAMP	LOWER LAKE	
3	LANDFILL	BROOKHAVEN WASTE MANAGEMENT FACILITY	631-451-6222
4	MARINA	MARINA	
5	OIL FACILITY	PETROLEUM PRODUCT TERMINAL	
6	OIL FACILITY	HOLTSVILLE TERMINAL	
7	OIL FACILITY	SWEZEY FUEL CO., INC.	
8	OIL FACILITY	CAITHNESS LONG ISLAND ENERGY CENTER	
9	REPEATED MEASUREMENT SITE	CARMANS RIVER AT YAPHANK NY	
10	REPEATED MEASUREMENT SITE	PATCHOGUE RIVER AT PATCHOGUE NY	
11	REPEATED MEASUREMENT SITE	SWAN RIVER AT EAST PATCHOGUE NY	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
12	AQUACULTURE	AQUACULTURE AREA	
13	NATIONAL PARK	FIRE ISLAND NATIONAL SEASHORE	
14	NATURE CONSERVANCY	ATLANTIC OCEAN BEACHES	
15	NATURE CONSERVANCY	GREAT SOUTH BAY UNDERWATER LANDS (BLUEPOINTS)	
16	NATURE CONSERVANCY	PECONIC ESTUARY	
17	WILDLIFE REFUGE	WERTHEIM NATIONAL WILDLIFE REFUGE	

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	EFH AREA	CHRIS BRUCE	434-951-0565
ESSENTIAL HABITAT	IMPORTANT BIRD AREA	IMPORTANT BIRD AREAS PROGRAM COORDINATOR	607-254-2437
ESSENTIAL HABITAT	SIGNIFICANT COASTAL HABITAT	NYS DEPARTMENT OF STATE COORDINATOR	518-474-6000

JURISDICTIONS

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

FEMA: REGION II
EPA: REGION 2

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,231.31	1.92
10B	Freshwater Marshes	16.32	0.03
10C	Swamps	625.41	0.98
10D	Scrub and Shrub Wetlands	170.00	0.27
7	Exposed Tidal Flats	2,979.28	4.66

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	57,481.49	35.72	19%
10B	Freshwater Marshes	228.92	0.14	< 1%
10C	Swamps	15,197.64	9.44	5%
10D	Scrub and Shrub Wetlands	2,679.77	1.67	1%
9A	Sheltered Tidal Flats	1,360.41	0.85	< 1%
9B	Vegetated Low Banks	91,297.46	56.73	30%
8B	Sheltered, Solid Man-Made Structures	30,141.05	18.73	10%
8C	Sheltered Riprap	22.36	0.01	< 1%
7	Exposed Tidal Flats	33,308.41	20.70	11%
6A	Gravel Beaches	29.67	0.02	< 1%
6B	Riprap	3,781.08	2.35	1%
5	Mixed Sand and Gravel Beaches	26.28	0.02	< 1%
4	Coarse Grained Sand Beaches	7,386.62	4.59	2%
3A	Fine to Medium Grained Sand Beaches	33,275.81	20.68	11%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	8,239.20	5.12	3%
1B	Exposed, Solid Man-Made Structures	18,260.38	11.35	6%
Total ESI Shoreline:		302,716.56	188.10	
Total Shoreline:		179,121.67	111.30	

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 6A
South Long Island

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	S	F	Concentration	Monthly Presence											
SAV	Submersed aquatic veg	High Ecological Value			Present	J	F	M	A	M	J	J	A	S	O	N	D

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
37	Passerine	Seaside sparrow	Nesting	C/-		-												
45	Waterfowl	Waterfowl	Migration			High												
66	Raptor	Endangered raptor 2	Nesting	T/E		-												
67	Passerine	Seaside sparrow	General Distribution	C/-		-												
	Raptor	Northern harrier	General Distribution	T/E		-												
	Raptor	Osprey	General Distribution	C/-		-												
74	Waterfowl	American black duck	Wintering			1000S												
	Waterfowl	Brant	Wintering			1000S												
	Waterfowl	Mergansers	Wintering			1000S												
	Waterfowl	Scaup	Wintering			1000S												
	Waterfowl	Waterfowl	Wintering			10000S												
75	Waterfowl	Waterfowl	Wintering			1000S												
76	Waterfowl	Waterfowl	Migration			High												
	Waterfowl	Waterfowl	Wintering			1000S												

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
382	Diadromous	American eel	Nursery Area			-												
384	Diadromous	Alewife	Nursery Area			-												
	Diadromous	American eel	Nursery Area			-												
	Diadromous	Blueback herring	Nursery Area			-												
	Diadromous	Striped bass	Nursery Area			-												
	Estuarine Nursery	Atlantic menhaden	Nursery Area			-												
	Estuarine Nursery	Bluefish	Nursery Area			-												
	Estuarine Nursery	White perch	Nursery Area			-												
	Estuarine Resident	Atlantic silverside	Nursery Area			-												
	Estuarine Resident	Killifish	Spawning Area			-												
	Estuarine Resident	Killifish	Spawning Area			-												
386	Diadromous	Alewife	Migration			-												
	Diadromous	Blueback herring	Migration			-												

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D			
391	Diadromous	American eel	Nursery Area	-	-	-													-	-	-
	Freshwater	Brook trout	Harvest Area	-	-	-													Sep-Nov	Nov-Dec	Jan-Dec
	Freshwater	Brook trout	Nursery Area	-	-	-													-	Nov-Dec	Jan-Dec
	Freshwater	Brook trout	Spawning Area	-	-	-													Sep-Nov	-	Sep-Nov
392	Diadromous	American eel	Nursery Area	-	-	-													-	-	-
	Diadromous	Brown trout	Harvest Area	-	-	-													-	-	-
	Diadromous	Rainbow trout	Harvest Area	-	-	-													-	-	-
	Freshwater	Brook trout	Harvest Area	-	-	-													Sep-Nov	Nov-Dec	Jan-Dec
393	Freshwater	Brook trout	Harvest Area	-	-	-													-	-	-
	Freshwater	Brook trout	Nursery Area	-	-	-													Sep-Nov	Nov-Dec	Jan-Dec
	Freshwater	Brook trout	Spawning Area	-	-	-													-	-	-
	Diadromous	Alewife	Nursery Area	-	-	-													Sep-Nov	Nov-Dec	Jan-Dec
393	Diadromous	Alewife	Spawning Area	-	-	-													-	-	-
	Diadromous	American eel	Nursery Area	-	-	-													Mar-May	Mar-May	Mar-May
	Diadromous	Blueback herring	Nursery Area	-	-	-													-	-	-
	Diadromous	Blueback herring	Spawning Area	-	-	-													Apr-Jun	Apr-Jun	Apr-Jun
394	Diadromous	Brown trout	Harvest Area	-	-	-													-	-	-
	Diadromous	Rainbow trout	Harvest Area	-	-	-													-	-	-
	Estuarine Nursery	White perch	Nursery Area	-	-	-													-	-	-
	Estuarine Nursery	White perch	Spawning Area	-	-	-													Mar-Jun	Mar-Jun	Mar-Jun
395	Freshwater	Black crappie	Harvest Area	-	-	-													-	-	-
	Freshwater	Bluegill	Harvest Area	-	-	-													Apr-Jun	Apr-Jun	Apr-Jun
	Freshwater	Brook trout	Harvest Area	-	-	-													-	-	-
	Freshwater	Brook trout	Nursery Area	-	-	-													Sep-Nov	Nov-Dec	Jan-Dec
396	Freshwater	Chain pickerel	Spawning Area	-	-	-													-	-	-
	Freshwater	Largemouth bass	Harvest Area	-	-	-													Apr-Aug	Apr-Aug	Apr-Aug
	Freshwater	Pumpkinseed	Harvest Area	-	-	-													Apr-Aug	Apr-Aug	Apr-Aug
	Freshwater	Yellow perch	Harvest Area	-	-	-													Apr-Aug	Apr-Aug	Apr-Aug
397	Diadromous	Alewife	Nursery Area	-	-	-													-	-	-
	Diadromous	Alewife	Spawning Area	-	-	-													Mar-May	Mar-May	Mar-May
	Diadromous	Brown trout	Harvest Area	-	-	-													-	-	-
	Diadromous	Rainbow trout	Harvest Area	-	-	-													-	-	-
397	Freshwater	Brook trout	Harvest Area	-	-	-													Sep-Nov	Nov-Dec	Jan-Dec
	Freshwater	Brook trout	Nursery Area	-	-	-													-	-	-
	Freshwater	Brook trout	Spawning Area	-	-	-													Sep-Nov	Nov-Dec	Jan-Dec
	Diadromous	Alewife	Spawning Area	-	-	-													Mar-May	Mar-May	Mar-May
397	Freshwater	Largemouth bass	Harvest Area	-	-	-													Apr-Jun	Apr-Jun	Apr-Jun
	Freshwater	Largemouth bass	Harvest Area	-	-	-													-	-	-
	Freshwater	Largemouth bass	Harvest Area	-	-	-													Apr-Aug	Apr-Aug	Apr-Aug
	Freshwater	Largemouth bass	Harvest Area	-	-	-													-	-	-

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
520	Plant	Endangered plant	Vulnerable Occurrence	E/E	-	-												
522	Upland	Rare upland community	Vulnerable Occurrence	T/-	-	-												
523	Plant	Threatened plant	Vulnerable Occurrence	T/-	-	-												

HABITATS & RARE PLANTS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
525	Plant	Rare plant	Vulnerable Occurrence	C/C	-	-												
527	Plant	Endangered plant	Vulnerable Occurrence	E/E	-	-												
	Plant	Threatened plant	Vulnerable Occurrence	T/-	-	-												

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
546	Amphibian	E. tiger salamander	Vulnerable Occurrence	E/-	-	-												
554	Reptile	Endangered reptile 1	Vulnerable Occurrence	E/-	-	-												
559	Amphibian	Eastern spadefoot	Vulnerable Occurrence	C/-	-	-												
560	Turtle	Green sea turtle	General Distribution	T/T	T	-												
	Turtle	K. ridley sea turtle	General Distribution	E/E	E	-												
	Turtle	Leatherback sea turtle	General Distribution	E/E	E	-												
	Turtle	Loggerhead sea turtle	General Distribution	T/E	T	-												

INVERTEBRATES



Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
643	Bivalve	Northern quahog	Harvest Area			84 Bushels/Yr Avg												
645	Bivalve	Atlantic razor	Harvest Area			9 Bushels/Yr Avg												
	Bivalve	Blue mussel	Harvest Area			28 Bushels/Yr Avg												
	Bivalve	Eastern oyster	Harvest Area			7 Bushels/Yr Avg												
	Bivalve	Northern quahog	Harvest Area			3602 Bushels/Yr Avg												
	Bivalve	Softshell clam	Harvest Area			10 Bushels/Yr Avg												
	Gastropod	Whelk	Harvest Area			-												

TERRESTRIAL MAMMALS


Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
693	Bat	Northern myotis	Colony	T/-	T	-												

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					
	Passerine																	
	Wading																	

FISH

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults	
		J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous																	
	Alewife																	
	American eel																	
	American shad																	




FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Striped bass													-	-	-	May-Nov	Mar-Jul
	Atlantic herring													-	-	-	Apr-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	Nov-Apr	Nov-Apr
	Bay anchovy													-	-	-	Apr-Nov	Mar-Nov
	Black sea bass													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Bluefish													-	-	-	Apr-Nov	Apr-Nov
	Northern kingfish													-	-	-	May-Oct	Apr-Dec
	Northern puffer													-	-	-	May-Nov	May-Nov
	Scup													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Spot													-	-	-	May-Nov	May-Nov
	Summer flounder													-	-	-	Apr-Oct	Apr-Oct
	Weakfish													May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
	White perch													-	-	-	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Winter flounder													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Pollock													-	-	-	Mar-Jun	-
	Red hake													-	-	-	May-Oct	May-Oct
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Mar-Dec
	Atlantic mackerel													-	-	-	Nov-Apr	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct

REPTILES & AMPHIBIANS

Subelement	Species	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Common snapping turtle													-	-	-	Apr-Nov	Apr-Nov

INVERTEBRATES

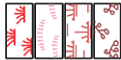
Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic razor													Apr-May	Apr-May	Apr-May	Jan-Dec	Jan-Dec
	Blue mussel													Apr-Nov	Apr-Nov	Apr-Nov	Jan-Dec	Jan-Dec
	Eastern oyster													Jul-Aug	Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Blue crab													May-Oct	Jun-Oct	Jun-Oct	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
	Channeled whelk													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	523.36	0.82
10B	Freshwater Marshes	6.72	0.01
10C	Swamps	402.26	0.63
10D	Scrub and Shrub Wetlands	29.95	0.05



ESI SHORELINE HABITAT TYPES

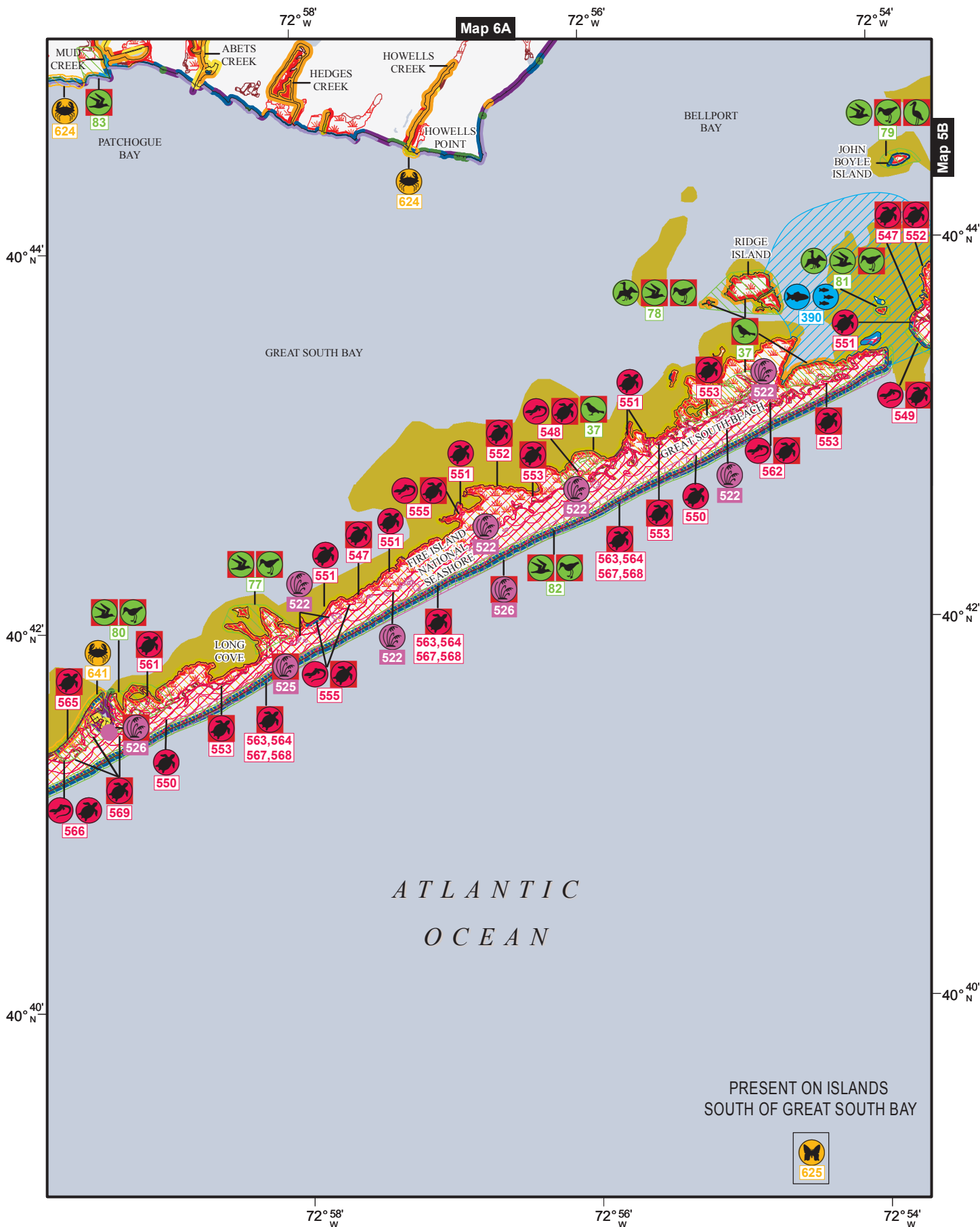
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	19,123.14	11.88	22%
10B	Freshwater Marshes	25.54	0.02	< 1%
10C	Swamps	14,966.93	9.30	17%
10D	Scrub and Shrub Wetlands	697.67	0.43	1%
9A	Sheltered Tidal Flats	785.27	0.49	1%
9B	Vegetated Low Banks	41,004.19	25.48	47%
8B	Sheltered, Solid Man-Made Structures	5,087.82	3.16	6%
6B	Riprap	123.09	0.08	< 1%
5	Mixed Sand and Gravel Beaches	8.58	0.01	< 1%
4	Coarse Grained Sand Beaches	50.92	0.03	< 1%
3A	Fine to Medium Grained Sand Beaches	2,186.83	1.36	2%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	2,579.91	1.60	3%
1B	Exposed, Solid Man-Made Structures	873.34	0.54	1%

Total ESI Shoreline: 87,513.22 Total ESI Shoreline: 54.38
 Total Shoreline: 49,934.46 Total Shoreline: 31.03

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

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





Map 6B
South Long Island



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

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 6B
South Long Island

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	S	F	Concentration	Monthly Presence											
Algae	Macroalgae	High Ecological Value			Present	J	F	M	A	M	J	J	A	S	O	N	D

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
37	Passerine	Seaside sparrow	Nesting	C/I		-													May-Aug	-	-	-
77	Gull/Tern	Common tern	Nesting	T/C		100-500 Pairs													May-Sep	-	-	-
78	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Diving	D. crested cormorant	Nesting			5-50 Pairs													Jun-Sep	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		100-500 Pairs													May-Sep	-	-	-
	Gull/Tern	G. black-backed gull	Nesting			50-100 Pairs													Apr-Jul	-	-	-
	Gull/Tern	Herring gull	Nesting			100-500 Pairs													Apr-Sep	-	-	-
79	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Gull/Tern	G. black-backed gull	Nesting			50-100 Pairs													Apr-Jul	-	-	-
	Gull/Tern	Herring gull	Nesting			50-100 Pairs													Apr-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Wading	BC night-heron	Nesting	-/T		1-10 Pairs													Apr-Aug	-	-	-
80	Wading	Glossy ibis	Nesting	-/C		10-50 Pairs													Apr-Aug	-	-	-
	Wading	Great egret	Nesting			10-50 Pairs													Apr-Aug	-	-	-
	Wading	Little blue heron	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Wading	Snowy egret	Nesting	-/C		10-50 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		1-10 Pairs													May-Sep	-	-	-
81	Gull/Tern	Least tern	Nesting	T/E		1-10 Pairs													May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Diving	D. crested cormorant	Nesting			5-50 Pairs													Jun-Sep	-	-	-
	Gull/Tern	G. black-backed gull	Nesting			1-10 Pairs													Apr-Jul	-	-	-
	Gull/Tern	Herring gull	Nesting			10-50 Pairs													Apr-Sep	-	-	-
82	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		1-10 Pairs													May-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		50-100 Pairs													May-Sep	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		1-10 Pairs													May-Sep	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
390	Diadromous	Striped bass	Concentration Area			High													-	-	-	Apr-Nov	Mar-Nov
	Estuarine Nursery	Black sea bass	Concentration Area			High													-	May-Oct	May-Nov	-	-
	Estuarine Nursery	Bluefish	Concentration Area			High													-	-	-	May-Oct	Apr-Dec
	Marine Benthic	American sand lance	Concentration Area			High													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	Marine Benthic	Tautog	Concentration Area			High													-	May-Aug	Jun-Aug	-	-

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
522	Upland	Rare upland community	Vulnerable Occurrence			-													-	-	-	-	-
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-													-	-	-	-	-
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-													-	-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
547	Turtle	Eastern mud turtle	Nesting	E/-		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
548	Snake	Northern black racer	Nesting			-													Jun-Jul	Aug-Sep	-	-	-
	Turtle	Common snapping turtle	Nesting			-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active													-	-	-	Apr-Nov	Apr-Nov
	Turtle	Eastern box turtle	Nesting	C/C		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
549	Snake	Eastern mud turtle	Nesting	E/-		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
	Snake	Northern black racer	Nesting			-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active													Jun-Jul	Aug-Sep	-	-	-
	Turtle	Eastern box turtle	Nesting	C/C		-													-	-	-	Apr-Nov	Apr-Nov
550	Turtle	Common snapping turtle	Nesting			-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
551	Turtle	N. diamondback terrapin	Nesting			Potential Nesting													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
552	Turtle	Eastern mud turtle	General Distribution	E/-		Present And Active													-	-	-	Apr-Nov	Apr-Nov
553	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Thermal Regulation													-	-	-	-	Jul-Sep
555	Snake	Northern black racer	Nesting			-													Jun-Jul	Aug-Sep	-	-	-
	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active													-	-	-	Apr-Nov	Apr-Nov
	Turtle	Eastern box turtle	Nesting	C/C		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
	Turtle	Eastern mud turtle	Nesting	E/-		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
561	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Thermal Regulation													-	-	-	-	Jul-Sep
	Turtle	Eastern mud turtle	Nesting	E/-		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
562	Snake	Northern black racer	Nesting			-													Jun-Jul	Aug-Sep	-	-	-
	Turtle	Common snapping turtle	Nesting			-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active													-	-	-	Apr-Nov	Apr-Nov
	Turtle	Eastern box turtle	Nesting	C/C		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
563	Turtle	Eastern box turtle	Nesting	C/C		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
564	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active													-	-	-	Apr-Nov	Apr-Nov
565	Turtle	Spotted turtle	Nesting	C/C		-													Jun-Jul	Mar-Nov*	-	-	Jun-Jul
566	Snake	Northern black racer	Nesting			-													Jun-Jul	Aug-Sep	-	-	-
	Turtle	Common snapping turtle	Nesting			-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul

REPTILES & AMPHIBIANS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
567	Snake	Northern black racer	Nesting			-													Jun-Jul	Aug-Sep	-	-	-
568	Amphibian	Fowler's toad	Nesting	-/C		-													Apr-Jun	May-Jul	-	-	Apr-Jun
569	Turtle	Spotted turtle	General Distribution	C/C		Present And Active													-	-	-	Mar-Nov	Mar-Nov

INVERTEBRATES


Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
624	Crab	Horseshoe crab	Spawning Area			-													May-Jun	May-Jul	-	-	May-Jun
625	Insect	Monarch butterfly	Migration			High													-	-	-	-	Aug-Oct
641	Crab	Horseshoe crab	Spawning Area			High													May-Jun	May-Jul	-	-	May-Jun

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BENTHIC

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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SAV	Submersed aquatic veg	High Ecological Value			Present																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				


BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Waterfowl	American black duck	Wintering		1000S														-	-	-
		Brant	Wintering		1000S														-	-	-
		Mergansers	Wintering		1000S														-	-	-
		Scaup	Wintering		1000S														-	-	-
		Waterfowl	Migration		High														Mar-Apr	Oct-Nov	-
	Waterfowl	Wintering			10000S														-	-	-



FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous	Atlantic sturgeon	-/E	E	Present													-	-	Jan-Dec	Oct-Jun	
		Atlantic sturgeon	-/E	E	Low													-	-	Jan-Dec	Oct-Jun	
		Atlantic sturgeon	-/E	E	High													-	-	May-Jul	May-Jul	


REPTILES & AMPHIBIANS

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

INVERTEBRATES






Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D			
	Atlantic razor	Harvest Area			9 Bushels/Yr Avg													Apr-May	Jan-Dec	Jan-Dec
	Blue mussel	Harvest Area			28 Bushels/Yr Avg													Apr-Nov	Jan-Dec	Jan-Dec
	Eastern oyster	Harvest Area			7 Bushels/Yr Avg													Jul-Sep	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			3602 Bushels/Yr Avg													Jun-Sep	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			84 Bushels/Yr Avg													Jun-Aug	Jan-Dec	Jan-Dec
	Softshell clam	Harvest Area			10 Bushels/Yr Avg													Apr-Sep	Jan-Dec	Jan-Dec
	Whelk	Harvest Area			-													Aug-Nov	Jan-Dec	Jan-Dec

MARINE MAMMALS






Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Fin whale	General Distribution	E/E	E	Common													-	-	-	-
	Humpback whale	General Distribution	E/E	E	Common													-	-	-	-
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular													-	-	-	-
	N.A. right whale	Migration	E/E	E	-													-	-	-	-

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													-	-	-	-
	G. black-backed gull													-	-	-	-
	Herring gull													-	-	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Black scoter													-	-	-	-
	Common eider													-	-	-	-
	Long-tailed duck													-	-	-	-
	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					
	Alewife													-	-	-	Nov-Apr	Nov-Apr
	Alewife													-	-	-	Apr-Nov	Mar-Jun
	American eel													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American eel													-	-	Jan-Feb	-	Sep-Dec
	American shad													-	-	-	Apr-Nov	Apr-Jul
	American shad													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	May-Nov	Mar-Jul
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	-	Apr-Nov	Mar-Nov

FISH (continued)

	Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			J	F	M	A	M	J	J	A	S	O	N	D					
	Estuarine Nursery	Striped bass													-	-	-	Mar-Nov	Mar-Nov
		Atlantic croaker													-	-	-	Nov-Apr	Nov-Apr
		Atlantic herring													-	-	-	Nov-May	Nov-May
		Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
		Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
		Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
		Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
		Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
		Black sea bass													-	-	-	Apr-Nov	Apr-Nov
		Bluefish													-	-	-	May-Nov	May-Nov
		Bluefish													-	-	-	May-Oct	Apr-Dec
		Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
		Northern kingfish													-	-	-	May-Nov	May-Nov
		Northern puffer													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
		Scup													-	-	-	Apr-Dec	Apr-Dec
		Scup													-	-	-	May-Nov	May-Nov
		Spot													-	-	-	Sep-Nov	Jun-Nov
		Spot													-	-	-	Apr-Nov	Apr-Nov
		Summer flounder													-	-	-	Apr-Oct	Apr-Oct
		Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
		Weakfish													May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
		Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
		White perch													-	-	-	Jan-Dec	Jan-Dec
		Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
		Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
		Winter flounder													-	-	-	Jan-Dec	Jan-Dec
		Winter flounder													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
		Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
		Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
		Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
		Northern pipefish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
		American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
		American sand lance													-	-	-	-	Oct-Jun
		Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
		Atlantic cod													-	-	-	Nov-Apr	-
		Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
		Cleannose skate													-	-	-	Apr-Nov	Apr-Nov
		Goosefish													-	-	-	-	Jan-Jun
		Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
		Little skate													-	-	-	Jan-Dec	Jan-Dec
		Ocean pout													-	-	-	Dec-Aug	Dec-Aug
		Pollock													-	-	-	Mar-Jun	-
		Red hake													-	-	-	May-Oct	May-Oct




FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Mar-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Atlantic mackerel													-	-	-	Nov-Apr	-
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-
	White shark													-	-	-	Jul-Oct	-

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic razor													Apr-May	Apr-May	Apr-May	Jan-Dec	Jan-Dec
	Atlantic surfclam													Jun-Oct*	Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec
	Blue mussel													Apr-Nov	Apr-Nov	Apr-Nov	Jan-Dec	Jan-Dec
	Eastern oyster													Jul-Aug	Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
	Ocean quahog													Jul-Nov	Jul-Nov	Jul-Dec	Jan-Dec	Jan-Dec
	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Longfin squid													-	-	-	-	Jan-Dec
	Blue crab													May-Oct	Jun-Oct	Jun-Oct	Jan-Dec	Jan-Dec
	Blue crab													-	-	Jun-Oct	-	Aug-Mar
	Horseshoe crab													-	-	-	Aug-Mar	Aug-Mar
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
	Channeled whelk													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec
	American lobster													-	-	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES		
ESI Rank	Habitat Classification	Area (Acres)
10A	Salt and Brackish Water Marshes	506.71
10B	Freshwater Marshes	0.33
10C	Swamps	7.08
10D	Scrub and Shrub Wetlands	111.24
7	Exposed Tidal Flats	1,343.59

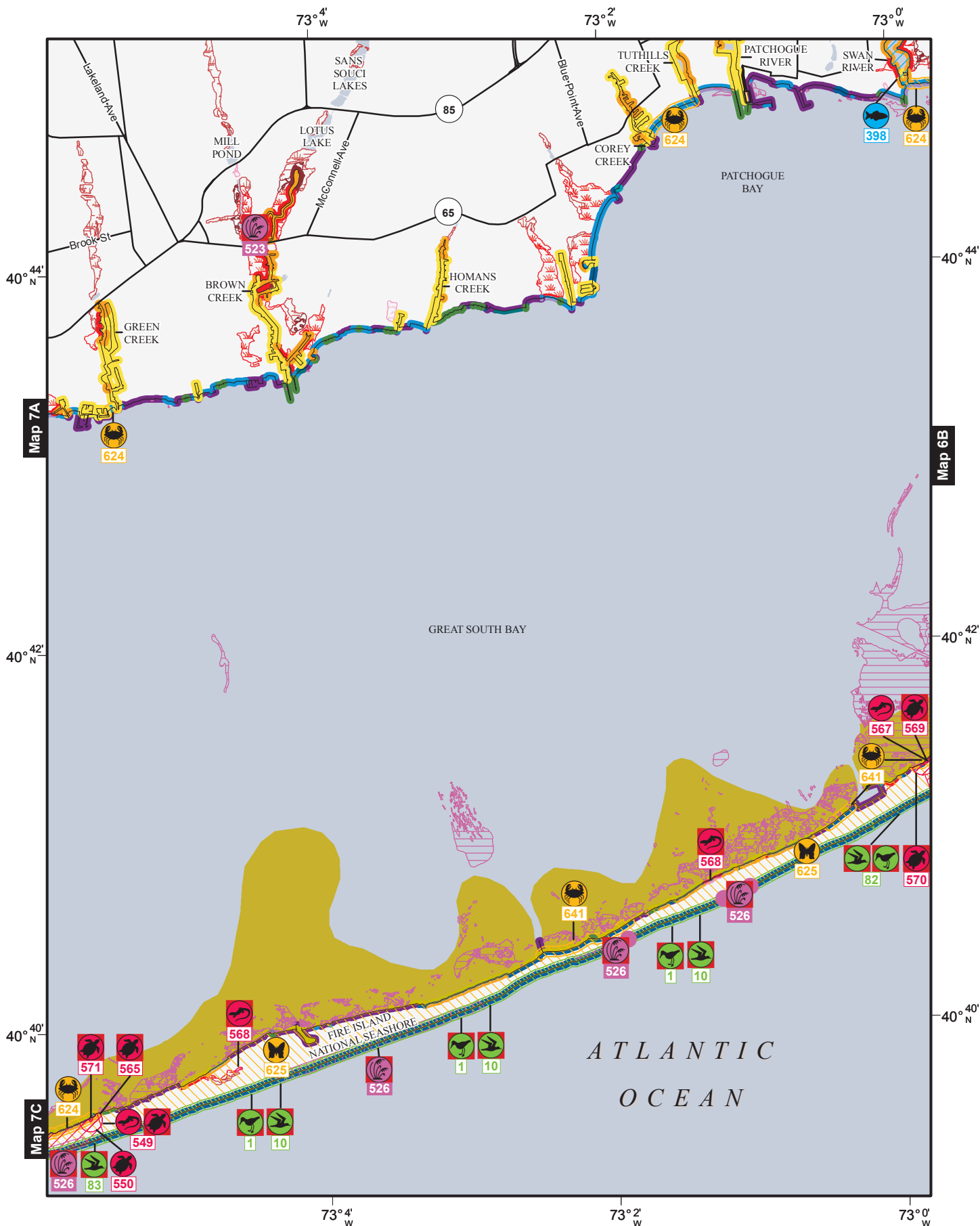
ESI SHORELINE HABITAT TYPES		
ESI Rank	Shoreline Habitat Classification	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	0.79
10C	Swamps	0.00
10D	Scrub and Shrub Wetlands	0.01
9A	Sheltered Tidal Flats	0.17
9B	Vegetated Low Banks	2.10
8B	Sheltered, Solid Man-Made Structures	
8C	Sheltered Riprap	
7	Exposed Tidal Flats	
6B	Riprap	
4	Coarse Grained Sand Beaches	
3A	Fine to Medium Grained Sand Beaches	
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	
1B	Exposed, Solid Man-Made Structures	

Total ESI Shoreline: 112,491.28 Total ESI Shoreline: 69.90
Total Shoreline: 53,419.66 Total Shoreline: 33.19

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

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

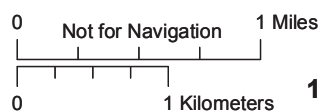




Map 6C
South Long Island



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



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Map 6C
South Long Island

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	S	F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
SAV	Submersed aquatic veg	High Ecological Value			Present												
Algae	Macroalgae	High Ecological Value			Present												

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
				S	F	Concentration													
				E/E	T	1-5 Pairs	J	F	M	A	M	J	J	A	S	O	N	D	
1	Shorebird	Piping plover	Nesting																
10	Gull/Tern	Least tern	Nesting	T/E		10-50 Pairs													
82	Gull/Tern	Common tern	Nesting	T/C		1-10 Pairs													
	Gull/Tern	Least tern	Nesting	T/E		50-100 Pairs													
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													
83	Gull/Tern	Least tern	Nesting	T/E		1-10 Pairs													

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N						
398	Diadromous	Alewife	Migration			-												-	-	Mar-May			
	Diadromous	Alewife	Nursery Area			-												-	Mar-May	Apr-Oct			
	Diadromous	American eel	Nursery Area			-												-	-	Jan-Dec			

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence														
							J	F	M	A	M	J	J	A	S	O	N	D			
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-												-	-	-	-
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-												-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
549	Snake	Northern black racer	Nesting			-											Jun-Jul	Aug-Sep	-	-	-		
	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active											-	-	-	Apr-Nov	Apr-Nov		
	Turtle	Eastern box turtle	Nesting	C/C		-											Jun-Jul	Apr-Nov*	-	-	Jun-Jul		
550	Turtle	Common snapping turtle	Nesting			-											Jun-Jul	Apr-Nov*	-	-	Jun-Jul		
565	Turtle	Spotted turtle	Nesting	C/C		-											Jun-Jul	Mar-Nov*	-	-	Jun-Jul		
567	Snake	Northern black racer	Nesting			-											Jun-Jul	Aug-Sep	-	-	-		
568	Amphibian	Fowler's toad	Nesting	-/C		-											Apr-Jun	May-Jul	-	-	Apr-Jun		
569	Turtle	Spotted turtle	General Distribution	C/C		Present And Active											-	-	-	Mar-Nov	Mar-Nov		

REPTILES & AMPHIBIANS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
570	Turtle	Common snapping turtle	Nesting			-												Jun-Jul	Apr-Nov*	-	-	Jun-Jul
	Turtle	Spotted turtle	Nesting		C/C	-												Jun-Jul	Mar-Nov*	-	-	Jun-Jul
571	Turtle	Eastern box turtle	Vulnerable Occurrence		C/C	Thermal Regulation												-	-	-	-	Jul-Sep
	Turtle	Spotted turtle	General Distribution		C/C	Present And Active												-	-	-	-	Mar-Nov

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
624	Crab	Horseshoe crab	Spawning Area			-												May-Jun	-	-	May-Jun	
625	Insect	Monarch butterfly	Migration			High												-	-	-	Aug-Oct	
641	Crab	Horseshoe crab	Spawning Area			High												May-Jun	May-Jul	-	-	May-Jun

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
	Waterfowl	American black duck	Wintering			1000S													-	-	-	-
		Brant	Wintering			1000S													-	-	-	-
		Mergansers	Wintering			1000S													-	-	-	-
		Scaup	Wintering			1000S													-	-	-	-
		Waterfowl	Migration			High													-	Mar-Apr	Oct-Nov	-
		Waterfowl	Wintering			10000S													-	-	-	-



FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
	Diadromous	Atlantic sturgeon	General Distribution	-/E	E	Low													-	-	-	Oct-Jun
		Atlantic sturgeon	Migration	-/E	E	High													-	-	-	May-Jul


REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	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	General Distribution	T/T	T	-													-	-	-	May-Nov
		K. ridley sea turtle	General Distribution	E/E	E	-													-	-	-	-
		Leatherback sea turtle	General Distribution	E/E	E	-													-	-	-	May-Nov
		Loggerhead sea turtle	General Distribution	T/E	T	-													-	-	-	May-Nov

INVERTEBRATES




Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
	Atlantic razor	Harvest Area			9 Bushels/Yr Avg													Apr-May	Apr-May	Jan-Dec	Jan-Dec
	Blue mussel	Harvest Area			28 Bushels/Yr Avg													Apr-Nov	Apr-Nov	Jan-Dec	Jan-Dec
	Eastern oyster	Harvest Area			7 Bushels/Yr Avg													Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			59 Bushels/Yr Avg													Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			3602 Bushels/Yr Avg													Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
	Softshell clam	Harvest Area			10 Bushels/Yr Avg													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Whelk	Harvest Area			-													Aug-Nov	-	Jan-Dec	Jan-Dec

MARINE MAMMALS


Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D			
	Fin whale	General Distribution	E/E	E	Common													-	-	-
	Humpback whale	General Distribution	E/E	E	Common													-	-	-
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular													-	-	-
	N.A. right whale	Migration	E/E	E	-													-	-	-

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													-	-	-	-
	G. black-backed gull													-	-	-	-
	Herring gull													-	-	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Common eider													-	-	-	-
	Long-tailed duck													-	-	-	-
	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					
	Alewife													-	-	-	Nov-Apr	Nov-Apr
	Alewife													-	-	-	Apr-Nov	Mar-Jun
	American eel													-	-	Jan-Feb	-	Sep-Dec
	American eel													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American shad													-	-	-	Apr-Jul	Apr-Jul
	American shad													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	May-Nov	Mar-Jul
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Striped bass													-	-	-	Apr-Nov	Mar-Nov

FISH (continued)

	Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			J	F	M	A	M	J	J	A	S	O	N	D					
🌿	Estuarine Nursery	Atlantic croaker													-	-	-	-	Jun-Dec
		Atlantic herring													-	-	-	Nov-May	Nov-May
		Atlantic herring													-	-	-	Nov-Apr	Nov-Apr
	Marine Benthic	Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
		Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
		Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
		Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
		Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
		Black sea bass													-	-	-	Apr-Nov	Apr-Nov
		Bluefish													-	-	-	May-Oct	Apr-Dec
🌊	Estuarine Resident	Bluefish												-	-	-	May-Nov	May-Nov	
		Northern kingfish													-	-	-	May-Nov	May-Nov
		Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Marine Benthic	Northern puffer													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
		Scup													-	-	-	Apr-Dec	Apr-Dec
		Scup													-	-	-	May-Nov	May-Nov
		Spot													-	-	-	Apr-Nov	Apr-Nov
		Spot													-	-	-	Sep-Nov	Jun-Nov
		Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
		Summer flounder													-	-	-	Apr-Oct	Apr-Oct
🐟	Marine Benthic	Weakfish												May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov	Apr-Nov
		Weakfish												Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov	Apr-Nov
		White perch													-	-	-	Jan-Dec	Jan-Dec
	Estuarine Resident	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
		Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
		Winter flounder													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
		Winter flounder													-	-	-	Jan-Dec	Jan-Dec
		Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
		Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
		Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
🐟	Marine Benthic	Northern pipefish												May-Aug	-	May-Oct	Jan-Dec	Jan-Dec	Jan-Dec
		American sand lance													-	-	-	-	Oct-Jun
		American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	Marine Benthic	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
		Atlantic cod													-	-	-	Nov-Apr	-
		Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
		Cleannose skate													-	-	-	Apr-Nov	Apr-Nov
		Goosefish													-	-	-	-	Jan-Jun
		Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
		Ocean pout													-	-	-	Dec-Aug	Dec-Aug
Marine Benthic	Pollock													-	-	-	Mar-Jun	-	
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec	
	Red hake													-	-	-	May-Oct	May-Oct	
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec	

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Winter skate													-	-	-	Sep-May	Sep-Nov
Marine Pelagic	Atlantic mackerel													-	-	-	Nov-Apr	-
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shorfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
Bivalve	Atlantic razor													Apr-May	Apr-May	Apr-May	Jan-Dec	Jan-Dec
	Atlantic surfclam													Jun-Oct*	Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec
	Blue mussel													Apr-Nov	Apr-Nov	Apr-Nov	Jan-Dec	Jan-Dec
	Eastern oyster													Jul-Aug	Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
Cephalopod	Longfin squid													-	-	-	-	Jan-Dec
Crab	Blue crab													-	-	Jun-Oct	-	Aug-Mar
	Blue crab													May-Oct	Jun-Oct	Jun-Oct	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Aug-Mar	Aug-Mar
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
	Channeled whelk													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec
	American lobster													-	-	-	Jan-Dec	Jan-Dec

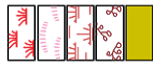
MARINE MAMMALS

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES



ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	167.62	0.26
10B	Freshwater Marshes	5.80	0.01
10C	Swamps	81.88	0.13
10D	Scrub and Shrub Wetlands	19.86	0.03
7	Exposed Tidal Flats	1,635.58	2.56

ESI SHORELINE HABITAT TYPES

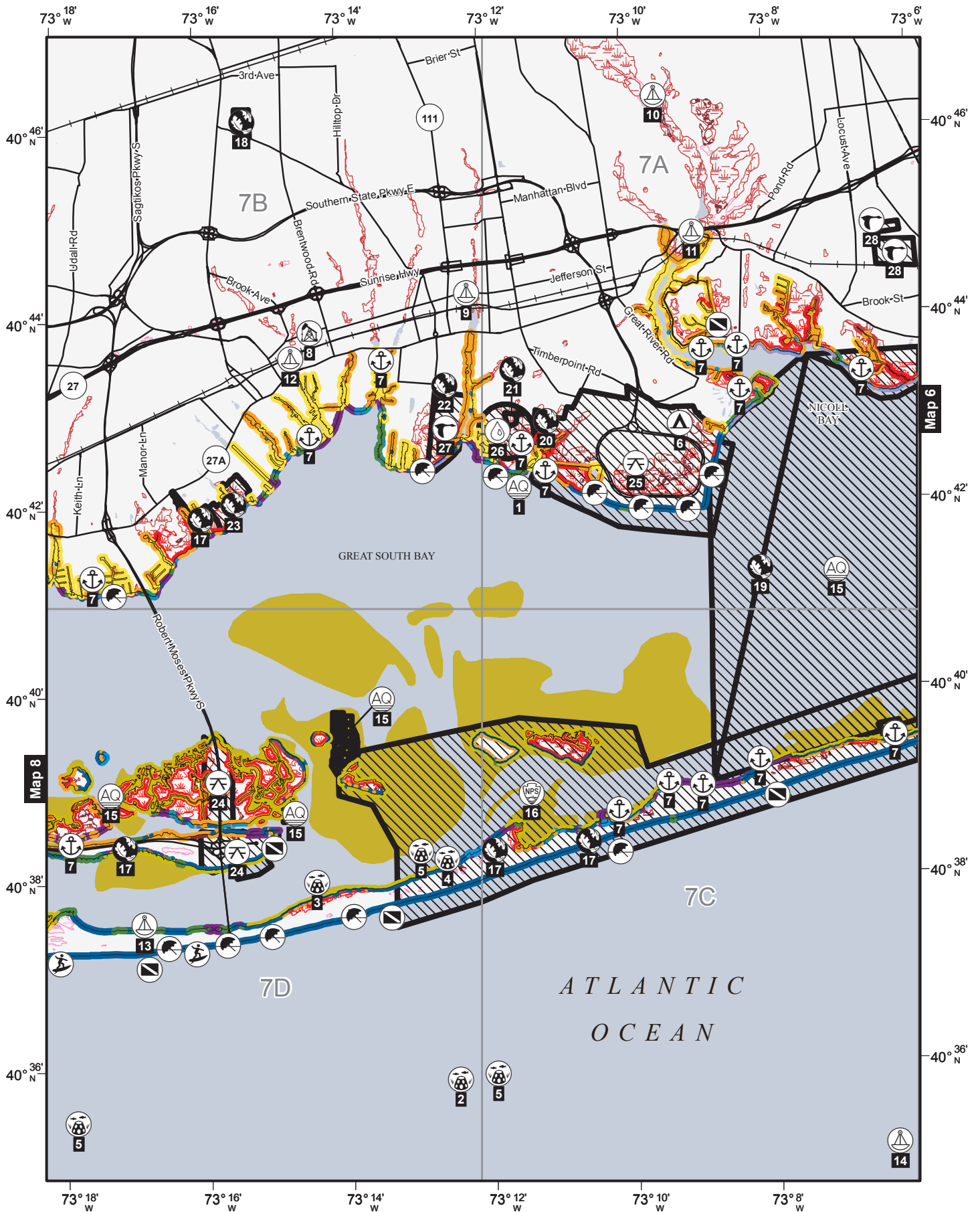
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	6,447.35	4.01	7%
10B	Freshwater Marshes	203.38	0.13	< 1%
10C	Swamps	55.96	0.03	< 1%
10D	Scrub and Shrub Wetlands	626.53	0.39	1%
9A	Sheltered Tidal Flats	177.44	0.11	< 1%
9B	Vegetated Low Banks	12,626.37	7.85	15%
8B	Sheltered, Solid Man-Made Structures	17,766.89	11.04	20%
8C	Sheltered Riprap	16.81	0.01	< 1%
7	Exposed Tidal Flats	10,230.92	6.36	12%
6A	Gravel Beaches	29.67	0.02	< 1%
6B	Riprap	2,756.75	1.71	3%
5	Mixed Sand and Gravel Beaches	17.70	0.01	< 1%
4	Coarse Grained Sand Beaches	5,520.80	3.43	6%
3A	Fine to Medium Grained Sand Beaches	14,978.50	9.31	17%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	1,407.00	0.87	2%
1B	Exposed, Solid Man-Made Structures	14,011.82	8.71	16%

Total ESI Shoreline: 86,873.90 Total ESI Shoreline: 53.98
Total Shoreline: 63,480.80 Total Shoreline: 39.45

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

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





Map 7
South Long Island



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

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 7
South Long Island

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	AQUACULTURE	GREAT ATLANTIC SHELLFISH FARMS	DOUGLAS A. WINTER	631-224-1100
2	ARTIFICIAL REEF	FIRE ISLAND REEF		
3	ARTIFICIAL REEF	FISHERMAN (YELLOWBAR)		
4	ARTIFICIAL REEF	KISMET REEF		
5	ARTIFICIAL REEF	ARTIFICIAL REEF		
6	CAMPGROUND	HECKSCHER STATE PARK CAMPGROUND		
7	MARINA	MARINA		
8	OIL FACILITY	FRANK BROS. FUEL CORP		
9	REPEATED MEASUREMENT SITE	CHAMPLIN CREEK AT ISLIP NY		
10	REPEATED MEASUREMENT SITE	CONNETQUOT BK NR CENTRAL ISLIP NY		
11	REPEATED MEASUREMENT SITE	CONNETQUOT RIVER NEAR OAKDALE NY		
12	REPEATED MEASUREMENT SITE	PENATAQUIT CREEK AT BAY SHORE NY		
13	REPEATED MEASUREMENT SITE	MUSSEL WATCH SITE - LIFI	MUSSEL WATCH PROJECT MANAGER	301-713-3028
14	REPEATED MEASUREMENT SITE	STATION 44094 - FIRE ISLAND NEARSHORE, NY - 207		228-688-2805

DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
15	AQUACULTURE	AQUACULTURE AREA	WADE CARDEN	
16	NATIONAL PARK	FIRE ISLAND NATIONAL SEASHORE		
17	NATURE CONSERVANCY	ATLANTIC OCEAN BEACHES		
18	NATURE CONSERVANCY	BISHOPS TRACT COUNTY PRESERVE		
19	NATURE CONSERVANCY	GREAT SOUTH BAY UNDERWATER LANDS (BLUEPOINTS)		
20	NATURE CONSERVANCY	HOLLINS PRESERVE		
21	NATURE CONSERVANCY	ORR PRESERVE		
22	NATURE CONSERVANCY	SEATUCK NATIONAL WILDLIFE REFUGE		
23	NATURE CONSERVANCY	THORNE PRESERVE		
24	STATE PARK	CAPTREE STATE PARK		
25	STATE PARK	HECKSCHER STATE PARK		
26	WATER INTAKE	WATER INTAKE AREA		
27	WILDLIFE REFUGE	SEATUCK NATIONAL WILDLIFE REFUGE		
28	WILDLIFE REFUGE	WERTHEIM NATIONAL WILDLIFE REFUGE		

ALSO PRESENT IN MAPPED AREA (POINTS)			
Type	Name	Contact	Phone
COAST GUARD	COAST GUARD STATION FIRE ISLAND	COMMANDING OFFICER	631-661-9101

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	EFH AREA	CHRIS BRUCE	434-951-0565
ESSENTIAL HABITAT	IMPORTANT BIRD AREA	IMPORTANT BIRD AREAS PROGRAM COORDINATOR	607-254-2437
ESSENTIAL HABITAT	SIGNIFICANT COASTAL HABITAT	NYS DEPARTMENT OF STATE COORDINATOR	518-474-6000

JURISDICTIONS

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

FEMA: REGION II
EPA: REGION 2

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,934.48	3.02
10B	Freshwater Marshes	132.77	0.21
10C	Swamps	1,582.23	2.47
10D	Scrub and Shrub Wetlands	185.71	0.29
9A	Sheltered Tidal Flats	17.36	0.03
7	Exposed Tidal Flats	6,830.81	10.67

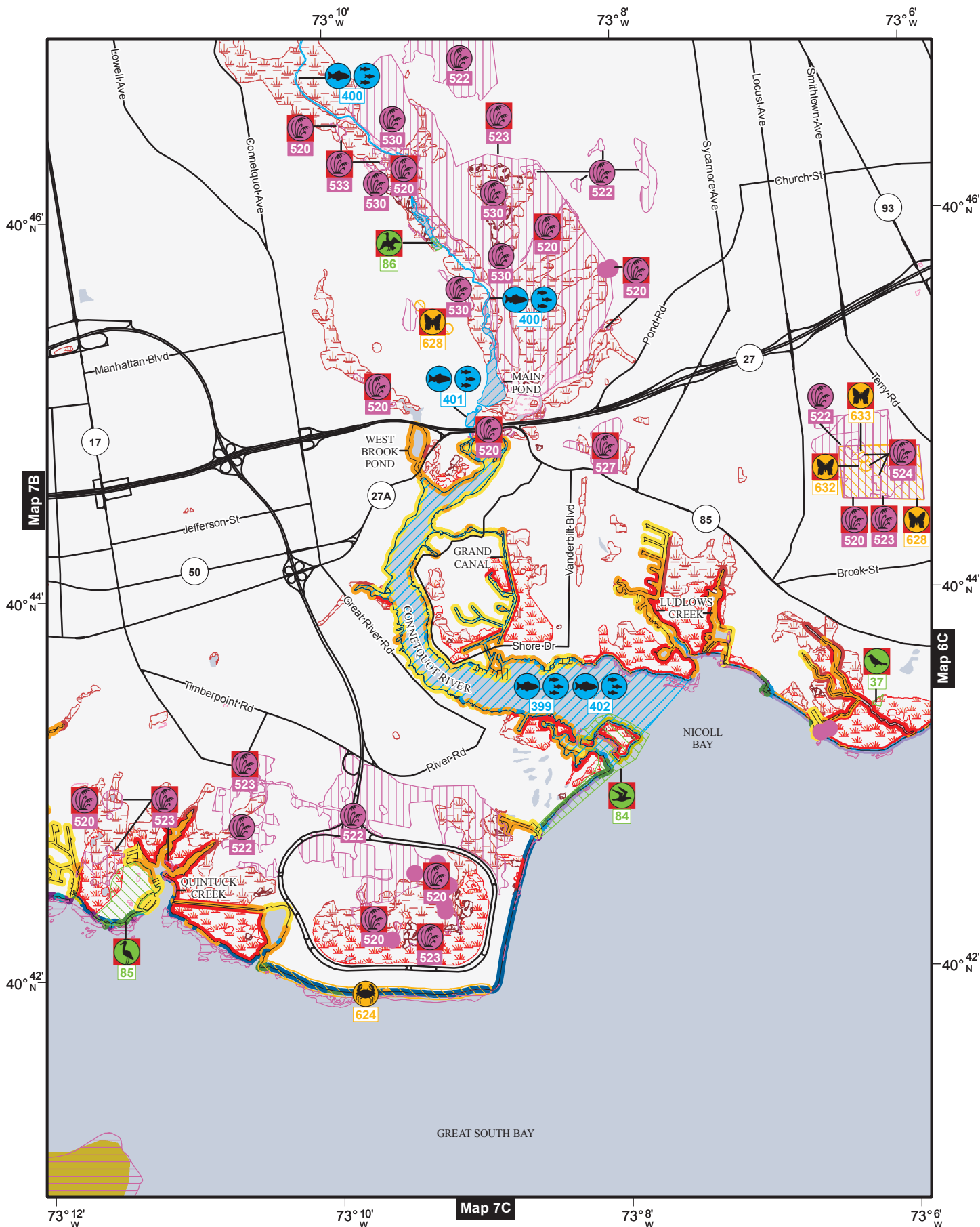
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	96,114.19	59.72	20%
10B	Freshwater Marshes	182.36	0.11	< 1%
10C	Swamps	6,114.57	3.80	1%
10D	Scrub and Shrub Wetlands	2,743.90	1.70	1%
9A	Sheltered Tidal Flats	6,818.56	4.24	1%
9B	Vegetated Low Banks	117,727.92	73.15	24%
8B	Sheltered, Solid Man-Made Structures	74,927.24	46.56	15%
8C	Sheltered Riprap	629.71	0.39	< 1%
7	Exposed Tidal Flats	79,230.75	49.23	16%
6A	Gravel Beaches	208.09	0.13	< 1%
6B	Riprap	7,557.98	4.70	2%
5	Mixed Sand and Gravel Beaches	756.70	0.47	< 1%
4	Coarse Grained Sand Beaches	10,515.37	6.53	2%
3A	Fine to Medium Grained Sand Beaches	50,487.03	31.37	10%
3B	Scarps and Steep Slopes (Sand)	512.50	0.32	< 1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	4,821.18	3.00	1%
1B	Exposed, Solid Man-Made Structures	24,768.79	15.39	5%
Total ESI Shoreline:		484,116.85	300.82	
Total Shoreline:		276,436.09	171.77	

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

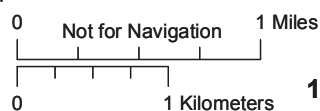




Map 7A
South Long Island



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



1:50,000



Map 7A
South Long Island

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	S	F	Concentration	Monthly Presence											
SAV	Submersed aquatic veg	High Ecological Value			Present	J	F	M	A	M	J	J	A	S	O	N	D

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
37	Passerine	Seaside sparrow	Nesting	C/-		-												
84	Gull/Tern	Black skimmer	Nesting	C/E		10-50 Pairs												
		Common tern	Nesting	T/C		10-50 Pairs												
		Least tern	Nesting	T/E		10-50 Pairs												
85	Wading	Glossy ibis	Nesting	-/C		1-10 Pairs												
86	Diving	Pied-billed grebe	Nesting	T/E		-												

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
399	Diadromous	American eel	Nursery Area			-												
	Estuarine Nursery	White perch	Nursery Area			-												
400	Diadromous	American eel	Nursery Area			-												
	Diadromous	Brown trout	Harvest Area			-												
	Diadromous	Rainbow trout	Harvest Area			-												
	Estuarine Nursery	White perch	Nursery Area			-												
	Estuarine Nursery	White perch	Spawning Area			-												
	Freshwater	Brook trout	Harvest Area			-												
	Freshwater	Brook trout	Nursery Area			-												
	Freshwater	Brook trout	Spawning Area			-												
401	Diadromous	Brown trout	Harvest Area			-												
	Diadromous	Rainbow trout	Harvest Area			-												
	Estuarine Nursery	White perch	Spawning Area			-												
	Freshwater	Brook trout	Harvest Area			-												
	Freshwater	Brook trout	Nursery Area			-												
	Freshwater	Brook trout	Spawning Area			-												
402	Diadromous	Striped bass	Nursery Area			-												
	Estuarine Nursery	Bluefish	Nursery Area			-												

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
520	Plant	Endangered plant	Vulnerable Occurrence	E/E	-	-													-	-	-	-
522	Upland	Rare upland community	Vulnerable Occurrence		-	-													-	-	-	-
523	Plant	Threatened plant	Vulnerable Occurrence	T/-	-	-													-	-	-	-
524	Upland	Sandplain gerardia	Vulnerable Occurrence	E/-	E	-													-	-	-	-
527	Plant	Endangered plant	Vulnerable Occurrence	E/E	-	-													-	-	-	-
	Plant	Threatened plant	Vulnerable Occurrence	T/-	-	-													-	-	-	-
530	Wetland	Rare wetland community	Vulnerable Occurrence		-	-													-	-	-	-
533	Plant	Endangered plant	Vulnerable Occurrence	E/E	-	-													-	-	-	-
	Wetland	Rare wetland community	Vulnerable Occurrence		-	-													-	-	-	-

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
624	Crab	Horseshoe crab	Spawning Area		-	-													May-Jun	May-Jul	-	-	May-Jun
628	Insect	C. barrens buckmoth	Vulnerable Occurrence	C/-	-	-													Oct	Oct-Jun	May-Jul	Jan-Dec	Oct
632	Insect	Frosted elfin	Vulnerable Occurrence	T/-	-	-													Apr-May	Apr-May	May-Jun	Jan-Dec	Apr-May
633	Insect	Pine Barrens underwing	Vulnerable Occurrence	C/-	-	-													Jul	Jul-May	Apr-Jun	-	Jul

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
	Waterfowl	American black duck	Wintering			1000S													-	-	-	-
		Brant	Wintering			1000S													-	-	-	-
		Mergansers	Wintering			1000S													-	-	-	-
		Scaup	Wintering			10000S													-	-	-	-
		Scaup	Wintering			1000S													-	-	-	-
		Waterfowl	Migration			High													-	Mar-Apr	Oct-Nov	-
		Waterfowl	Wintering			10000S													-	-	-	-
		Waterfowl	Wintering			High													-	-	-	-

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults	
						J	F	M	A	M	J	J	A	S	O	N	D						
	Eastern oyster	Harvest Area			382 Bushels/Yr Avg													Jul-Aug	Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec	
	Northern quahog	Harvest Area			6 Bushels/Yr Avg													Jun-Aug	Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec	
	Northern quahog	Harvest Area			59 Bushels/Yr Avg													Jun-Aug	Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec	
ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)																							

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
Diadromous	Alewife													-	-	-	Apr-Nov	Mar-Jun
	American eel													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American shad													-	-	-	Apr-Nov	Apr-Jul
	Blueback herring													-	-	-	May-Nov	Mar-Jul
	Striped bass													-	-	-	Apr-Nov	Mar-Nov
Estuarine Nursery	Atlantic herring													-	-	-	Nov-Apr	Nov-Apr
	Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
	Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													-	-	-	Apr-Nov	Apr-Nov
	Bluefish													-	-	-	May-Oct	Apr-Dec
	Northern kingfish													-	-	-	May-Nov	May-Nov
	Northern puffer													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Scup													-	-	-	May-Nov	May-Nov
	Spot													-	-	-	Apr-Nov	Apr-Nov
	Summer flounder													-	-	-	Apr-Oct	Apr-Oct
Estuarine Resident	Weakfish													May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
	White perch													-	-	-	Jan-Dec	Jan-Dec
	White perch													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Winter flounder													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	Atlantic cod													-	-	-	Nov-Apr	-
Marine Benthic	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Pollock													-	-	-	Mar-Jun	-
	Red hake													-	-	-	May-Oct	May-Oct
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Mar-Dec
Marine Pelagic	Atlantic mackerel													-	-	-	Nov-Apr	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct

REPTILES & AMPHIBIANS

Subelement	Species	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
Turtle	N. diamondback terrapin													-	-	-	Apr-Nov	Apr-Nov

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
Bivalve	Atlantic razor													Apr-May	Apr-May	Apr-May	Jan-Dec	Jan-Dec
	Bay scallop													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Blue mussel													Apr-Nov	Apr-Nov	Apr-Nov	Jan-Dec	Jan-Dec
	Eastern oyster													Jul-Aug	Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
Crab	Softshell clam													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Blue crab													May-Oct	Jun-Oct	Jun-Oct	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
Gastropod	Channeled whelk													Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	758.81	1.19
10B	Freshwater Marshes	50.70	0.08
10C	Swamps	1,198.87	1.87
10D	Scrub and Shrub Wetlands	81.95	0.13
7	Exposed Tidal Flats	100.98	0.16

ESI SHORELINE HABITAT TYPES

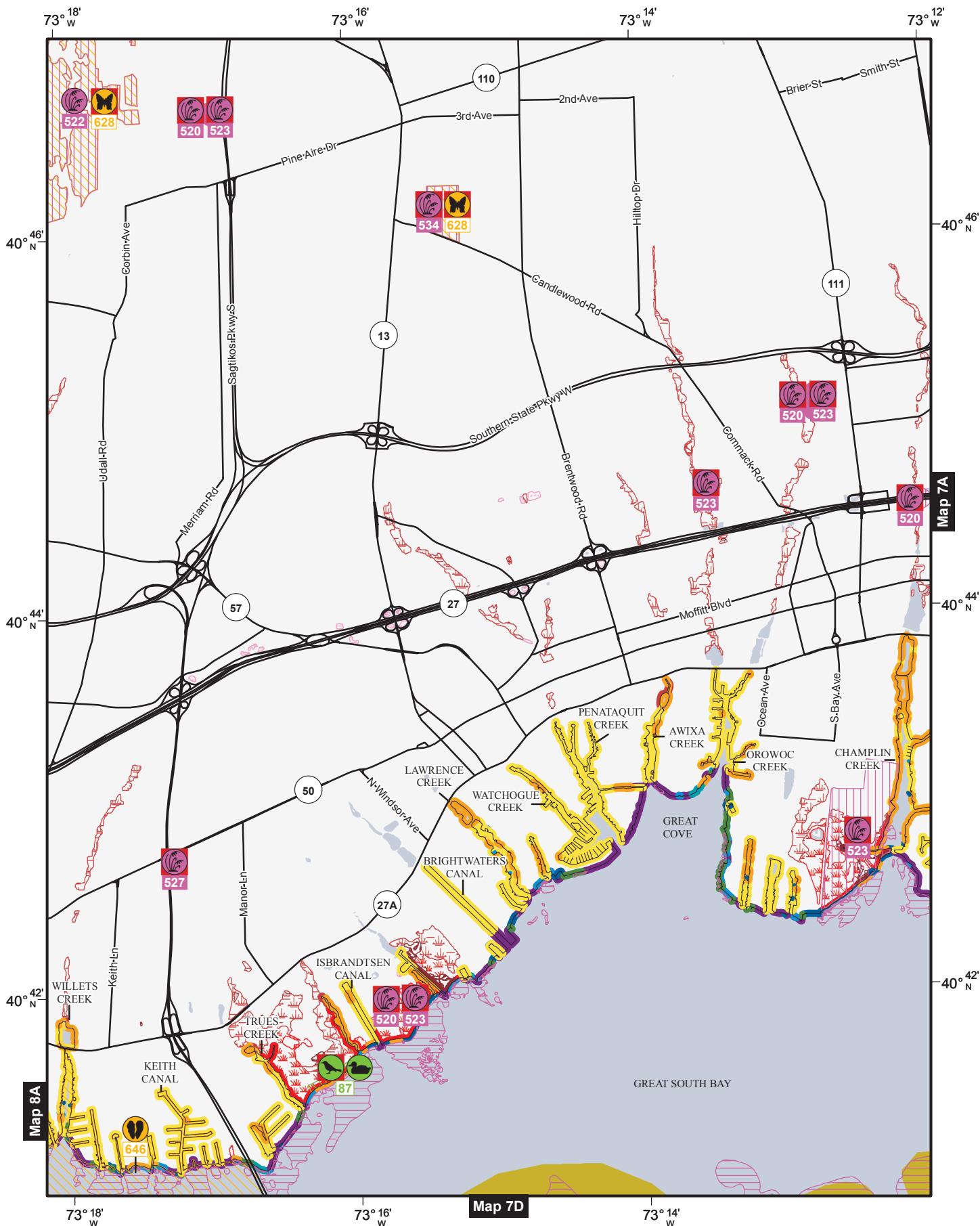
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	25,890.37	16.09	24%
10C	Swamps	3,828.93	2.38	3%
10D	Scrub and Shrub Wetlands	143.16	0.09	< 1%
9B	Vegetated Low Banks	34,521.19	21.45	31%
8B	Sheltered, Solid Man-Made Structures	25,852.89	16.06	24%
8C	Sheltered Riprap	159.03	0.10	< 1%
7	Exposed Tidal Flats	1,556.31	0.97	1%
6B	Riprap	1,728.48	1.07	2%
5	Mixed Sand and Gravel Beaches	171.79	0.11	< 1%
4	Coarse Grained Sand Beaches	5,148.75	3.20	5%
3A	Fine to Medium Grained Sand Beaches	5,624.25	3.49	5%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	4,367.79	2.71	4%
1B	Exposed, Solid Man-Made Structures	688.39	0.43	1%

Total ESI Shoreline: 109,681.33 Total ESI Shoreline: 68.15
 Total Shoreline: 71,406.35 Total Shoreline: 44.37

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

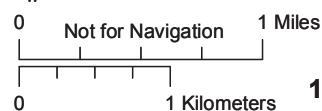




Map 7B
South Long Island



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



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Map 7B
South Long Island

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	S	F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
SAV	Submersed aquatic veg	High Ecological Value			Present												
Algae	Macroalgae	High Ecological Value			Present												

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
87	Passerine	Seaside sparrow	Nesting	C/-	-													
	Waterfowl	Waterfowl	Wintering		10000S													

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
520	Plant	Endangered plant	Vulnerable Occurrence	E/E	-													
522	Upland	Rare upland community	Vulnerable Occurrence		-													
523	Plant	Threatened plant	Vulnerable Occurrence	T/-	-													
527	Plant	Endangered plant	Vulnerable Occurrence	E/E	-													
	Plant	Threatened plant	Vulnerable Occurrence	T/-	-													
534	Plant	Threatened plant	Vulnerable Occurrence	T/-	-													
	Upland	Rare upland community	Vulnerable Occurrence		-													

INVERTEBRATES


Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
628	Insect	C. barrens buckmoth	Vulnerable Occurrence	C/-	-													
646	Bivalve	Northern quahog	Harvest Area		4068 Bushels/Yr Avg													
	Bivalve	Softshell clam	Harvest Area		30 Bushels/Yr Avg													

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
Waterfowl	Brant	Wintering			1000S												
	Scaup	Wintering			10000S												
	Waterfowl	Wintering			High												

REPTILES & AMPHIBIANS





Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
						T/T	T	E	E	E	E	E	E	E	E	E	E					
	Green sea turtle	General Distribution			-													-	-	-	May-Nov	May-Nov
	K. ridley sea turtle	General Distribution			-													-	-	-	May-Nov	-
	Leatherback sea turtle	General Distribution			-													-	-	-	May-Nov	May-Nov
	Loggerhead sea turtle	General Distribution			-													-	-	-	May-Nov	May-Nov

INVERTEBRATES

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						T/T	T	E	E	E	E	E	E	E	E	E	E					
	Eastern oyster	Harvest Area			382 Bushels/Yr Avg													Jul-Aug	Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			6 Bushels/Yr Avg													Jun-Aug	Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec


ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						T/T	T	E	E	E	E	E	E	E	E	E	E					
	Alewife																	-	-	-	Apr-Nov	Mar-Jun
	American eel																	-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American shad																	-	-	-	Apr-Nov	Apr-Jul
	Blueback herring																	-	-	-	May-Nov	Mar-Jul
	Striped bass																	-	-	-	Apr-Nov	Mar-Nov
	Atlantic herring																	-	-	-	Nov-Apr	Nov-Apr
	Atlantic menhaden																	-	-	-	Apr-Nov	Mar-Nov
	Bay anchovy																	May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass																	-	-	-	Apr-Nov	Apr-Nov
	Bluefish																	-	-	-	May-Oct	Apr-Dec
	Northern kingfish																	-	-	-	May-Nov	May-Nov
	Northern puffer																	May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Scup																	-	-	-	May-Nov	May-Nov
	Spot																	-	-	-	Apr-Nov	Apr-Nov
	Summer flounder																	-	-	-	Apr-Oct	Apr-Oct
	Weakfish																	May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
	White perch																	Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane																	Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Winter flounder																	Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside																	May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Killifish																	May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish																	May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	American sand lance																	Nov-Feb	Nov-Feb	Dec-Jun	Nov-May	Nov-May
	Atlantic cod																	-	-	-	Nov-Apr	-
	Atlantic tomcod																	-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Pollock																	-	-	-	Mar-Jun	-
	Red hake																	-	-	-	May-Oct	May-Oct
	Smooth dogfish																	May-Jun	May-Oct	-	Apr-Oct	Apr-Oct

South Long Island: Map 7B



FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Marine Pelagic													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Mar-Dec
	Atlantic mackerel													-	-	-	Nov-Apr	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bay scallop													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Blue mussel													Apr-Nov	Apr-Nov	Apr-Nov	Jan-Dec	Jan-Dec
	Blue crab													May-Oct	Jun-Oct	Jun-Oct	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	217.55	0.34
10B	Freshwater Marshes	10.72	0.02
10C	Swamps	328.87	0.51
10D	Scrub and Shrub Wetlands	22.26	0.03
7	Exposed Tidal Flats	157.46	0.25

ESI SHORELINE HABITAT TYPES

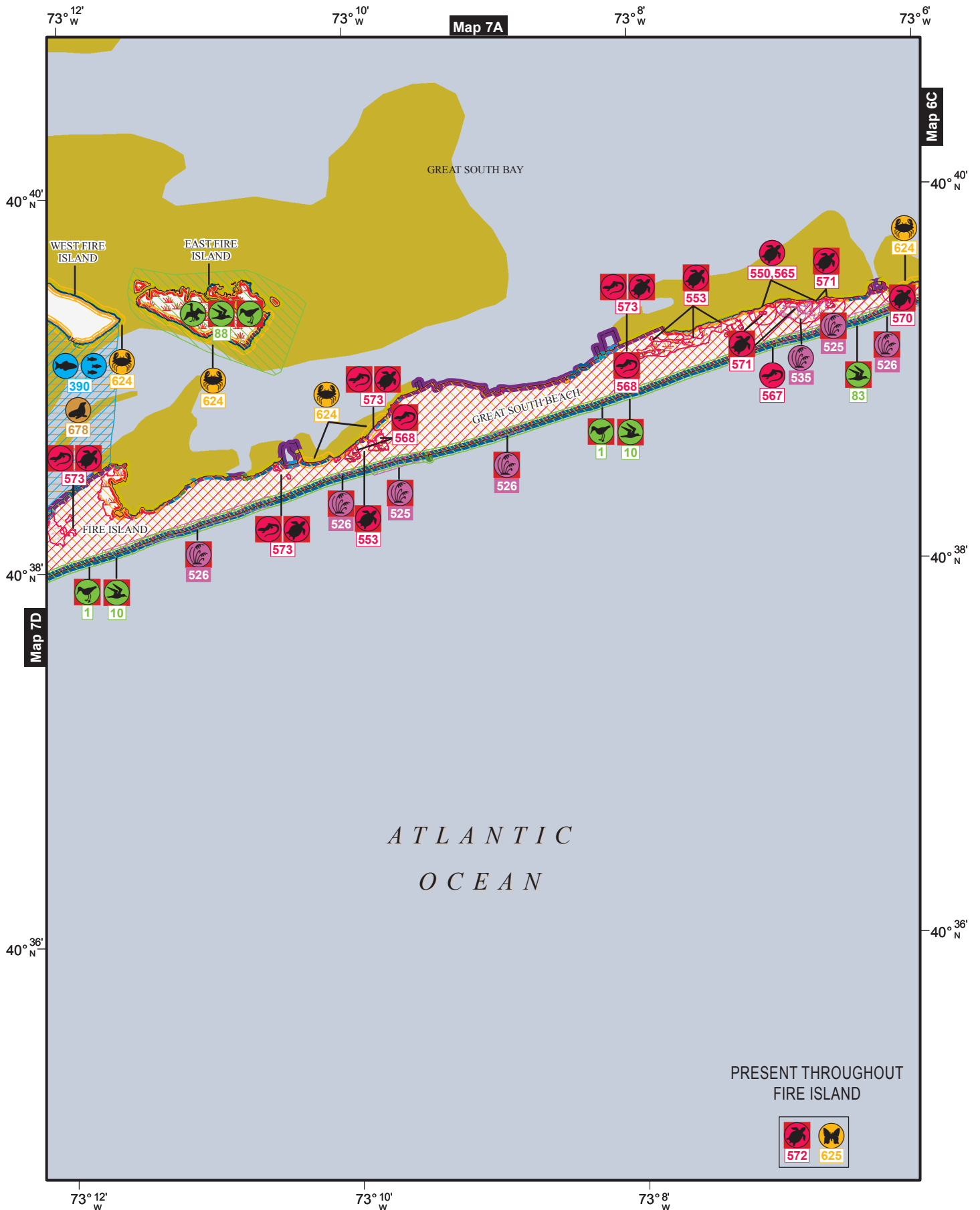
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	6,293.58	3.91	7%
10C	Swamps	968.74	0.60	1%
10D	Scrub and Shrub Wetlands	1,207.12	0.75	1%
9A	Sheltered Tidal Flats	664.80	0.41	1%
9B	Vegetated Low Banks	14,170.25	8.81	16%
8B	Sheltered, Solid Man-Made Structures	49,078.39	30.50	55%
8C	Sheltered Riprap	284.48	0.18	< 1%
6B	Riprap	955.86	0.59	1%
5	Mixed Sand and Gravel Beaches	355.13	0.22	< 1%
4	Coarse Grained Sand Beaches	2,496.52	1.55	3%
3A	Fine to Medium Grained Sand Beaches	2,989.53	1.86	3%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	452.92	0.28	1%
1B	Exposed, Solid Man-Made Structures	9,276.43	5.76	10%

Total ESI Shoreline: 89,193.76 Total ESI Shoreline: 55.42
Total Shoreline: 77,912.07 Total Shoreline: 48.41

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 7C
South Long Island



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

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 7C
South Long Island

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	S	F	Concentration	Monthly Presence											
Algae	Macroalgae	High Ecological Value			Present	J	F	M	A	M	J	J	A	S	O	N	D

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
1	Shorebird	Piping plover	Nesting	E/E	T	1-5 Pairs	J	F	M	A	M	J	J	A	S	O	N	D
10	Gull/Tern	Least tern	Nesting	T/E		10-50 Pairs												
83	Gull/Tern	Least tern	Nesting	T/E		1-10 Pairs												
88	Diving	D. crested cormorant	Nesting			50-100 Pairs												
	Gull/Tern	Black skimmer	Nesting	C/E		50-100 Pairs												
	Gull/Tern	Common tern	Nesting	T/C		100-500 Pairs												
	Gull/Tern	Laughing gull	Nesting			10 Pairs												
	Gull/Tern	Least tern	Nesting	T/E		10-50 Pairs												
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs												

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
390	Diadromous	Striped bass	Concentration Area			High	J	F	M	A	M	J	J	A	S	O	N	D
	Estuarine Nursery	Black sea bass	Concentration Area			High												
	Estuarine Nursery	Bluefish	Concentration Area			High												
	Marine Benthic	American sand lance	Concentration Area			High												
	Marine Benthic	Tautog	Concentration Area			High												

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-	J	F	M	A	M	J	J	A	S	O	N	D
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-												
535	Wetland	Maritime holly forest	Vulnerable Occurrence			-												

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
550	Turtle	Common snapping turtle	Nesting			-	J	F	M	A	M	J	J	A	S	O	N	D
553	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Thermal Regulation												
565	Turtle	Spotted turtle	Nesting	C/C		-												

South Long Island: Map 7C

REPTILES & AMPHIBIANS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
567	Snake	Northern black racer	Nesting			-													Jun-Jul	Aug-Sep	-	-	-
568	Amphibian	Fowler's toad	Nesting	-/C		-													Apr-Jun	May-Jul	-	-	Apr-Jun
570	Turtle	Common snapping turtle	Nesting			-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
571	Turtle	Spotted turtle	Nesting	C/C		-													Jun-Jul	Mar-Nov*	-	-	Jun-Jul
571	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Thermal Regulation													-	-	-	-	Jul-Sep
572	Turtle	Spotted turtle	General Distribution	C/C		Present And Active													-	-	-	Mar-Nov	Mar-Nov
572	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active													-	-	-	Apr-Nov	Apr-Nov
573	Amphibian	Eastern box turtle	Nesting	C/C		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
573	Amphibian	Fowler's toad	Nesting	-/C		-													Apr-Jun	May-Jul	-	-	Apr-Jun
	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Thermal Regulation													-	-	-	-	Jul-Sep

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
624	Crab	Horseshoe crab	Spawning Area			-													May-Jun	May-Jul	-	-	May-Jun
625	Insect	Monarch butterfly	Migration			High													-	-	-	-	Aug-Oct

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
678	Pinniped	Seals	Concentration Area			High													-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BENTHIC

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mig.(S)	Mig.(F)	Molt	
						J	F	M	A	M	J	J	A	S	O	N	D				
SAV	Submersed aquatic veg	High Ecological Value			Present														-	-	-


BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
 Waterfowl	American black duck	Wintering			1000S												-	-	-		
	Brant	Wintering			1000S												-	-	-		
	Mergansers	Wintering			1000S												-	-	-		
	Scaup	Wintering			1000S												-	-	-		
	Scaup	Wintering			10000S												-	-	-		
	Waterfowl	Migration			High												Mar-Apr	Oct-Nov	-		
	Waterfowl	Wintering			High												-	-	-		
	Waterfowl	Wintering			10000S												-	-	-		



FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic sturgeon	General Distribution	-/E	E	Present													-	-	-	Jan-Dec	Oct-Jun
	Atlantic sturgeon	General Distribution	-/E	E	Low													-	-	-	Jan-Dec	Oct-Jun
	Atlantic sturgeon	Migration	-/E	E	High													-	-	-	May-Jul	May-Jul


REPTILES & AMPHIBIANS

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

INVERTEBRATES




Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Eastern oyster	Harvest Area			382 Bushels/Yr Avg													Jul-Aug	Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			6 Bushels/Yr Avg													Jun-Aug	Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			59 Bushels/Yr Avg													Jun-Aug	Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
	Whelk	Harvest Area			-													Jun-Jul	Aug-Nov	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Fin whale	General Distribution	E/E	E	Common													-	-	-	-
	Humpback whale	General Distribution	E/E	E	Common													-	-	-	-
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular													-	-	-	-
	N.A. right whale	Migration	E/E	E	-													-	-	-	-




ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS


Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Razorbill																	-	-	-	-
	G. black-backed gull																	-	-	-	-
	Herring gull																	-	-	-	-
	Northern gannet																	-	-	-	-
	Wilson's storm-petrel																	-	-	-	-
	Common eider																	-	-	-	-
	Long-tailed duck																	-	-	-	-
	Surf scoter																	-	-	-	-
	White-winged scoter																	-	-	-	-

FISH

Monthly Presence

Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Diadromous	Alewife												-	-	-	Nov-Apr	Nov-Apr
		Alewife												-	-	-	Apr-Nov	Mar-Jun
		American eel												-	-	Jan-Feb	-	Sep-Dec
		American eel												-	-	Apr-Aug	Jan-Dec	Sep-Nov
		American shad												-	-	-	Nov-Apr	Nov-Apr
		American shad												-	-	-	Apr-Jul	Apr-Jul
		Blueback herring												-	-	-	May-Nov	Mar-Jul
		Blueback herring												-	-	-	Nov-Apr	Nov-Apr
		Striped bass												-	-	-	Mar-Nov	Mar-Nov
		Striped bass												-	-	-	Apr-Nov	Mar-Nov
	Estuarine Nursery	Atlantic croaker												-	-	-	-	Jun-Dec
		Atlantic herring												-	-	-	Nov-May	Nov-May
		Atlantic herring												-	-	-	Nov-Apr	Nov-Apr
		Atlantic menhaden												-	-	-	Apr-Nov	Mar-Nov
		Atlantic menhaden												Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
		Bay anchovy												May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
		Bay anchovy												May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
		Black sea bass												May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
		Black sea bass												-	-	-	Apr-Nov	Apr-Nov
		Bluefish												-	-	-	May-Oct	Apr-Dec
		Bluefish												-	-	-	May-Nov	May-Nov
		Northern kingfish												-	-	-	May-Nov	May-Nov
		Northern kingfish												-	-	-	Jun-Nov	Jun-Nov
		Northern puffer												May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
		Scup												-	-	-	May-Nov	May-Nov
		Scup												-	-	-	Apr-Dec	Apr-Dec
		Spot												-	-	-	Apr-Nov	Apr-Nov
		Spot												-	-	-	Sep-Nov	Jun-Nov
		Summer flounder												Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
		Summer flounder												-	-	-	Apr-Oct	Apr-Oct
		Weakfish												Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
		Weakfish												May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
		White perch												-	-	-	Jan-Dec	Jan-Dec
		White perch												Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
		Windowpane												Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
		Windowpane												Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
		Winter flounder												-	-	-	Jan-Dec	Jan-Dec
		Winter flounder												Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
		Atlantic silverside												-	-	-	Jan-Apr	Jan-Apr
		Atlantic silverside												May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	American sand lance													-	-	-	-	Oct-Jun

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Cleannose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Little skate													-	-	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Pollock													-	-	-	Mar-Jun	-
	Red hake													-	-	-	May-Oct	May-Oct
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Atlantic mackerel													-	-	-	Nov-Apr	-
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-
	White shark													-	-	-	Jul-Oct	-

REPTILES & AMPHIBIANS

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

INVERTEBRATES

<div><div></div></div>	Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			J	F	M	A	M	J	J	A	S	O	N	D					
<div><div></div></div>	Bivalve	Atlantic razor												Apr-May	Apr-May	Apr-May	Jan-Dec	Jan-Dec	
		Atlantic surfclam													Jun-Oct*	Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec
		Bay scallop													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Blue mussel													Apr-Nov	Apr-Nov	Apr-Nov	Jan-Dec	Jan-Dec	
	Eastern oyster													Jul-Aug	Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec	
	Ocean quahog													Jul-Nov	Jul-Nov	Jul-Dec	Jan-Dec	Jan-Dec	
<div><div></div></div>	Cephalopod	Softshell clam												Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec	
		Longfin squid													-	-	-	Jan-Dec	Jan-Dec
		Blue crab													-	-	Jun-Oct	-	Aug-Mar
	Crab	Blue crab													May-Oct	Jun-Oct	Jun-Oct	Jan-Dec	Jan-Dec
		Horseshoe crab													-	-	-	Aug-Mar	Aug-Mar
		Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
<div><div></div></div>	Gastropod	Channeled whelk												Jun-Jul	Aug-Oct	-	Jan-Dec	Jan-Dec	
	Lobster	American lobster												-	-	-	Jan-Dec	Jan-Dec	

MARINE MAMMALS

<div></div> Subelement	Species	Monthly Presence												Mating	Calving	Pupping	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				
Dolphin	Bottlenose dolphin													-	-	-	-
	Harbor porpoise													-	-	-	-

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	152.86	0.24
10B	Freshwater Marshes	17.46	0.03
10C	Swamps	19.70	0.03
10D	Scrub and Shrub Wetlands	12.87	0.02
9A	Sheltered Tidal Flats	1.04	0.00
7	Exposed Tidal Flats	2,604.37	4.07

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	9,198.37	5.72	15%
10B	Freshwater Marshes	182.36	0.11	< 1%
10C	Swamps	21.87	0.01	< 1%
10D	Scrub and Shrub Wetlands	370.74	0.23	1%
9A	Sheltered Tidal Flats	326.73	0.20	1%
9B	Vegetated Low Banks	9,703.12	6.03	16%
7	Exposed Tidal Flats	16,634.53	10.34	27%
6B	Riprap	334.96	0.21	1%
5	Mixed Sand and Gravel Beaches	76.36	0.05	< 1%
4	Coarse Grained Sand Beaches	1,482.43	0.92	2%
3A	Fine to Medium Grained Sand Beaches	15,617.74	9.70	25%
1B	Exposed, Solid Man-Made Structures	7,746.66	4.81	13%

Total ESI Shoreline: 61,695.87 Total ESI Shoreline: 38.34
 Total Shoreline: 31,880.25 Total Shoreline: 19.81

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 7D
South Long Island

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	S	F	Concentration	Monthly Presence											
Algae	Macroalgae	High Ecological Value			Present	J	F	M	A	M	J	J	A	S	O	N	D

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
1	Shorebird	Piping plover	Nesting	E/E	T	1-5 Pairs													Apr-Aug	-	-	-
10	Gull/Tern	Least tern	Nesting	T/E		10-50 Pairs													May-Sep	-	-	-
89	Gull/Tern	Common tern	Nesting	T/C		50-100 Pairs													May-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		10-50 Pairs													May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													Apr-Aug	-	-	-
90	Diving	D. crested cormorant	Nesting			5-50 Pairs													Jun-Sep	-	-	-
	Gull/Tern	Black skimmer	Nesting	C/E		1-10 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		50-100 Pairs													May-Sep	-	-	-
	Gull/Tern	Herring gull	Nesting			50-100 Pairs													Apr-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		1-10 Pairs													May-Sep	-	-	-
	Gull/Tern	Roseate tern	Nesting	E/E	E	1-10 Pairs													May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
91	Gull/Tern	Black skimmer	Nesting	C/E		1-10 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		50-100 Pairs													May-Sep	-	-	-
	Gull/Tern	Herring gull	Nesting			50-100 Pairs													Apr-Sep	-	-	-
	Raptor	Endangered raptor 1	Nesting	E/E		1 Pair													Mar-Jul	-	-	-
	Raptor	Peregrine falcon	Migration	E/-		High													-	Mar-Apr	Sep-Nov	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
92	Gull/Tern	G. black-backed gull	Nesting			50-100 Pairs													Apr-Jul	-	-	-
	Gull/Tern	Herring gull	Nesting			100-500 Pairs													Apr-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Wading	BC night-heron	Nesting	-/T		10-50 Pairs													Apr-Aug	-	-	-
	Wading	Glossy ibis	Nesting	-/C		1-10 Pairs													Apr-Aug	-	-	-
	Wading	Great egret	Nesting			10-50 Pairs													Apr-Aug	-	-	-
	Wading	Little blue heron	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Wading	Snowy egret	Nesting	-/C		1-10 Pairs													Apr-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
93	Gull/Tern	Common tern	Migration	T/C		100S													-	-	Aug-Sep	-
	Gull/Tern	Roseate tern	Migration	E/E	E	10S													-	May	Aug-Sep	-

South Long Island: Map 7D

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
	Shorebird	American oystercatcher	Migration	-/C		1S													-	-	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	1S													-	-	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	1S													-	-	Apr-May	-
	Shorebird	Sanderling	Migration	-/C		100S													-	-	Apr-May	-
94	Passerine	Seaside sparrow	Nesting	C/-		-													May-Aug	-	-	-
	Raptor	Northern harrier	Nesting	T/E		-													Apr-Aug	-	-	-
	Raptor	Short-eared owl	Nesting	E/E		-													Apr-Jul	-	-	-
	Wading	Black rail	Nesting	E/E		-													Jun-Jul	-	-	-
	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
95	Shorebird	Piping plover	Migration	E/E	T	10S													-	-	Aug-Sep	-
	Shorebird	Sanderling	Migration	-/C		100S													-	-	Aug-Sep	-
96	Gull/Tern	Common tern	Nesting	T/C		1-10 Pairs													May-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		1-10 Pairs													May-Sep	-	-	-
97	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
403	Diadromous	Atlantic sturgeon	General Distribution	-/E	E	Present													-	-	-	Jan-Dec	Oct-Jun

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
520	Plant	Endangered plant	Vulnerable Occurrence	E/E		-													-	-	-	-	-
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-													-	-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
550	Turtle	Common snapping turtle	Nesting			-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
553	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Thermal Regulation													-	-	-	-	Jul-Sep
567	Snake	Northern black racer	Nesting			-													Jun-Jul	Aug-Sep	-	-	-
568	Amphibian	Fowler's toad	Nesting	-/C		-													Apr-Jun	May-Jul	-	-	Apr-Jun
572	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active													-	-	-	-	Apr-Nov
	Turtle	Eastern box turtle	Nesting	C/C		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
573	Amphibian	Fowler's toad	Nesting	-/C		-													Apr-Jun	May-Jul	-	-	Apr-Jun
	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Thermal Regulation													-	-	-	-	Jul-Sep
574	Snake	Northern black racer	Nesting			-													Jun-Jul	Aug-Sep	-	-	-
	Turtle	Common snapping turtle	Nesting			-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active													-	-	-	-	Apr-Nov

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
624	Crab	Horseshoe crab	Spawning Area			-													May-Jun	-	-	May-Jun
625	Insect	Monarch butterfly	Migration			High													-	-	-	Aug-Oct
641	Crab	Horseshoe crab	Spawning Area			High													May-Jun	-	-	May-Jun
647	Insect	Rare insect	Vulnerable Occurrence			-													Jun-Sep	Jan-Dec	-	Jun-Sep

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Calving	Pupping	Molt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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684	Pinniped	Gray seal	Haul Out			-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								</

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BENTHIC

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mig.(S)	Mig.(F)	Molt	
						J	F	M	A	M	J	J	A	S	O	N	D				
SAV	Submersed aquatic veg	High Ecological Value			Present														-	-	-


BIRDS

<div><div></div></div> <div>Subelement</div>	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
<div><div></div></div> Waterfowl	Brant	Wintering			1000S													-	-		
	Scaup	Wintering			10000S													-	-		
	Waterfowl	Wintering			High													-	-		

FISH


Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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Diadromous	Atlantic sturgeon	General Distribution	-/E	E	Low																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

REPTILES & AMPHIBIANS


Subelement	Species	Mapping Qualifier	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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South Long Island: Map 7D

INVERTEBRATES




Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
	Bivalve	Eastern oyster			382 Bushels/Yr Avg													Jul-Aug	Jul-Sep	Jan-Dec	Jan-Dec
		Northern quahog			4068 Bushels/Yr Avg													Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
		Northern quahog			6 Bushels/Yr Avg													Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
		Softshell clam			30 Bushels/Yr Avg													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Gastropod	Whelk			-													Aug-Nov	-	Jan-Dec	Jan-Dec

MARINE MAMMALS



Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D			
	Pinniped	Seals			High													-	-	-
	Whale	Fin whale	E/E	E	Common													-	-	-
		Humpback whale	E/E	E	Common													-	-	-
		N.A. right whale	E/E	E	Uncommon, Regular													-	-	-
		N.A. right whale	E/E	E	-													-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS



Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Alcid													-	-	-	-
	Gull/Tern													-	-	-	-
	Pelagic													-	-	-	-
														-	-	-	-
														-	-	-	-
														-	-	-	-
	Waterfowl													-	-	-	-
														-	-	-	-
														-	-	-	-
														-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous													-	-	-	Nov-Apr	Nov-Apr
														-	-	-	Apr-Nov	Mar-Jun
	Alewife													-	-	-	Jan-Feb	Sep-Dec
	American eel													-	-	-	Apr-Aug	Jan-Dec
	American eel													-	-	-	Nov-Apr	Nov-Nov
	American shad													-	-	-	Apr-Jul	Apr-Jul
	American shad													-	-	-	May-Nov	Mar-Jul
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	Mar-Nov	Mar-Nov
	Striped bass													-	-	-	Apr-Nov	Mar-Nov
	Estuarine Nursery													-	-	-	-	Jun-Dec
	Atlantic croaker													-	-	-	-	-

South Long Island: Map 7D

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic herring													-	-	-	Nov-Apr	Nov-Apr
	Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Black sea bass													-	-	-	Apr-Nov	Apr-Nov
	Bluefish													-	-	-	May-Oct	Apr-Dec
	Bluefish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Northern kingfish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Northern puffer													-	-	-	May-Nov	May-Nov
	Northern puffer													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Scup													-	-	-	May-Nov	May-Nov
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Spot													-	-	-	Apr-Nov	Apr-Nov
	Spot													-	-	-	Apr-Oct	Apr-Oct
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Summer flounder													May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Weakfish													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	White perch													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Winter flounder													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Winter flounder													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
 Estuarine Resident	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	American sand lance													-	-	-	-	Oct-Jun
	American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Cleannose skate													-	-	-	Apr-Nov	Apr-Nov
 Marine Benthic	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Little skate													-	-	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Pollock													-	-	-	Mar-Jun	-
	Red hake													-	-	-	May-Oct	May-Oct
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Silver hake													-	-	-	-	-
	Silver hake													-	-	-	-	-

South Long Island: Map 7D





FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Winter skate													-	-	-	Sep-May	Sep-Nov
Marine Pelagic	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Atlantic mackerel													-	-	-	Nov-Apr	-
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shorfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-
	White shark													-	-	-	Jul-Oct	-


REPTILES & AMPHIBIANS

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

INVERTEBRATES

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

MARINE MAMMALS

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

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	805.26	1.26
10B	Freshwater Marshes	53.89	0.08
10C	Swamps	35.14	0.05
10D	Scrub and Shrub Wetlands	68.62	0.11
9A	Sheltered Tidal Flats	16.31	0.03
7	Exposed Tidal Flats	3,968.02	6.20

ESI SHORELINE HABITAT TYPES

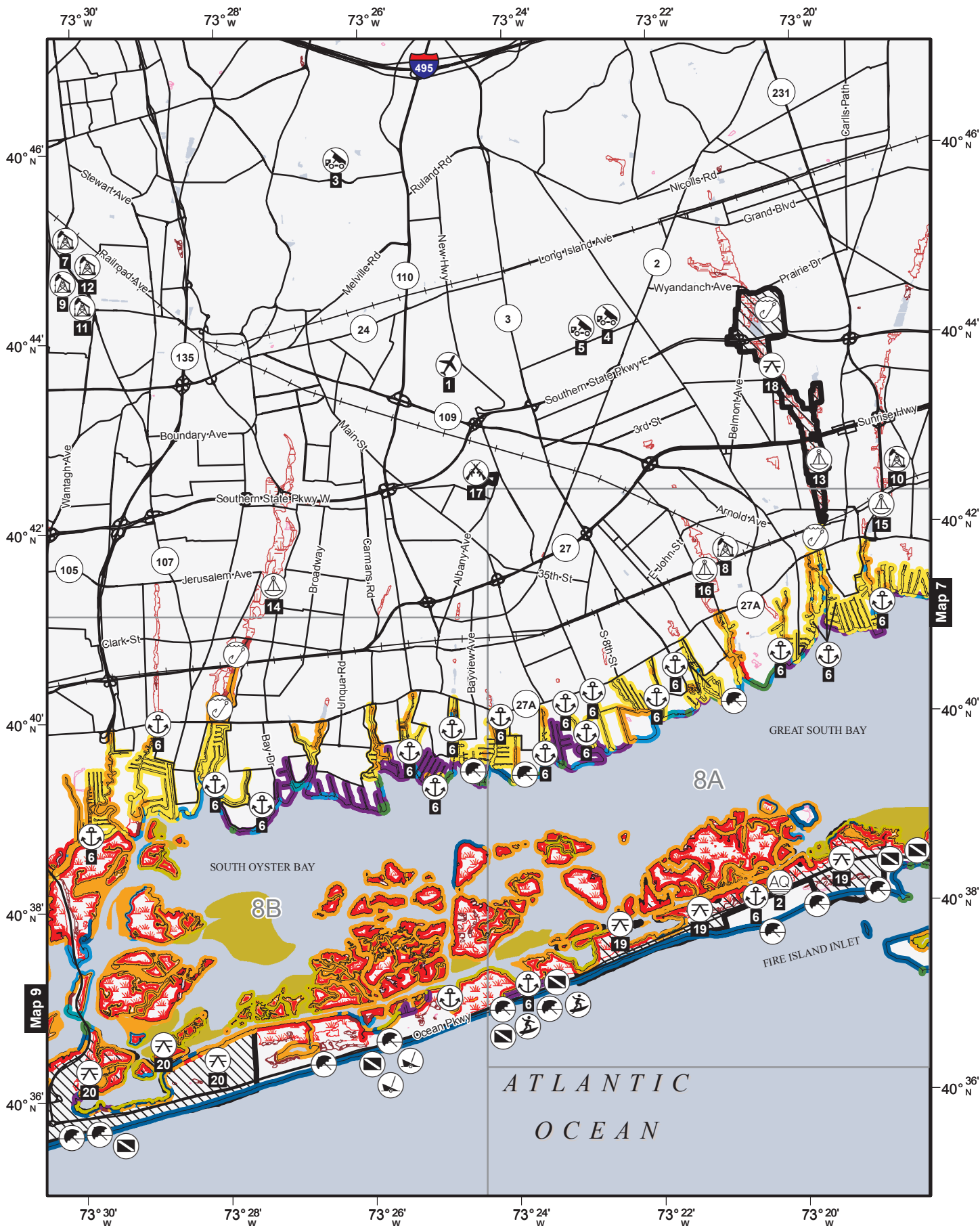
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	54,733.43	34.01	24%
10C	Swamps	1,295.03	0.80	1%
10D	Scrub and Shrub Wetlands	1,022.89	0.64	< 1%
9A	Sheltered Tidal Flats	5,827.03	3.62	3%
9B	Vegetated Low Banks	59,335.38	36.87	27%
8C	Sheltered Riprap	186.20	0.12	< 1%
7	Exposed Tidal Flats	61,042.19	37.93	27%
6A	Gravel Beaches	208.09	0.13	< 1%
6B	Riprap	4,539.01	2.82	2%
5	Mixed Sand and Gravel Beaches	153.42	0.10	< 1%
4	Coarse Grained Sand Beaches	1,387.19	0.86	1%
3A	Fine to Medium Grained Sand Beaches	26,255.18	16.31	12%
3B	Scarps and Steep Slopes (Sand)	512.50	0.32	< 1%
1B	Exposed, Solid Man-Made Structures	7,057.66	4.39	3%

Total ESI Shoreline: 223,555.20 Total ESI Shoreline: 138.91
Total Shoreline: 95,243.95 Total Shoreline: 59.18

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 8
South Long Island



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

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 8
South Long Island

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AIRPORT	REPUBLIC	
2	AQUACULTURE	AQUACULTURE AREA	631-444-0481
3	LANDFILL	110 SAND COMPANY CLEAN FILL DISPOSAL SITE	631-694-2822
4	LANDFILL	BABYLON NORTH "U" BYPASS	631-422-7640
5	LANDFILL	BABYLON SOUTHERN ASHFILL	631-422-7640
6	MARINA	MARINA	
7	OIL FACILITY	NORTHROP GRUMMAN CORP.	
8	OIL FACILITY	NATIONAL GRID WEST BABYLON GT SITE	
9	OIL FACILITY	PETRO INC.	
10	OIL FACILITY	GENERAL TERMINALS	
11	OIL FACILITY	SLOMINS INC.	
12	OIL FACILITY	TBG COGEN PARTNERS	
13	REPEATED MEASUREMENT SITE	CARLLS RIVER AT BABYLON NY	
14	REPEATED MEASUREMENT SITE	MASSAPEQUA CREEK AT MASSAPEQUA NY	
15	REPEATED MEASUREMENT SITE	SAMPAWAMS CREEK AT BABYLON NY	
16	REPEATED MEASUREMENT SITE	SANTAPOGUE CREEK AT LINDENHURST NY	
DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
17	MILITARY	US MILITARY RESERVATION	
18	STATE PARK	BELMONT LAKE STATE PARK	
19	STATE PARK	GILGO STATE PARK	
20	STATE PARK	JONES BEACH STATE PARK	
ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	EFH AREA	CHRIS BRUCE	434-951-0565
ESSENTIAL HABITAT	IMPORTANT BIRD AREA	IMPORTANT BIRD AREAS PROGRAM COORDINATOR	607-254-2437
ESSENTIAL HABITAT	SIGNIFICANT COASTAL HABITAT	NYS DEPARTMENT OF STATE COORDINATOR	518-474-6000

JURISDICTIONS

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

FEMA: REGION II
EPA: REGION 2

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	3,980.67	6.22
10B	Freshwater Marshes	51.02	0.08
10C	Swamps	773.12	1.21
10D	Scrub and Shrub Wetlands	169.12	0.26
9A	Sheltered Tidal Flats	666.29	1.04
7	Exposed Tidal Flats	1,361.57	2.13

ESI SHORELINE HABITAT TYPES

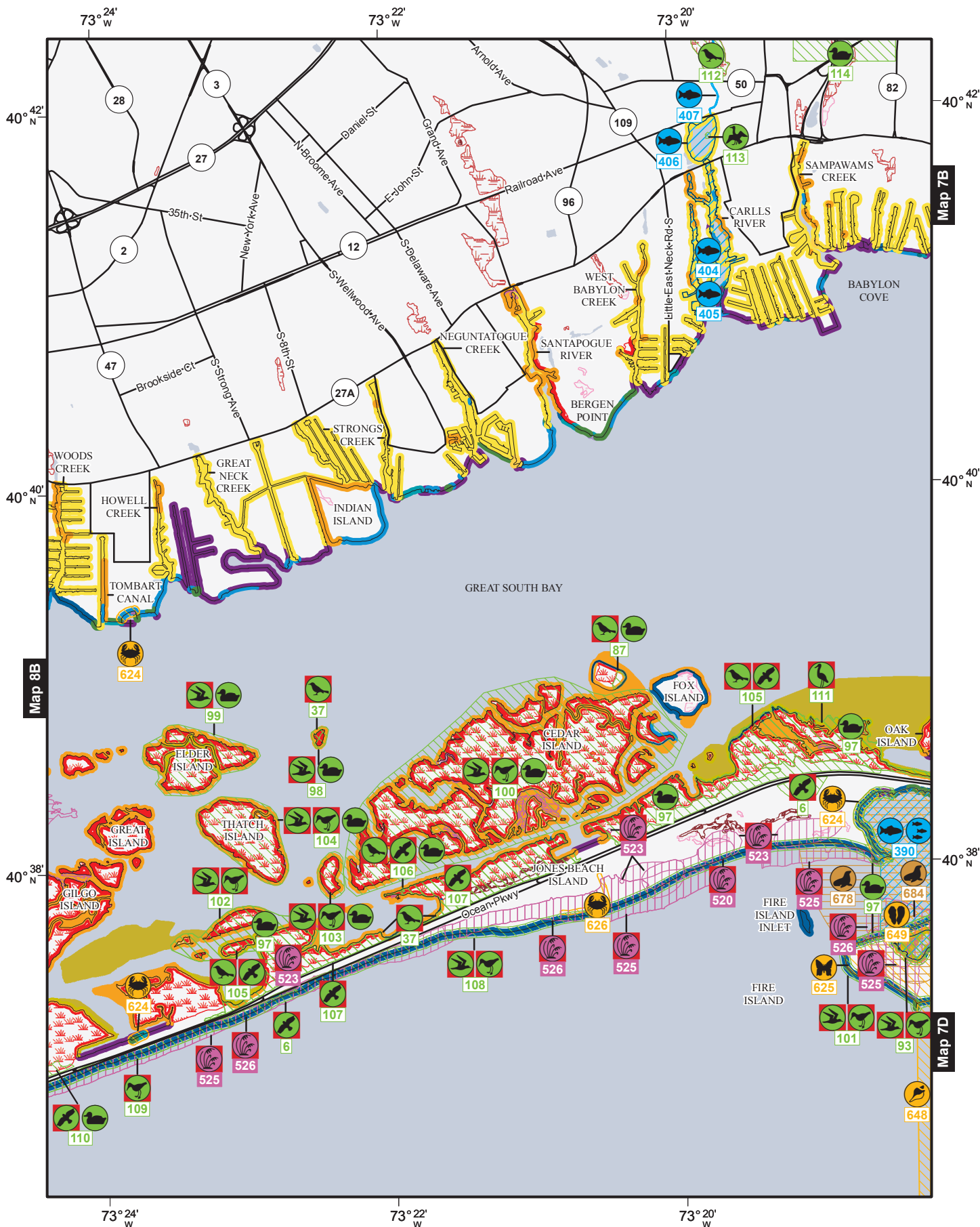
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	251,945.45	156.55	28%
10B	Freshwater Marshes	214.10	0.13	< 1%
10C	Swamps	2,414.00	1.50	< 1%
10D	Scrub and Shrub Wetlands	2,804.70	1.74	< 1%
9A	Sheltered Tidal Flats	75,209.54	46.73	8%
9B	Vegetated Low Banks	275,485.72	171.18	31%
8B	Sheltered, Solid Man-Made Structures	141,208.15	87.74	16%
8C	Sheltered Riprap	859.29	0.53	< 1%
7	Exposed Tidal Flats	43,306.73	26.91	5%
6B	Riprap	3,419.53	2.12	< 1%
5	Mixed Sand and Gravel Beaches	1,867.50	1.16	< 1%
4	Coarse Grained Sand Beaches	18,357.89	11.41	2%
3A	Fine to Medium Grained Sand Beaches	32,664.87	20.30	4%
3B	Scarps and Steep Slopes (Sand)	34.64	0.02	< 1%
2B	Exposed Scarps and Steep Slopes (Clay)	83.56	0.05	< 1%
1B	Exposed, Solid Man-Made Structures	44,424.79	27.60	5%

Total ESI Shoreline: 894,300.48 Total ESI Shoreline: 555.69
 Total Shoreline: 507,150.18 Total Shoreline: 315.13

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

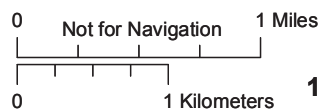




Map 8A
South Long Island



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



1:50,000



Map 8A
South Long Island

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	S	F	Concentration	Monthly Presence											
Algae	Macroalgae	High Ecological Value			Present	J	F	M	A	M	J	J	A	S	O	N	D

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
6	Raptor	Northern harrier	Nesting	T/E		-													Apr-Aug	-	-	-
37	Passerine	Seaside sparrow	Nesting	C/-		-													May-Aug	-	-	-
87	Passerine	Seaside sparrow	Nesting	C/-		-													May-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
93	Gull/Tern	Common tern	Migration	T/C		100S													-	-	Aug-Sep	-
	Gull/Tern	Roseate tern	Migration	E/E	E	10S													-	May	Aug-Sep	-
	Shorebird	American oystercatcher	Migration	-/C		1S													-	-	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	1S													-	-	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	1S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
97	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
98	Gull/Tern	Black skimmer	Nesting	C/E		1-10 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		100-500 Pairs													May-Sep	-	-	-
	Gull/Tern	Roseate tern	Nesting	E/E	E	1-10 Pairs													May-Sep	-	-	-
	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
99	Gull/Tern	Common tern	Nesting	T/C		100-500 Pairs													May-Sep	-	-	-
	Gull/Tern	G. black-backed gull	Nesting			1-10 Pairs													Apr-Jul	-	-	-
	Gull/Tern	Herring gull	Nesting			1-10 Pairs													Apr-Sep	-	-	-
	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
100	Gull/Tern	Black skimmer	Nesting	C/E		10-50 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		50-100 Pairs													May-Sep	-	-	-
	Gull/Tern	G. black-backed gull	Nesting			1-10 Pairs													Apr-Jul	-	-	-
	Gull/Tern	Herring gull	Nesting			100-500 Pairs													Apr-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
101	Gull/Tern	Common tern	Nesting	T/C		50-100 Pairs													May-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		10-50 Pairs													May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Shorebird	Piping plover	Migration	E/E	T	10S													-	-	Aug-Sep	-
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													Apr-Aug	-	-	-
	Shorebird	Sanderling	Migration	-/C		100S													-	-	Aug-Sep	-
102	Gull/Tern	Common tern	Nesting	T/C		50-100 Pairs													May-Sep	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
103	Gull/Tern	G. black-backed gull	Nesting	E/E	E	1-10 Pairs													Apr-Jul	-	-	-
	Gull/Tern	Roseate tern	Nesting	-/C		1-10 Pairs													May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	T/C		1-5 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	-/C		50-100 Pairs													May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
104	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
	Gull/Tern	Black skimmer	Nesting	C/E		1-10 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		500-1000 Pairs													May-Sep	-	-	-
	Gull/Tern	G. black-backed gull	Nesting			10-50 Pairs													Apr-Jul	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
105	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
	Passerine	Seaside sparrow	Nesting	C/-		-													May-Aug	-	-	-
	Raptor	Northern harrier	Nesting	T/E		-													Apr-Aug	-	-	-
	Raptor	Short-eared owl	Nesting	E/E		-													Apr-Jul	-	-	-
	Passerine	Seaside sparrow	Nesting	C/-		-													May-Aug	-	-	-
106	Raptor	Northern harrier	Nesting	T/E		-													Apr-Aug	-	-	-
	Raptor	Short-eared owl	Nesting	E/E		-													Apr-Jul	-	-	-
	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
	Raptor	Northern harrier	Nesting	T/E		-													Apr-Aug	-	-	-
	Raptor	Short-eared owl	Nesting	E/E		-													Apr-Jul	-	-	-
107	Gull/Tern	Least tern	Nesting	T/E		100-200 Pairs													May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		5-10 Pairs													Apr-Aug	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Migration	-/C		1S													-	-	Aug-Sep	-
	Raptor	Northern harrier	Nesting	T/E		-													Apr-Aug	-	-	-
108	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
	Wading	Black rail	Nesting	E/E		-													Jun-Jul	-	-	-
	Passerine	Prothonotary warbler	Nesting			-													May-Jul	-	-	-
	Diving	D. crested cormorant	Nesting			50-100 Pairs													Jun-Sep	-	-	-
	Waterfowl	Canada goose	Nesting			9 Pairs													Mar-Jun	-	-	-
109	Waterfowl	Mallard	Nesting			6 Pairs													Mar-Sep	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
390	Diadromous	Striped bass	Concentration Area			High													-	-	-	Apr-Nov	Mar-Nov
	Estuarine Nursery	Black sea bass	Concentration Area			High													-	May-Oct	May-Nov	-	-
	Estuarine Nursery	Bluefish	Concentration Area			High													-	-	-	May-Oct	Apr-Dec
	Marine Benthic	American sand lance	Concentration Area			High													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	Marine Benthic	Tautog	Concentration Area			High													-	May-Aug	Jun-Aug	-	-
404	Diadromous	Alewife	Nursery Area			-													-	-	Mar-May	Apr-Oct	-
	Diadromous	American eel	Nursery Area			-													-	-	-	Jan-Dec	-
	Diadromous	Alewife	Migration			-													-	-	-	Apr-Oct	Mar-May
	Diadromous	Alewife	Spawning Area			-													Mar-May	Mar-May	-	-	Mar-May
	Diadromous	Alewife				-																-	-

FISH (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D			
	Diadromous	Brown trout	Harvest Area			-													-	-	Jan-Dec
	Diadromous	Rainbow trout	Harvest Area			-													-	-	Jan-Dec
	Freshwater	Bluegill	Harvest Area			-													Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Brook trout	Harvest Area			-													Nov-Dec	Jan-Dec	Jan-Dec
	Freshwater	Brook trout	Nursery Area			-													Nov-Dec	Jan-Dec	-
	Freshwater	Brook trout	Spawning Area			-													Sep-Nov	-	Sep-Nov
	Freshwater	Largemouth bass	Harvest Area			-													Apr-Jun	Jan-Dec	Jan-Dec
	Freshwater	Pumpkinseed	Harvest Area			-													Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Yellow perch	Harvest Area			-													Apr-Aug	Jan-Dec	Jan-Dec
407	Freshwater	Chain pickerel	Harvest Area			-													Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Common carp	Harvest Area			-													Apr-Aug	Jan-Dec	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D			
520	Plant	Endangered plant	Vulnerable Occurrence	E/E		-													-	-	-
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-													-	-	-
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-													-	-	-
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-													-	-	-

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D			
624	Crab	Horseshoe crab	Spawning Area			-													May-Jun	-	May-Jun
625	Insect	Monarch butterfly	Migration			High													-	-	Aug-Oct
626	Invertebrate	R, L.T, or LE invertebrate	Vulnerable Occurrence			-													Jan-Dec	-	Jan-Dec
648	Gastropod	Whelk	Harvest Area			-													-	Jan-Dec	Jan-Dec
649	Bivalve	Eastern oyster	Harvest Area			382 Bushels/Yr Avg													Jul-Sep	Jan-Dec	Jan-Dec
	Bivalve	Northern quahog	Harvest Area			6 Bushels/Yr Avg													Jun-Sep	Jan-Dec	Jan-Dec

MARINE MAMMALS


Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Calving	Pupping	Molt
							J	F	M	A	M	J	J	A	S	O	N	D			
678	Pinniped	Seals	Concentration Area			High													-	-	-
684	Pinniped	Gray seal	Haul Out			-													-	-	-
	Pinniped	Harbor seal	Haul Out			-													-	-	-
	Pinniped	Harp seal	Haul Out			-													-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BENTHIC

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Calving	Pupping	Molt	
						J	F	M	A	M	J	J	A	S	O	N	D				
SAV	Submersed aquatic veg	High Ecological Value			Present														-	-	-


BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Waterfowl																				
	Brant	Wintering			1000S																
	Scaup	Wintering			10000S																
	Waterfowl	Wintering			High																



FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous																					
	Atlantic sturgeon	General Distribution	-/E	E	Low																	
	Atlantic sturgeon	Migration	-/E	E	High																	


REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve																					
	Atlantic surfclam	Harvest Area			224702 Bushels/Yr																	
	Northern quahog	Harvest Area			4068 Bushels/Yr Avg																	
	Softshell clam	Harvest Area			30 Bushels/Yr Avg																	
	Crab				High																	
	Horseshoe crab	Concentration Area																				

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Fin whale	General Distribution	E/E	E	Common																
	Humpback whale	General Distribution	E/E	E	Common																
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular																
	N.A. right whale	Migration	E/E	E	-																

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Alcid																				
	Razorbill																				
	Gull/Tern																				
	G. black-backed gull																				
	Herring gull																				
	Pelagic																				
	Northern gannet																				
	Wilson's storm-petrel																				
	Waterfowl																				
	Black scoter																				



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 eider													-	-	-	-
	Long-tailed duck													-	-	-	-
	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					
Diadromous	Alewife													-	-	-	Nov-Apr	Nov-Apr
	Alewife													-	-	-	Apr-Nov	Mar-Jun
	American eel													-	-	Jan-Feb	-	Sep-Dec
	American eel													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American shad													-	-	-	Apr-Nov	Apr-Jul
	American shad													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	May-Nov	Mar-Jul
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Striped bass													-	-	-	Apr-Nov	Mar-Nov
Estuarine Nursery	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic croaker													-	-	-	-	Nov-May
	Atlantic herring													-	-	-	Nov-Apr	Nov-Apr
	Atlantic herring													-	-	-	Oct-Apr	Oct-Apr
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Mar-Nov
	Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
	Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Black sea bass													-	-	-	Apr-Nov	Apr-Nov
	Bluefish													-	-	-	May-Nov	May-Nov
	Bluefish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Northern kingfish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Apr-Dec	Apr-Dec
	Northern puffer													-	-	-	Sep-Nov	Jun-Nov
	Scup													-	-	-	Apr-Nov	Apr-Nov
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Spot													-	-	-	Apr-Nov	Apr-Nov
	Spot													-	-	-	Apr-Oct	Apr-Oct
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Summer flounder													May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Weakfish													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	White perch													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Windowpane													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	-	-
	Winter flounder													-	-	-	-	-
	Winter flounder													-	-	-	-	-





FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Estuarine Resident													-	-	-	Jan-Dec	Jan-Dec
	Winter flounder													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Dec	Jan-Dec
	Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Apr	Jan-Apr
	Killifish													-	-	-	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	May-Aug	May-Oct	Jan-Dec	Jan-Dec
	American sand lance													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	American sand lance													-	-	-	-	Oct-Jun
	American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Clearnose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Pollock													-	-	-	Mar-Jun	-
	Red hake													-	-	-	May-Oct	May-Oct
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Atlantic mackerel													-	-	-	Nov-Apr	-
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-
	Tiger shark													-	-	-	-	-


REPTILES & AMPHIBIANS

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

INVERTEBRATES

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

MARINE MAMMALS

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,427.24	2.23
10B	Freshwater Marshes	32.89	0.05
10C	Swamps	121.56	0.19
10D	Scrub and Shrub Wetlands	33.95	0.05
9A	Sheltered Tidal Flats	180.25	0.28
7	Exposed Tidal Flats	385.93	0.60

ESI SHORELINE HABITAT TYPES

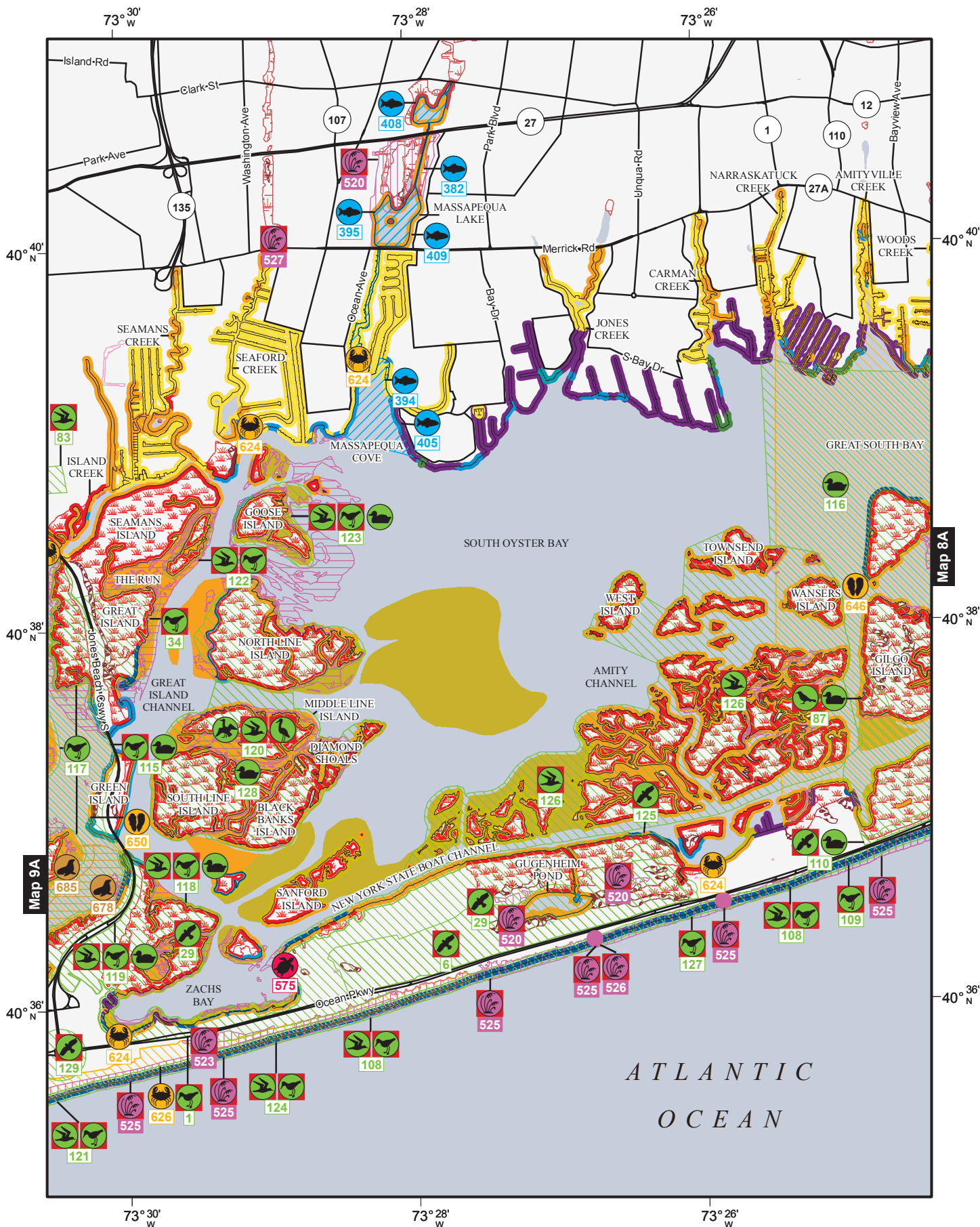
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	82,923.86	51.53	25%
10B	Freshwater Marshes	214.10	0.13	< 1%
10D	Scrub and Shrub Wetlands	537.81	0.33	< 1%
9A	Sheltered Tidal Flats	23,202.23	14.42	7%
9B	Vegetated Low Banks	90,462.33	56.21	27%
8B	Sheltered, Solid Man-Made Structures	77,729.31	48.30	23%
8C	Sheltered Riprap	261.70	0.16	< 1%
7	Exposed Tidal Flats	13,633.62	8.47	4%
6B	Riprap	2,450.28	1.52	1%
5	Mixed Sand and Gravel Beaches	966.16	0.60	< 1%
4	Coarse Grained Sand Beaches	6,035.19	3.75	2%
3A	Fine to Medium Grained Sand Beaches	17,354.02	10.78	5%
2B	Exposed Scarps and Steep Slopes (Clay)	83.56	0.05	< 1%
1B	Exposed, Solid Man-Made Structures	16,369.29	10.17	5%

Total ESI Shoreline: 332,223.45 Total ESI Shoreline: 206.43
Total Shoreline: 207,564.59 Total Shoreline: 128.97

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

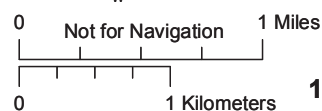




Map 8B
South Long Island



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



1:50,000



Map 8B
South Long Island

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	S	F	Concentration	Monthly Presence											
Algae	Macroalgae	High Ecological Value			Present	J	F	M	A	M	J	J	A	S	O	N	D

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
1	Shorebird	Piping plover	Nesting	E/E	T	1-5 Pairs													Apr-Aug	-	-	-
6	Raptor	Northern harrier	Nesting	T/E		-													Apr-Aug	-	-	-
29	Raptor	Short-eared owl	Wintering	E/E		-													-	-	-	-
34	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
83	Gull/Tern	Least tern	Nesting	T/E		1-10 Pairs													May-Sep	-	-	-
87	Passerine	Seaside sparrow	Nesting	C/-		-													May-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
108	Gull/Tern	Least tern	Nesting	T/E		100-200 Pairs													May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		5-10 Pairs													Apr-Aug	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													Apr-Aug	-	-	-
109	Shorebird	American oystercatcher	Migration	-/C		1S													-	-	Aug-Sep	-
110	Raptor	Northern harrier	Nesting	T/E		-													Apr-Aug	-	-	-
	Waterfowl	Waterfowl	Wintering			10000S													-	-	-	-
115	Shorebird	Threatened shorebird	General Distribution		T	-													May-Aug	-	-	-
	Waterfowl	Brant	Wintering			1000S													-	-	-	-
116	Waterfowl	Brant	Wintering			1000S													-	-	-	-
	Waterfowl	Scaup	Wintering			10000S													-	-	-	-
	Waterfowl	Waterfowl	Wintering			High													-	-	-	-
117	Shorebird	Shorebirds	Migration			High													-	Mar-May	-	-
118	Gull/Tern	Black skimmer	Migration	C/E		100S													-	May	Aug-Oct	-
	Gull/Tern	Common tern	Migration	T/C		100S													-	-	Aug-Sep	-
	Gull/Tern	Least tern	Migration	T/E		1S													-	-	Aug-Sep	-
	Gull/Tern	Roseate tern	Migration	E/E	E	1S													-	May	Aug-Sep	-
	Shorebird	American oystercatcher	Migration	-/C		100S													-	-	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	10S													-	-	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	100S													-	-	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		1000S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		1000S													-	Apr-May	Aug-Sep	-
	Waterfowl	Waterfowl	Migration			High													-	Mar-Apr	Oct-Nov	-
119	Gull/Tern	Black skimmer	Migration	C/E		100S													-	May	Aug-Oct	-
	Gull/Tern	Common tern	Migration	T/C		100S													-	-	Aug-Sep	-
	Gull/Tern	Least tern	Migration	T/E		1S													-	-	Aug-Sep	-

South Long Island: Map 8B

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt											
							J	F	M	A	M	J	J	A	S	O	N	D															
120	Gull/Tern	Roseate tern	Migration	E/E	E	1S																											
	Shorebird	American oystercatcher	Migration	-/C		100S																											
	Shorebird	Piping plover	Migration	E/E	T	10S																											
	Shorebird	Red knot	Migration	-/E	T	100S																											
	Shorebird	Sanderling	Migration	-/C		1000S																											
	Shorebird	Semipalmated sandpiper	Migration	-/C		1000S																											
	Waterfowl	Brant	Wintering			10000S																											
	Waterfowl	Waterfowl	Migration			High																											
	Diving	D. crested cormorant	Nesting			100-500 Pairs																											
	Gull/Tern	Black skimmer	Nesting	C/E		100-500 Pairs																											
121	Gull/Tern	Common tern	Nesting	T/C		100-500 Pairs																											
	Gull/Tern	Forster's tern	Nesting			10-50 Pairs																											
	Gull/Tern	G. black-backed gull	Nesting			100-500 Pairs																											
	Gull/Tern	Herring gull	Nesting			500-1000 Pairs																											
	Wading	BC night-heron	Nesting	-/T		100-300 Pairs																											
	Wading	Glossy ibis	Nesting	-/C		10-50 Pairs																											
	Wading	Great egret	Nesting			100-200 Pairs																											
	Wading	Snowy egret	Nesting	-/C		50-100 Pairs																											
	Wading	Tricolored heron	Nesting	-/C		3 Pairs																											
	Wading	YC night-heron	Nesting	-/T		1 Pair																											
122	Gull/Tern	Black skimmer	Nesting	C/E		10-50 Pairs																											
	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs																											
	Gull/Tern	Least tern	Nesting	T/E		50-100 Pairs																											
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs																											
123	Shorebird	Piping plover	Nesting	E/E	T	25-40 Pairs																											
	Shorebird	Black skimmer	Nesting	C/E		1-10 Pairs																											
	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs																											
	Gull/Tern	Forster's tern	Nesting	-/C		10-50 Pairs																											
124	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs																											
	Waterfowl	Canada goose	Nesting			5 Pairs																											
	Gull/Tern	Black skimmer	Migration	C/E		100S																											
	Gull/Tern	Common tern	Migration	T/C		100S																											
125	Gull/Tern	Least tern	Migration	T/E		1S																											
	Gull/Tern	Roseate tern	Migration	E/E	E	1S																											
	Shorebird	American oystercatcher	Migration	-/C		100S																											
	Shorebird	Piping plover	Migration	E/E	T	10S																											
	Shorebird	Red knot	Migration	-/E	T	100S																											
	Shorebird	Sanderling	Migration	-/C		1000S																											
126	Shorebird	Semipalmated sandpiper	Migration	-/C		1000S																											
	Raptor	Short-eared owl	Nesting	E/E		-																											
126	Gull/Tern	Black skimmer	Nesting	C/E		1-10 Pairs																											
	Gull/Tern	Common tern	Nesting	T/C		500-1000 Pairs																											

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Molt
							J	F	M	A	M	J	J	A	S	O	N	D	
127	Shorebird	Sanderling	Migration	-	J/C	100S													
128	Waterfowl	American black duck	Nesting			4 Pairs													
	Waterfowl	Canada goose	Nesting			1 Pair													
	Waterfowl	Common merganser	Nesting			1 Pair													
	Waterfowl	Mallard	Nesting			2 Pairs													
129	Raptor	Endangered raptor 1	Nesting	E/E		1 Pair													

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
382	Diadromous	American eel	Nursery Area			-																
394	Diadromous	Alewife	Nursery Area			-																
395	Diadromous	Alewife	Spawning Area			-																
405	Diadromous	Alewife	Migration			-																
408	Diadromous	Alewife	Spawning Area			Potential																
	Diadromous	Brown trout	Harvest Area			-																
	Diadromous	Rainbow trout	Harvest Area			-																
	Freshwater	Bluegill	Harvest Area			-																
	Freshwater	Common carp	Harvest Area			-																
	Freshwater	Largemouth bass	Harvest Area			-																
	Freshwater	Pumpkinseed	Harvest Area			-																
409	Freshwater	Bluegill	Harvest Area			-																
	Freshwater	Chain pickerel	Harvest Area			-																
	Freshwater	Common carp	Harvest Area			-																
	Freshwater	Largemouth bass	Harvest Area			-																
	Freshwater	Pumpkinseed	Harvest Area			-																

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
520	Plant	Endangered plant	Vulnerable Occurrence	E/E		-																
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-																
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-																
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-																
527	Plant	Endangered plant	Vulnerable Occurrence	E/E		-																
	Plant	Threatened plant	Vulnerable Occurrence	T/-		-																

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
575	Turtle	N. diamondback terrapin	Nesting			-																

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D			
624	Crab	Horseshoe crab	Spawning Area			-															May-Jun
626	Invertebrate	R, LT, or LE invertebrate	Vulnerable Occurrence			-															Jan-Dec
646	Bivalve	Northern quahog	Harvest Area			4068 Bushels/Yr Avg															Jan-Dec
650	Bivalve	Softshell clam	Harvest Area			30 Bushels/Yr Avg															Jan-Dec
	Bivalve	Atlantic razor	Harvest Area			3 Bushels/Yr Avg															Jan-Dec
	Bivalve	Bay scallop	Harvest Area			1 Bushel/Yr Avg															Jan-Dec
	Bivalve	Northern quahog	Harvest Area			2034 Bushels/Yr Avg															Jan-Dec
	Bivalve	Softshell clam	Harvest Area			117 Bushels/Yr Avg															Jan-Dec

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Pupping	Molt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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678	Pinniped	Seals	Concentration Area			High																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BENTHIC

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
SAV	Submersed aquatic veg	High Ecological Value			Present												

BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D			
Raptor	Osprey	General Distribution	C/-		-															-
Shorebird	American oystercatcher	Nesting	-/C		10-25 Pairs															-
	Plovers	Migration			-															-
	Red knot	Migration	-/E	T	-															-
	Shorebirds	Migration			-															-
	Waterfowl	Migration			1000S															-
	Waterfowl	Wintering			1000S															-

FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
Diadromous	Atlantic sturgeon	General Distribution	-/E	E	Low																Oct-Jun
	Atlantic sturgeon	Migration	-/E	E	High																May-Jul

Monthly Presence

INVERTEBRATES

Monthly Presence

MARINE MAMMALS

Monthly Presence




ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

Monthly Presence


172 South Long Island: Map 8B

FISH

Monthly Presence

Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Diadromous	Alewife												-	-	-	Apr-Nov	Mar-Jun
		Alewife												-	-	-	Nov-Apr	Nov-Apr
		American eel												-	-	Apr-Aug	Jan-Dec	Sep-Nov
		American eel												-	-	Jan-Feb	-	Sep-Dec
		American shad												-	-	-	Apr-Nov	Apr-Jul
		American shad												-	-	-	Nov-Apr	Nov-Apr
		Blueback herring												-	-	-	Nov-Apr	Nov-Apr
		Blueback herring												-	-	-	May-Nov	Mar-Jul
		Striped bass												-	-	-	Apr-Nov	Mar-Nov
		Striped bass												-	-	-	Mar-Nov	Mar-Nov
	Estuarine Nursery	Atlantic croaker												-	-	-	-	Jun-Dec
		Atlantic herring												-	-	-	Nov-Apr	Nov-Apr
		Atlantic herring												-	-	-	Nov-May	Nov-May
		Atlantic menhaden												-	-	-	Apr-Nov	Mar-Nov
		Atlantic menhaden												Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
		Bay anchovy												May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
		Bay anchovy												May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
		Black sea bass												May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
		Black sea bass												-	-	-	Apr-Nov	Apr-Nov
		Bluefish												-	-	-	May-Nov	May-Nov
		Bluefish												-	-	-	May-Oct	Apr-Dec
		Northern kingfish												-	-	-	Jun-Nov	Jun-Nov
		Northern kingfish												-	-	-	May-Nov	May-Nov
		Northern puffer												May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
		Scup												-	-	-	Apr-Dec	Apr-Dec
		Scup												-	-	-	May-Nov	May-Nov
		Spot												-	-	-	Sep-Nov	Jun-Nov
		Spot												-	-	-	Apr-Nov	Apr-Nov
		Summer flounder												-	-	-	Apr-Oct	Apr-Oct
		Summer flounder												Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
		Weakfish												Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
		Weakfish												May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
		White perch												Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
		Windowpane												Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
		Windowpane												Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
		Winter flounder												-	-	-	Jan-Dec	Jan-Dec
		Winter flounder												Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
		Atlantic silverside												May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
		Atlantic silverside												-	-	-	Jan-Apr	Jan-Apr
		Killifish												May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Estuarine Resident	Northern pipefish												May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
		American sand lance												-	-	-	-	Oct-Jun
		American sand lance												Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
		Atlantic cod												-	-	-	Nov-Apr	-

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Clearnose skate													-	-	-	Apr-Nov	Jan-Dec
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Pollock													-	-	-	Mar-Jun	-
	Red hake													-	-	-	May-Oct	May-Oct
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Dec	Mar-Dec
	Winter skate													-	-	-	Sep-May	Sep-Nov
 Marine Pelagic	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Atlantic mackerel													-	-	-	Nov-Apr	-
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Shortfin mako													-	-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-


REPTILES & AMPHIBIANS

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

INVERTEBRATES

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

MARINE MAMMALS

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	2,553.44	3.99
10B	Freshwater Marshes	5.03	0.01
10C	Swamps	96.84	0.15
10D	Scrub and Shrub Wetlands	119.47	0.19
9A	Sheltered Tidal Flats	486.07	0.76
7	Exposed Tidal Flats	975.59	1.52

ESI SHORELINE HABITAT TYPES

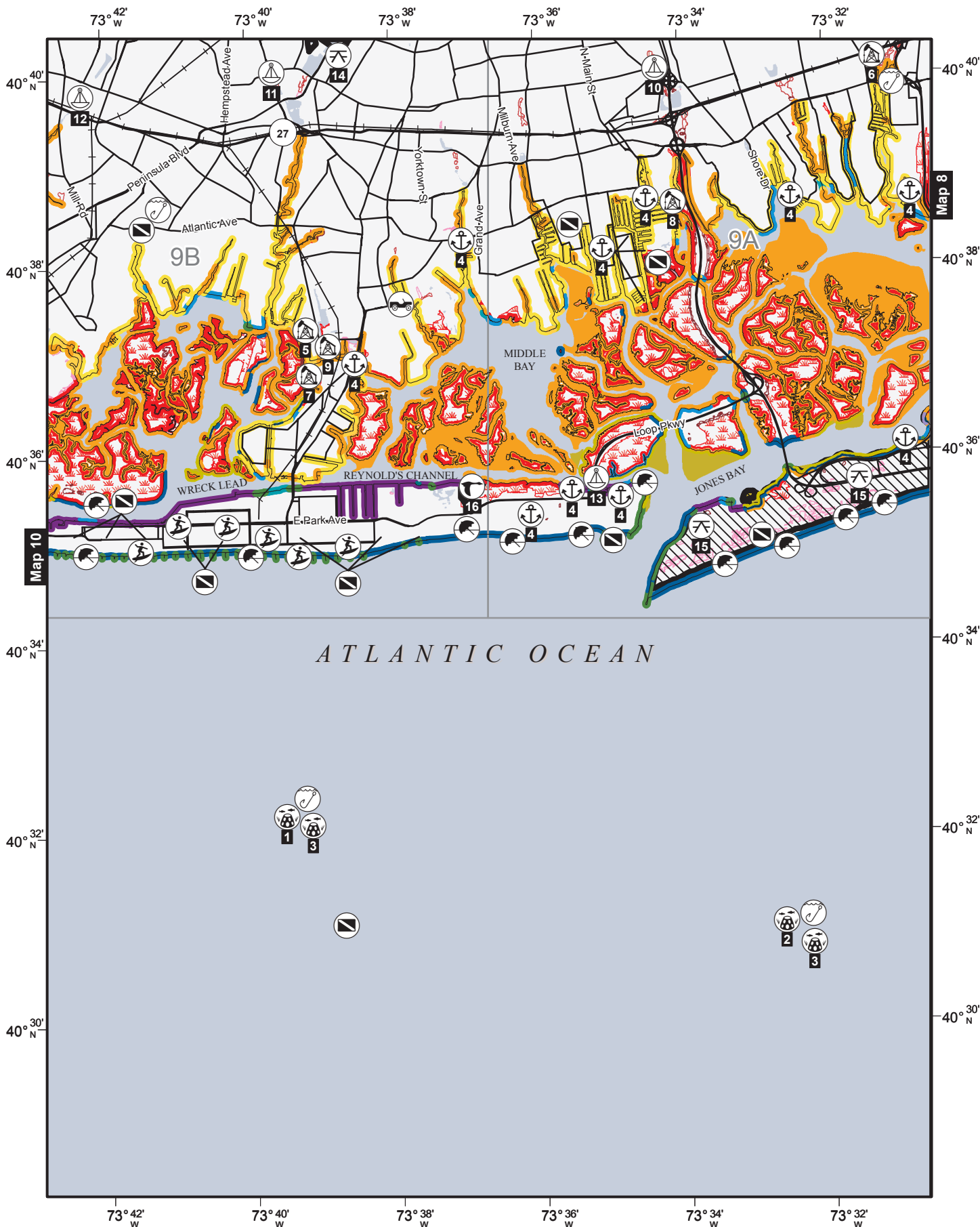
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	169,021.64	105.03	30%
10C	Swamps	2,414.00	1.50	< 1%
10D	Scrub and Shrub Wetlands	2,266.89	1.41	< 1%
9A	Sheltered Tidal Flats	52,007.91	32.32	9%
9B	Vegetated Low Banks	185,024.76	114.97	33%
8B	Sheltered, Solid Man-Made Structures	63,474.73	39.44	11%
8C	Sheltered Riprap	597.59	0.37	< 1%
7	Exposed Tidal Flats	29,670.22	18.44	5%
6B	Riprap	968.92	0.60	< 1%
5	Mixed Sand and Gravel Beaches	901.34	0.56	< 1%
4	Coarse Grained Sand Beaches	12,322.60	7.66	2%
3A	Fine to Medium Grained Sand Beaches	15,311.45	9.51	3%
3B	Scarps and Steep Slopes (Sand)	34.64	0.02	< 1%
1B	Exposed, Solid Man-Made Structures	28,055.05	17.43	5%

Total ESI Shoreline: 562,071.74 Total ESI Shoreline: 349.26
Total Shoreline: 299,581.28 Total Shoreline: 186.15

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 9
South Long Island



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

0 Not for Navigation 2 Miles
 0 2 Kilometers

1:100,000



Map 9
South Long Island

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Contact
1	ARTIFICIAL REEF	FISHING LINE GROUNDS	
2	ARTIFICIAL REEF	HEMPSTEAD TOWN REEF	
3	ARTIFICIAL REEF	ARTIFICIAL REEF	
4	MARINA	MARINA	
5	OIL FACILITY	SPRAGUE OCEANSIDE TERMINAL	
6	OIL FACILITY	MEENAN OIL CO., L.P.	
7	OIL FACILITY	E.F. BARRETT POWER STATION	
8	OIL FACILITY	FREEPORT ELECTRIC, POWER PLANT #2	
9	OIL FACILITY	E.F. BARRETT GAS TURBINE SITE	
10	REPEATED MEASUREMENT SITE	EAST MEADOW BROOK AT FREEPORT NY	
11	REPEATED MEASUREMENT SITE	PINES BROOK AT MALVERNE NY	
12	REPEATED MEASUREMENT SITE	VALLEY STREAM AT VALLEY STREAM NY	
13	REPEATED MEASUREMENT SITE	MUSSEL WATCH SITE - LIJI	MUSSEL WATCH PROJECT MANAGER 301-713-3028

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Contact
14	STATE PARK	HEMPSTEAD LAKE STATE PARK	
15	STATE PARK	JONES BEACH STATE PARK	
16	WILDLIFE REFUGE	LIDO BEACH WILDLIFE MANAGEMENT AREA	

ALSO PRESENT IN MAPPED AREA (POINTS)			
Type	Name	Contact	Phone
COAST GUARD	COAST GUARD STATION JONES BEACH FREEPORT	COMMANDING OFFICER	516-785-2995

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	EFH AREA	CHRIS BRUCE	434-951-0565
ESSENTIAL HABITAT	IMPORTANT BIRD AREA	IMPORTANT BIRD AREAS PROGRAM COORDINATOR	607-254-2437
ESSENTIAL HABITAT	SIGNIFICANT COASTAL HABITAT	NYS DEPARTMENT OF STATE COORDINATOR	518-474-6000

JURISDICTIONS			
COUNTY:	NASSAU COUNTY	FEMA:	REGION II
COAST GUARD:	DISTRICT 1, SECTOR LONG ISLAND SOUND, 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	5,297.05	8.28
10B	Freshwater Marshes	146.53	0.23
10C	Swamps	63.90	0.10
10D	Scrub and Shrub Wetlands	75.39	0.12
9A	Sheltered Tidal Flats	2,697.73	4.22
7	Exposed Tidal Flats	370.11	0.58

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	321,914.70	200.03	28%
10B	Freshwater Marshes	1,261.25	0.78	< 1%
10C	Swamps	204.62	0.13	< 1%
10D	Scrub and Shrub Wetlands	1,056.49	0.66	< 1%
9A	Sheltered Tidal Flats	240,144.52	149.22	21%
9B	Vegetated Low Banks	349,213.37	216.99	30%
8B	Sheltered, Solid Man-Made Structures	137,712.27	85.57	12%
8C	Sheltered Riprap	7,165.01	4.45	1%
7	Exposed Tidal Flats	22,077.30	13.72	2%
6B	Riprap	6,717.80	4.17	1%
5	Mixed Sand and Gravel Beaches	1,206.07	0.75	< 1%
4	Coarse Grained Sand Beaches	13,073.77	8.12	1%
3A	Fine to Medium Grained Sand Beaches	31,653.21	19.67	3%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	170.87	0.11	< 1%
1B	Exposed, Solid Man-Made Structures	18,881.60	11.73	2%
Total ESI Shoreline:		1,152,452.85	716.10	
Total Shoreline:		552,830.94	343.51	

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 9A
South Long Island

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	S	F	Concentration	Monthly Presence											
						J	F	M	A	M	J	J	A	S	O	N	D
SAV	Submersed aquatic veg	High Ecological Value			Present												
Algae	Macroalgae	High Ecological Value			Present												
Bivalve	Oyster reef	High Ecological Value			Present												

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
29	Raptor	Short-eared owl	Wintering	E/E		-												-	-	-		
34	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs											Apr-Aug	-	-			
83	Gull/Tern	Least tern	Nesting	T/E		1-10 Pairs											May-Sep	-	-			
121	Gull/Tern	Black skimmer	Nesting	C/E		10-50 Pairs											Apr-Aug	-	-			
	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs											May-Sep	-	-			
	Gull/Tern	Least tern	Nesting	T/E		50-100 Pairs											May-Sep	-	-			
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs											Apr-Aug	-	-			
124	Shorebird	Piping plover	Nesting	E/E	T	25-40 Pairs											Apr-Aug	-	-			
	Gull/Tern	Black skimmer	Migration	C/E		100S											-	May	Aug-Oct	-		
	Gull/Tern	Common tern	Migration	T/C		100S											-	-	Aug-Sep	-		
	Gull/Tern	Least tern	Migration	T/E		1S												-	Aug-Sep	-		
	Gull/Tern	Roseate tern	Migration	E/E	E	1S											-	May	Aug-Sep	-		
	Shorebird	American oystercatcher	Migration	-/C		100S											-	-	Aug-Sep	-		
	Shorebird	Piping plover	Migration	E/E	T	10S											-	-	Aug-Sep	-		
	Shorebird	Red knot	Migration	-/E	T	100S											-	Apr-May	Jul-Sep	-		
	Shorebird	Sanderling	Migration	-/C		1000S											-	Apr-May	Aug-Sep	-		
	Shorebird	Semipalmated sandpiper	Migration	-/C		1000S											-	Apr-May	Aug-Sep	-		
	125	Raptor	Short-eared owl	Nesting	E/E	-											Apr-Jul	-	-	-		
	129	Raptor	Endangered raptor 1	Nesting	E/E	1 Pair											Mar-Jul	-	-	-		
130	Gull/Tern	Black skimmer	Nesting	C/E		10-50 Pairs											Apr-Aug	-	-	-		
	Gull/Tern	Common tern	Nesting	T/C		100-500 Pairs											May-Sep	-	-	-		
	Gull/Tern	Forster's tern	Nesting			50-100 Pairs											Jun-Aug	-	-	-		
	Gull/Tern	Gull-billed tern	Nesting	-/C		1-10 Pairs											Jun-Sep	-	-	-		
131	Gull/Tern	Herring gull	Nesting			50-100 Pairs											Apr-Sep	-	-	-		
	Gull/Tern	Black skimmer	Nesting	C/E		500-100 Pairs											Apr-Aug	-	-	-		
	Gull/Tern	Common tern	Nesting	T/C		100-500 Pairs											May-Sep	-	-	-		
	Gull/Tern	Forster's tern	Nesting			50-100 Pairs											Jun-Aug	-	-	-		
	Gull/Tern	Gull-billed tern	Nesting	-/C		1-10 Pairs											Jun-Sep	-	-	-		
	Raptor	Osprey	General Distribution	C/-		-											Apr-Aug	-	-	-		
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs											Apr-Aug	-	-	-		

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	J	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
								J	F	M	A	M	J	J	A	S	O	N	D				
132	Raptor	Osprey	General Distribution	C/-		-														Apr-Aug	-	-	-
	Shorebird	Plovers	Migration			-														-	Apr-May	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	-														-	Apr-May	Jul-Sep	-
	Shorebird	Shorebirds	Migration			-														-	Mar-May	-	-
133	Gull/Tern	Black skimmer	Migration	C/E		10S														-	May	Aug-Oct	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs														Apr-Aug	-	-	-
	Wading	BC night-heron	Nesting	-/T		1-10 Pairs														Apr-Aug	-	-	-
	Gull/Tern	Black skimmer	Migration	C/E		10S														-	May	Aug-Oct	-
134	Gull/Tern	Black skimmer	Nesting	C/E		10-50 Pairs														Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs														May-Sep	-	-	-
	Gull/Tern	G. black-backed gull	Nesting			1-10 Pairs														Apr-Jul	-	-	-
	Gull/Tern	Gull-billed tern	Nesting	-/C		1-10 Pairs														Jun-Sep	-	-	-
135	Gull/Tern	Herring gull	Nesting			50-100 Pairs														Apr-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs														Apr-Aug	-	-	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S														-	Apr-May	Aug-Sep	-
	Gull/Tern	Black skimmer	Nesting	C/E		10-50 Pairs														Apr-Aug	-	-	-
136	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs														May-Sep	-	-	-
	Gull/Tern	Forster's tern	Nesting			1-10 Pairs														Jun-Aug	-	-	-
	Gull/Tern	Black skimmer	Nesting	C/E		10-50 Pairs														Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs														May-Sep	-	-	-
137	Gull/Tern	Forster's tern	Nesting			10-50 Pairs														Jun-Aug	-	-	-
	Raptor	Osprey	General Distribution	C/-		-														Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs														Apr-Aug	-	-	-
	Gull/Tern	Black skimmer	Nesting	C/E		10-50 Pairs														May-Sep	-	-	-
138	Gull/Tern	Common tern	Nesting	T/C		50-100 Pairs														Jun-Aug	-	-	-
	Raptor	Osprey	General Distribution	C/-		-														Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs														Apr-Aug	-	-	-
	Gull/Tern	Black skimmer	Nesting	C/E		1-10 Pairs														May-Sep	-	-	-
139	Shorebird	Common tern	Nesting	-/C		1-5 Pairs														Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	C/E		50-100 Pairs														May-Sep	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		50-100 Pairs														Jun-Aug	-	-	-
	Gull/Tern	Forster's tern	Nesting			10-50 Pairs														Apr-Aug	-	-	-
140	Raptor	Osprey	General Distribution	C/-		-														Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs														Apr-Aug	-	-	-
	Gull/Tern	Black skimmer	Migration	C/E		10S														-	May	Aug-Oct	-
	Shorebird	American oystercatcher	Migration	-/C		10S														-	-	Aug-Sep	-
141	Shorebird	Red knot	Migration	-/E	T	1S														-	Apr-May	Jul-Sep	-
	Shorebird	American oystercatcher	Migration	-/C		10S														-	-	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	1S														-	-	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	10S														-	Apr-May	Jul-Sep	-
142	Shorebird	Sanderling	Migration	-/C		100S														-	Apr-May	Aug-Sep	-
	Gull/Tern	Black skimmer	Migration	C/E		100S														-	May	Aug-Oct	-
	Gull/Tern	Common tern	Migration	T/C		100S														-	-	Aug-Sep	-
	Gull/Tern	Common tern	Migration			100S														-	-	Aug-Sep	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
	Gull/Tern	Least tern	Migration	T/E		1S													-	-	Aug-Sep	-
	Gull/Tern	Roseate tern	Migration	E/E	E	1S													-	May	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	10S													-	-	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	100S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		1000S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		1000S													-	Apr-May	Aug-Sep	-
143	Raptor	Osprey	General Distribution	C/-		-													Apr-Aug	-	-	-
144	Raptor	Osprey	General Distribution	C/-		-													Apr-Aug	-	-	-
	Raptor	Short-eared owl	Nesting	E/E		-													Apr-Jul	-	-	-
145	Shorebird	American oystercatcher	Migration	-/C		100S													-	-	Aug-Sep	-
146	Shorebird	American oystercatcher	Migration	-/C		50S-100S													-	Apr-May	Aug-Sep	-
	Shorebird	Dunlin	Migration			100S													-	Apr-May	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	10S													-	Apr-May	Aug-Sep	-
	Shorebird	Sanderling	Migration	-/C		1000S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated plover	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	-	Aug-Sep	-
147	Gull/Tern	Black skimmer	Nesting	C/E		1-10 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		1-10 Pairs													May-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		1-10 Pairs													May-Sep	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	25-40 Pairs													Apr-Aug	-	-	-
148	Raptor	Northern harrier	General Distribution	T/E		1 Pair													Apr-Aug	-	-	-
149	Shorebird	Black-bellied plover	Migration			100S													-	-	Aug-Sep	-
	Shorebird	Dunlin	Migration			100S													-	Apr-May	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	1S													-	Apr-May	-	-
	Shorebird	Red knot	Migration	-/E	T	1S-50S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
150	Gull/Tern	Black skimmer	Nesting	C/E		100-500 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		500-1000 Pairs													May-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		300-400 Pairs													May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		25-50 Pairs													Apr-Aug	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													Apr-Aug	-	-	-
151	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	-	Aug-Sep	-
152	Shorebird	Dunlin	Migration			100S													-	Apr-May	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	1S													-	Apr-May	-	-
	Shorebird	Sanderling	Migration	-/C		100S													-	-	Aug-Sep	-
	Shorebird	Dunlin	Migration			100S													-	-	Aug-Sep	-
153	Shorebird	Sanderling	Migration	-/C		100S													-	-	Aug-Sep	-
	Shorebird	Dunlin	Migration			100S-1000S													-	Apr-May	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	10S													-	Apr-May	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	10S													-	Apr-May	-	-
	Shorebird	Sanderling	Migration	-/C		100S-1000S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated plover	Migration			100S													-	-	Aug-Sep	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D			
390	Diadromous	Striped bass	Concentration Area			High													-	-	Mar-Nov
	Estuarine Nursery	Black sea bass	Concentration Area			High													May-Nov	-	-
	Estuarine Nursery	Bluefish	Concentration Area			High													-	May-Oct	Apr-Dec
	Marine Benthic	American sand lance	Concentration Area			High													Nov-Feb	Dec-Jun	Nov-May
	Marine Benthic	Tautog	Concentration Area			High													May-Aug	-	-
394	Diadromous	Alewife	Nursery Area			-													-	Mar-May	Apr-Oct
405	Diadromous	Alewife	Migration			-													-	Apr-Oct	Mar-May
410	Diadromous	Alewife	Spawning Area			-													Mar-May	-	Mar-May
	Diadromous	American eel	Nursery Area			-													-	Jan-Dec	-
	Freshwater	Bluegill	Harvest Area			-													Apr-Jun	Apr-Aug	Jan-Dec
	Freshwater	Chain pickerel	Harvest Area			-													Apr-Jun	Apr-Aug	Jan-Dec
	Freshwater	Common carp	Harvest Area			-													Apr-Jun	Apr-Aug	Jan-Dec
	Freshwater	Largemouth bass	Harvest Area			-													Apr-Jun	Apr-Aug	Jan-Dec
	Freshwater	Pumpkinseed	Harvest Area			-													Apr-Jun	Apr-Aug	Jan-Dec
	Freshwater	Yellow perch	Harvest Area			-													Apr-Jun	Apr-Aug	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D			
520	Plant	Endangered plant	Vulnerable Occurrence	E/E		-													-	-	-
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-													-	-	-
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-													-	-	-
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-													-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D			
575	Turtle	N. diamondback terrapin	Nesting			-													-	-	Jun-Jul
576	Turtle	N. diamondback terrapin	Nesting			100-200													-	-	Jun-Jul

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D			
624	Crab	Horseshoe crab	Spawning Area			-													-	-	May-Jun
626	Invertebrate	R, LT, or LE invertebrate	Vulnerable Occurrence			-													Apr-Jun	Jan-Dec	Jan-Dec


MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Calving	Pupping	Molt
							J	F	M	A	M	J	J	A	S	O	N	D			
678	Pinniped	Seals	Concentration Area			High													-	-	-
685	Pinniped	Gray seal	Haul Out			Few													-	-	-
	Pinniped	Harbor seal	Haul Out			150													-	-	-
	Pinniped	Harp seal	Haul Out			Few													-	-	-


BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Passerine	Seaside sparrow																May-Aug	-	-	-
	Raptor	Osprey			10S													Apr-Aug	-	-	-
	Shorebird	Shorebirds			High													-	Mar-May	-	-
	Threatened shorebird	General Distribution																May-Aug	-	-	-
	Brant	Wintering			1000S													-	-	-	-
	Brant	Wintering			10000S													-	-	-	-
	Waterfowl	Waterfowl			High													-	Mar-Apr	Oct-Nov	-
	Waterfowl	Migration			1000S													-	Mar-Apr	Oct-Nov	-
	Waterfowl	Wintering			1000S													-	-	-	-



FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous	Atlantic sturgeon			Low													-	-	-	Jan-Dec	Oct-Jun
		Atlantic sturgeon			High													-	-	-	May-Jul	May-Jul


REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Turtle	Green sea turtle																-	-	-	May-Nov	May-Nov
		K. ridley sea turtle																-	-	-	May-Nov	-
		Leatherback sea turtle																-	-	-	May-Nov	May-Nov
		Loggerhead sea turtle																-	-	-	May-Nov	May-Nov










INVERTEBRATES

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Bivalve	Atlantic razor			3 Bushels/Yr Avg													Apr-May	Apr-May	Apr-May	Jan-Dec	Jan-Dec
		Atlantic surfclam			224702 Bushels/Yr													Jun-Oct*	Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec
		Bay scallop			1 Bushel/Yr Avg													Jun-Sep	Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
		Northern quahog			2034 Bushels/Yr Avg													Jun-Aug	Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
	Crab	Softshell clam			117 Bushels/Yr Avg													Apr-Sep	Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
		Horseshoe crab			High													-	-	-	Jan-Dec	Jan-Dec












MARINE MAMMALS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Whale	Fin whale			Common													-	-	-	-
		Humpback whale			Common													-	-	-	-
		N.A. right whale			Uncommon, Regular													-	-	-	-
		N.A. right whale			-													-	-	-	-

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Alcids	Razorbill													-	-	-	-
 Gull/Tern	G. black-backed gull													-	-	-	-
	Herring gull													-	-	-	-
 Passerine	Marsh wren													Apr-Aug	-	-	-
	Nelson's sparrow													May-Aug	-	-	-
 Pelagic	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
 Shorebird	Willet													May-Aug	-	-	-
	Clapper rail													Apr-Sep	-	-	-
 Wading	American black duck													Apr-Aug	-	-	-
	Black scoter													-	-	-	-
 Waterfowl	Canada goose													Mar-Jun	-	-	-
	Common eider													-	-	-	-
 Long-tailed duck	Long-tailed duck													-	-	-	-
	Mallard													Mar-Sep	-	-	-
 Surf scoter	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					
 Diadromous	Alewife													-	-	-	Nov-Apr	Nov-Apr
	American eel													-	-	-	Apr-Nov	Mar-Jun
 American eel	American eel													-	-	-	Jan-Dec	Sep-Nov
	American shad													-	-	-	-	Sep-Dec
 American shad	American shad													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	Apr-Jul	Nov-Apr
 Blueback herring	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	-	May-Nov	Mar-Jul
 Striped bass	Striped bass													-	-	-	Apr-Nov	Mar-Nov
	Atlantic croaker													-	-	-	Mar-Nov	Mar-Nov
 Atlantic croaker	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic herring													-	-	-	Nov-Apr	Nov-Apr
 Atlantic herring	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
 Atlantic menhaden	Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
 Bay anchovy	Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
 Black sea bass	Black sea bass													-	-	-	Apr-Nov	Apr-Nov
	Bluefish													-	-	-	May-Nov	May-Nov
 Bluefish	Bluefish													-	-	-	May-Oct	Apr-Dec
	Bluefish													-	-	-	May-Oct	Apr-Dec

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
Estuarine Resident	Northern kingfish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	May-Nov	May-Nov
	Northern puffer													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Scup													-	-	-	May-Nov	May-Nov
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Spot													-	-	-	Apr-Nov	Apr-Nov
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Summer flounder													-	-	-	Apr-Oct	Apr-Oct
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
Marine Benthic	Weakfish													May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
	White perch													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Winter flounder													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
Marine Pelagic	American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	American sand lance													-	-	-	-	Oct-Jun
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Clearnose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Pollock													-	-	-	Mar-Jun	-
Marine Pelagic	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Red hake													-	-	-	May-Oct	May-Oct
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Mar-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Atlantic mackerel													-	-	-	Nov-Apr*	-
Marine Pelagic	Bluefin tuna													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Butterfish													-	-	-	May-Sep	May-Sep
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct


FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Shortfin mako													-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	May-Nov	May-Nov
	Tiger shark													-	-	Jul-Oct	-


REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic surfclam													Jun-Oct*	Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec
	Longfin squid													-	-	-	-	Jan-Dec
	Blue crab													-	-	Jun-Oct	-	Aug-Mar
	Blue crab													May-Oct	Jun-Oct	Jun-Oct	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	Aug-Mar	Aug-Mar
	Horseshoe crab													-	-	-	Jan-Dec	Jan-Dec
	American lobster													-	-	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

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

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	3,116.22	4.87
10B	Freshwater Marshes	114.02	0.18
10C	Swamps	46.49	0.07
10D	Scrub and Shrub Wetlands	56.41	0.09
9A	Sheltered Tidal Flats	2,140.96	3.35
7	Exposed Tidal Flats	325.86	0.51

ESI SHORELINE HABITAT TYPES

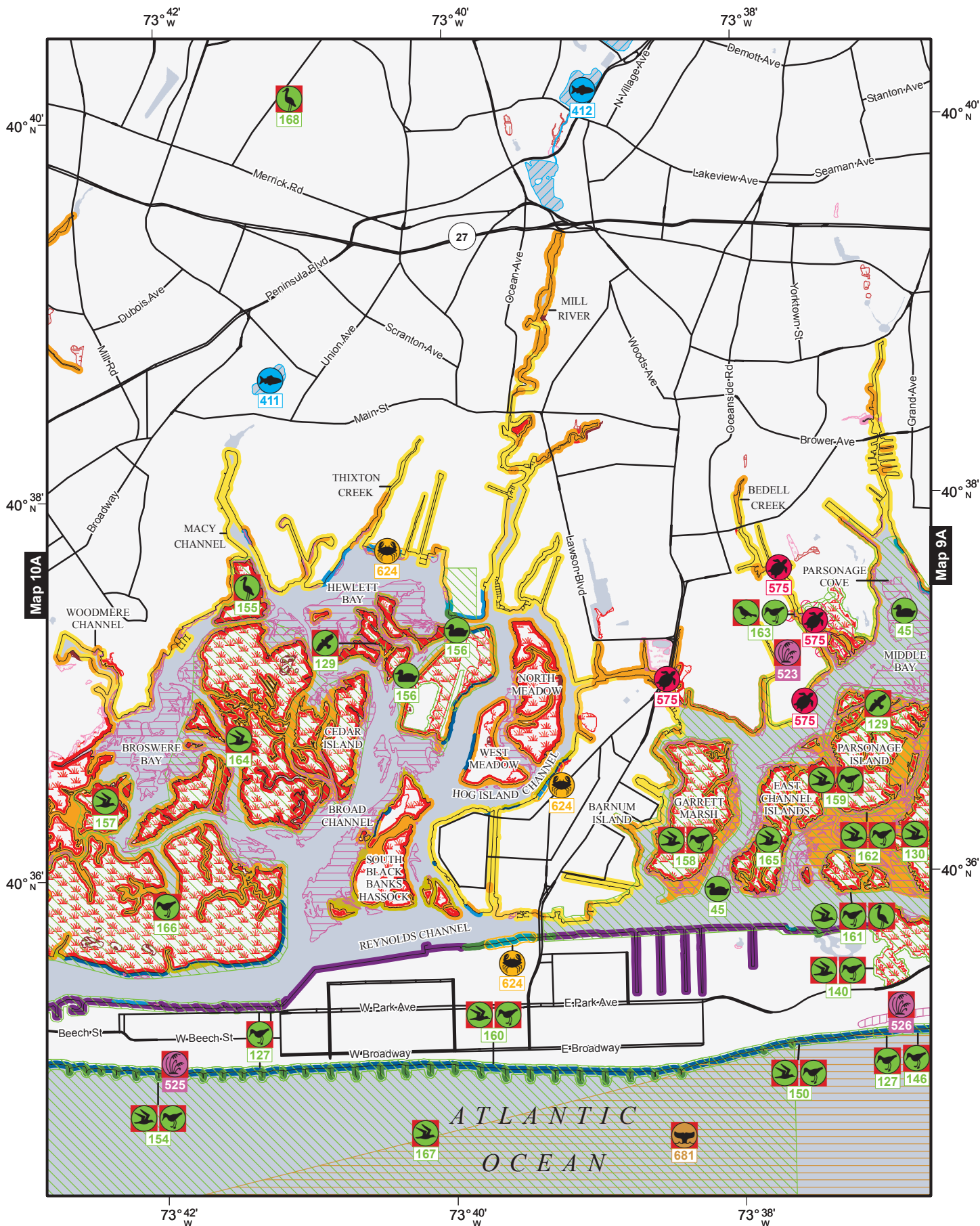
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	190,906.27	118.62	28%
10B	Freshwater Marshes	200.37	0.12	< 1%
10D	Scrub and Shrub Wetlands	135.03	0.08	< 1%
9A	Sheltered Tidal Flats	157,120.39	97.63	23%
9B	Vegetated Low Banks	200,681.95	124.70	29%
8B	Sheltered, Solid Man-Made Structures	82,771.87	51.43	12%
8C	Sheltered Riprap	2,549.64	1.58	< 1%
7	Exposed Tidal Flats	14,638.74	9.10	2%
6B	Riprap	3,998.68	2.48	1%
5	Mixed Sand and Gravel Beaches	314.02	0.20	< 1%
4	Coarse Grained Sand Beaches	10,458.88	6.50	2%
3A	Fine to Medium Grained Sand Beaches	17,830.32	11.08	3%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	170.87	0.11	< 1%
1B	Exposed, Solid Man-Made Structures	4,380.60	2.72	1%

Total ESI Shoreline: 686,157.64 Total ESI Shoreline: 426.36
Total Shoreline: 315,953.60 Total Shoreline: 196.32

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

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

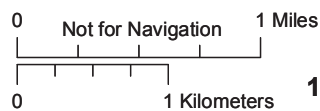




Map 9B
South Long Island



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



1:50,000

Map 9B
South Long Island

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	S	F	Concentration	Monthly Presence											
Algae	Macroalgae	High Ecological Value			Present	J	F	M	A	M	J	J	A	S	O	N	D

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
45	Waterfowl	Waterfowl	Migration			High													-	Mar-Apr	Oct-Nov	-
127	Shorebird	Sanderling	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
129	Raptor	Endangered raptor 1	Nesting	E/E		1 Pair													Mar-Jul	-	-	-
130	Gull/Tern	Black skimmer	Nesting	C/E		10-50 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		100-500 Pairs													May-Sep	-	-	-
	Gull/Tern	Forster's tern	Nesting			50-100 Pairs													Jun-Aug	-	-	-
	Gull/Tern	Gull-billed tern	Nesting	-/C		1-10 Pairs													Jun-Sep	-	-	-
	Gull/Tern	Herring gull	Nesting			50-100 Pairs													Apr-Sep	-	-	-
140	Gull/Tern	Black skimmer	Migration	C/E		10S													-	May	Aug-Oct	-
	Shorebird	American oystercatcher	Migration	-/C		10S													-	-	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	1S													-	Apr-May	Jul-Sep	-
146	Shorebird	American oystercatcher	Migration	-/C		50S-100S													-	Apr-May	Aug-Sep	-
	Shorebird	Dunlin	Migration			100S													-	Apr-May	Aug-Sep	-
	Shorebird	Piping plover	Migration	E/E	T	10S													-	Apr-May	Aug-Sep	-
	Shorebird	Sanderling	Migration	-/C		1000S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated plover	Migration			100S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	-	Aug-Sep	-
150	Gull/Tern	Black skimmer	Nesting	C/E		100-500 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		500-1000 Pairs													May-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		300-400 Pairs													May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		25-50 Pairs													Apr-Aug	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													Apr-Aug	-	-	-
154	Gull/Tern	Black skimmer	Nesting	C/E		50-100 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		100-500 Pairs													May-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		200-300 Pairs													May-Sep	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	5-10 Pairs													Apr-Aug	-	-	-
155	Wading	BC night-heron	Nesting	-/T		1-10 Pairs													Apr-Aug	-	-	-
	Wading	Great egret	Nesting			1-10 Pairs													Apr-Aug	-	-	-
156	Waterfowl	Canada goose	Nesting			17 Pairs													Mar-Jun	-	-	-
	Waterfowl	Mallard	Nesting			4 Pairs													Mar-Sep	-	-	-
157	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs													May-Sep	-	-	-
	Gull/Tern	Forster's tern	Nesting			10-50 Pairs													Jun-Aug	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
158	Gull/Tern	Gull-billed tern	Nesting	-/C		1-10 Pairs													Jun-Sep	-	-	-
	Gull/Tern	Black skimmer	Nesting	C/E		10-50 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		50-100 Pairs													May-Sep	-	-	-
	Gull/Tern	Forster's tern	Nesting			50-100 Pairs													Jun-Aug	-	-	-
	Gull/Tern	Gull-billed tern	Nesting	-/C		1-10 Pairs													Jun-Sep	-	-	-
159	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Black skimmer	Nesting	C/E		10-50 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs													May-Sep	-	-	-
	Gull/Tern	Gull-billed tern	Nesting	-/C		1-10 Pairs													Jun-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
160	Gull/Tern	Black skimmer	Migration	C/E		10S													-	May	Aug-Oct	-
	Shorebird	American oystercatcher	Migration	-/C		1S													-	-	Aug-Sep	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Gull/Tern	G. black-backed gull	Nesting			10-50 Pairs													Apr-Jul	-	-	-
161	Gull/Tern	Herring gull	Nesting			100-500 Pairs													Apr-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Wading	BC night-heron	Nesting	-/T		100-300 Pairs													Apr-Aug	-	-	-
	Wading	Glossy ibis	Nesting	-/C		50-100 Pairs													Apr-Aug	-	-	-
	Wading	Great egret	Nesting			50-100 Pairs													Apr-Aug	-	-	-
162	Wading	Little blue heron	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Wading	Snowy egret	Nesting	-/C		50-100 Pairs													Apr-Aug	-	-	-
	Wading	Tricolored heron	Nesting	-/C		3 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Black skimmer	Migration	C/E		10S													-	May	Aug-Oct	-
	Gull/Tern	G. black-backed gull	Nesting			1-10 Pairs													Apr-Jul	-	-	-
163	Gull/Tern	Herring gull	Nesting			50-100 Pairs													Apr-Sep	-	-	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
	Passerine	Seaside sparrow	Nesting	C/-		-													May-Aug	-	-	-
	Shorebird	Greater yellowlegs	Migration			50S													-	-	Aug-Sep	-
	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs													May-Sep	-	-	-
164	Gull/Tern	Forster's tern	Nesting			1-10 Pairs													Jun-Aug	-	-	-
	Gull/Tern	Forster's tern	Nesting			10-50 Pairs													Jun-Aug	-	-	-
	Gull/Tern	G. black-backed gull	Nesting			10-50 Pairs													Apr-Jul	-	-	-
	Gull/Tern	Herring gull	Nesting			100-500 Pairs													Apr-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		5-10 Pairs													Apr-Aug	-	-	-
165	Gull/Tern	Common tern	General Distribution	T/C		Present													-	-	-	-
166	Wading	YC night-heron	Nesting	-/T		1 Pair													Apr-Aug	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
411	Freshwater	Bluegill	Harvest Area	-	-	-													Apr-Jun	Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Common carp	Harvest Area	-	-	-													Apr-Jun	Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Largemouth bass	Harvest Area	-	-	-													Apr-Jun	Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
412	Freshwater	Pumpkinseed	Harvest Area	-	-	-													Apr-Jun	Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Bluegill	Harvest Area	-	-	-													Apr-Jun	Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Common carp	Harvest Area	-	-	-													Apr-Jun	Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Largemouth bass	Harvest Area	-	-	-													Apr-Jun	Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Pumpkinseed	Harvest Area	-	-	-													Apr-Jun	Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec
	Freshwater	Yellow perch	Harvest Area	-	-	-													Apr-Jun	Apr-Jun	Apr-Aug	Jan-Dec	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
523	Plant	Threatened plant	Vulnerable Occurrence	T/-	-	-													-	-	-	-	-
525	Plant	Rare plant	Vulnerable Occurrence	C/C	-	-													-	-	-	-	-
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-													-	-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
575	Turtle	N. diamondback terrapin	Nesting	-	-	-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul

INVERTEBRATES






Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
624	Crab	Horseshoe crab	Spawning Area	-	-	-													May-Jun	May-Jul	-	-	May-Jun

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
681	Whale	N.A. right whale	Migration	E/E	E	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		</

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Seaside sparrow	General Distribution	C/-	-	-													May-Aug	-	-	-
	Osprey	General Distribution	C/-	10S	-													Apr-Aug	-	-	-
	Shorebirds	Migration		High	-													-	Mar-May	-	-
	Brant	Wintering		10000S	-													-	-	-	-
	Waterfowl	Wintering		1000S	-													-	-	-	-



FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
	Atlantic sturgeon	General Distribution	-/E	E	Low													-	-	Jan-Dec	Oct-Jun
	Atlantic sturgeon	Migration	-/E	E	High													-	-	May-Jul	May-Jul


REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	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	T	-													-	-	May-Nov	May-Nov
	K. ridley sea turtle	General Distribution	E/E	E	-													-	-	May-Nov	-
	Leatherback sea turtle	General Distribution	E/E	E	-													-	-	May-Nov	May-Nov
	Loggerhead sea turtle	General Distribution	T/E	T	-													-	-	May-Nov	May-Nov

INVERTEBRATES






Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
	Atlantic razor	Harvest Area			3 Bushels/Yr Avg													Apr-May	Apr-May	Jan-Dec	Jan-Dec
	Atlantic surfclam	Harvest Area			224702 Bushels/Yr													Jun-Oct*	Jun-Oct*	Jan-Dec	Jan-Dec
	Bay scallop	Harvest Area			1 Bushel/Yr Avg													Jun-Sep	Jun-Oct	Jan-Dec	Jan-Dec
	Northern quahog	Harvest Area			2034 Bushels/Yr Avg													Jun-Aug	Jun-Sep	Jan-Dec	Jan-Dec
	Softshell clam	Harvest Area			117 Bushels/Yr Avg													Apr-Sep	Apr-Sep	Jan-Dec	Jan-Dec
	Horseshoe crab	Concentration Area			High													-	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Calving	Pupping	Molt	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Fin whale	General Distribution	E/E	E	Common													-	-	-	-
	Humpback whale	General Distribution	E/E	E	Common													-	-	-	-
	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular													-	-	-	-


ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS



Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Razorbill																	-	-	-	-
	Bonaparte's gull																	-	-	-	-
	G. black-backed gull																	-	-	-	-
	Herring gull																	-	-	-	-
	Marsh wren																	Apr-Aug	-	-	-
	Nelson's sparrow																	May-Aug	-	-	-
	Black-legged kittiwake																	-	-	-	-
	Northern gannet																	-	-	-	-
	Wilson's storm-petrel																	-	-	-	-
	Willet																	May-Aug	-	-	-
	Clapper rail																	Apr-Sep	-	-	-
	American black duck																	Apr-Aug	-	-	-

South Long Island: Map 9B

BIRDS (continued)





Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Black scoter													-	-	-	-
	Canada goose													Mar-Jun	-	-	-
	Common eider													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Sep	-	-	-
	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					
	Diadromous													-	-	-	Nov-Apr	Nov-Apr
	Alewife													-	-	-	Apr-Nov	Mar-Jun
	American eel													-	-	Jan-Feb	-	Sep-Dec
	American eel													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American shad													-	-	-	Apr-Nov	Apr-Jul
	American shad													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	May-Nov	Mar-Jul
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	-	Apr-Nov	Mar-Nov
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic herring													-	-	-	Nov-Apr	Nov-Apr
	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
	Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Black drum													-	-	-	Jul-Nov	Jul-Nov
	Black sea bass													-	-	-	Apr-Nov	Apr-Nov
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Bluefish													-	-	-	May-Oct	Apr-Dec
	Bluefish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Northern kingfish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Apr-Nov	Apr-Nov
	Northern puffer													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Scup													-	-	-	Jun-Oct	Jun-Oct
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Scup													-	-	-	May-Nov	May-Nov
	Spot													-	-	-	May-Dec	May-Nov
	Spot													-	-	-	Apr-Nov	Apr-Nov
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Spot													-	-	-	Apr-Oct	Apr-Oct
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Summer flounder													-	-	-	Apr-Nov	Apr-Nov

South Long Island: Map 9B





FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Weakfish													May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
	Weakfish													May-Sep	May-Sep	May-Sep	May-Dec	May-Dec
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	White perch													-	-	-	Jan-Dec	Jan-Dec
	White perch													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Windowpane													Apr-Oct*	Apr-Oct*	Apr-Nov	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Winter flounder													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Winter flounder													Nov-Apr	Nov-Apr	Nov-Jun	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	Atlantic silverside													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	American sand lance													Nov-Apr	Nov-Apr	Nov-May	Nov-Apr	Nov-Apr
	American sand lance													-	-	-	-	Oct-Jun
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Clearnose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Pollock													-	-	-	Mar-Jun	-
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Red hake													-	-	-	May-Oct	May-Oct
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Mar-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Atlantic mackerel													-	-	-	Nov-Apr	-
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-

REPTILES & AMPHIBIANS

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

INVERTEBRATES

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

MARINE MAMMALS

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

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

ESI SHORELINE HABITAT TYPES

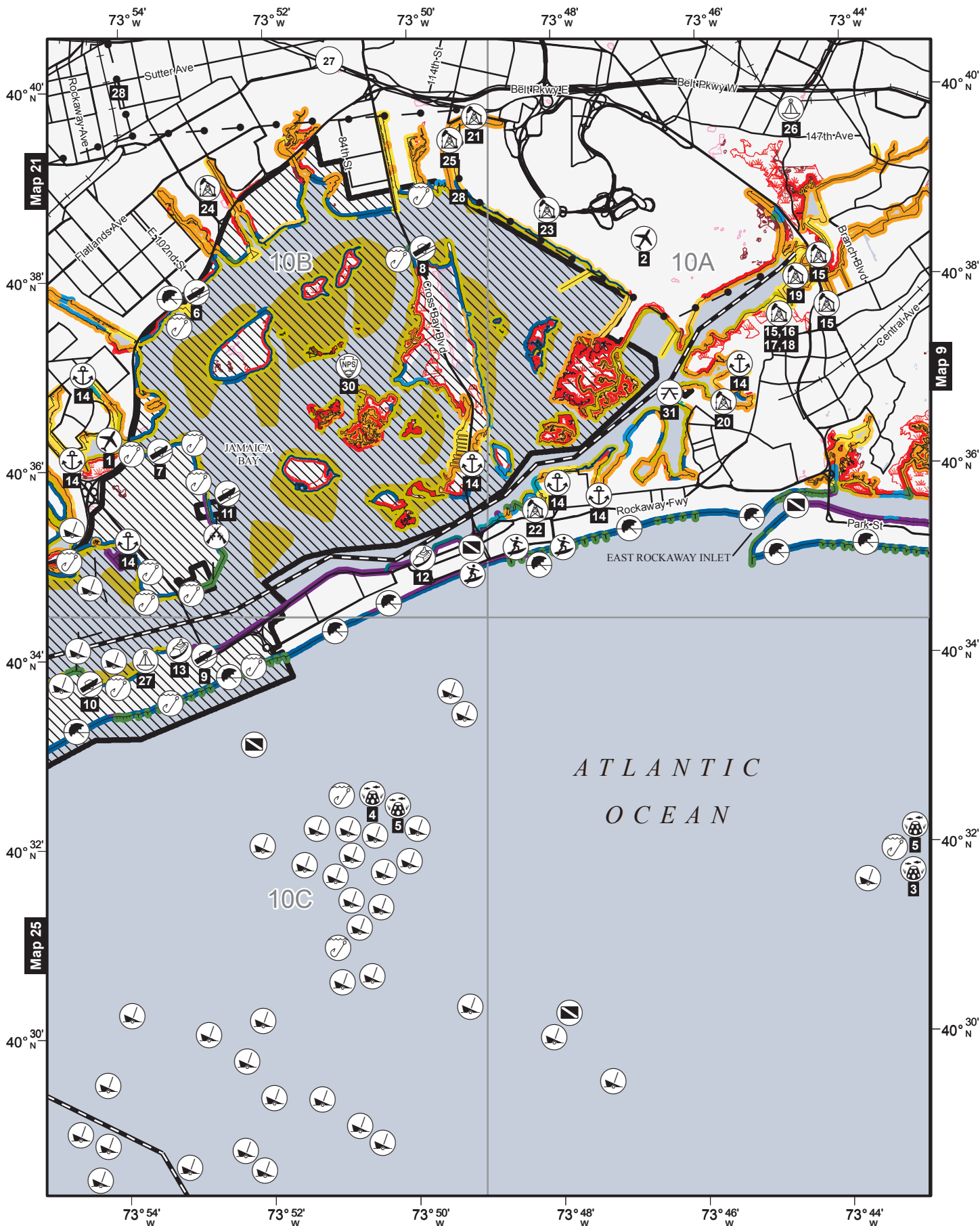
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	131,013.11	81.41	28%
10B	Freshwater Marshes	1,060.88	0.66	< 1%
10C	Swamps	204.62	0.13	< 1%
10D	Scrub and Shrub Wetlands	921.45	0.57	< 1%
9A	Sheltered Tidal Flats	83,029.45	51.59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

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

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

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





Map 10
South Long Island



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

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 10
South Long Island

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	AIRPORT	PVT SEALANES-JAMAICA BAY		
2	AIRPORT	JOHN F KENNEDY INTL		
3	ARTIFICIAL REEF	ATLANTIC BEACH REEF		
4	ARTIFICIAL REEF	ROCKAWAY REEF		
5	ARTIFICIAL REEF	ARTIFICIAL REEF		
6	BOAT RAMP	CANARSIE PIER BEACH	MARK CHRISTIANO	713-354-4525
7	BOAT RAMP	MILL BASIN INLET	MARK CHRISTIANO	713-354-4525
8	BOAT RAMP	NORTH CHANNEL	MARK CHRISTIANO	713-354-4525
9	BOAT RAMP	RIIS LANDING	MARK CHRISTIANO	713-354-4525
10	BOAT RAMP	ROCKAWAY POINT YACHT CLUB	MARK CHRISTIANO	713-354-4525
11	BOAT RAMP	SEAPLANE RAMP	MARK CHRISTIANO	713-354-4525
12	FERRY	ROCKAWAY/BEACH 108 ST LANDING		
13	FERRY	ROCKAWAY/RIIS LANDING		
14	MARINA	MARINA		
15	OIL FACILITY	PETROLEUM PRODUCT TERMINAL		
16	OIL FACILITY	CARBO CONCORD OIL		
17	OIL FACILITY	CONCORD TERMINAL CORP.		
18	OIL FACILITY	GLOBAL COMPANIES LLC INWOOD TERMINAL		
19	OIL FACILITY	MOTIVA ENTERPRISES LLC		
20	OIL FACILITY	FAR ROCKAWAY POWER STATION		
21	OIL FACILITY	LEFFERTS OIL TERMINAL, INC.		
22	OIL FACILITY	BAY TERMINALS OF ROCKAWAY, INC.		
23	OIL FACILITY	ALLIED NEW YORK SERVICES, INC.		
24	OIL FACILITY	STARRETT CITY TOTAL ENERGY PLANT		
25	OIL FACILITY	BUILDING 209		
26	REPEATED MEASUREMENT SITE	CONSELYEAS POND TRIBUTARY AT ROSEDALE NY		
27	REPEATED MEASUREMENT SITE	MUSSEL WATCH SITE - HRJB	MUSSEL WATCH PROJECT MANAGER	301-713-3028
DISPLAYED ON MAP (LINES)				
Map ID	Type	Name	Contact	Phone
28	PIPELINE	BUCKEYE	BUCKEYE PARTNERS	
DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
29	MILITARY	US NAVAL AIR STATION		
30	NATIONAL PARK	GATEWAY NATIONAL RECREATION AREA	MARK CHRISTIANO	713-354-4525
31	STATE PARK	BAYSWATER POINT STATE PARK		

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	EFH AREA	CHRIS BRUCE	434-951-0565
ESSENTIAL HABITAT	IMPORTANT BIRD AREA	IMPORTANT BIRD AREAS PROGRAM COORDINATOR	607-254-2437
ESSENTIAL HABITAT	SIGNIFICANT COASTAL HABITAT	NYS DEPARTMENT OF STATE COORDINATOR	518-474-6000

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,720.29	2.69
10B	Freshwater Marshes	75.09	0.12
10C	Swamps	5.36	0.01
10D	Scrub and Shrub Wetlands	96.78	0.15
9A	Sheltered Tidal Flats	145.90	0.23
7	Exposed Tidal Flats	3,611.59	5.64

ESI SHORELINE HABITAT TYPES

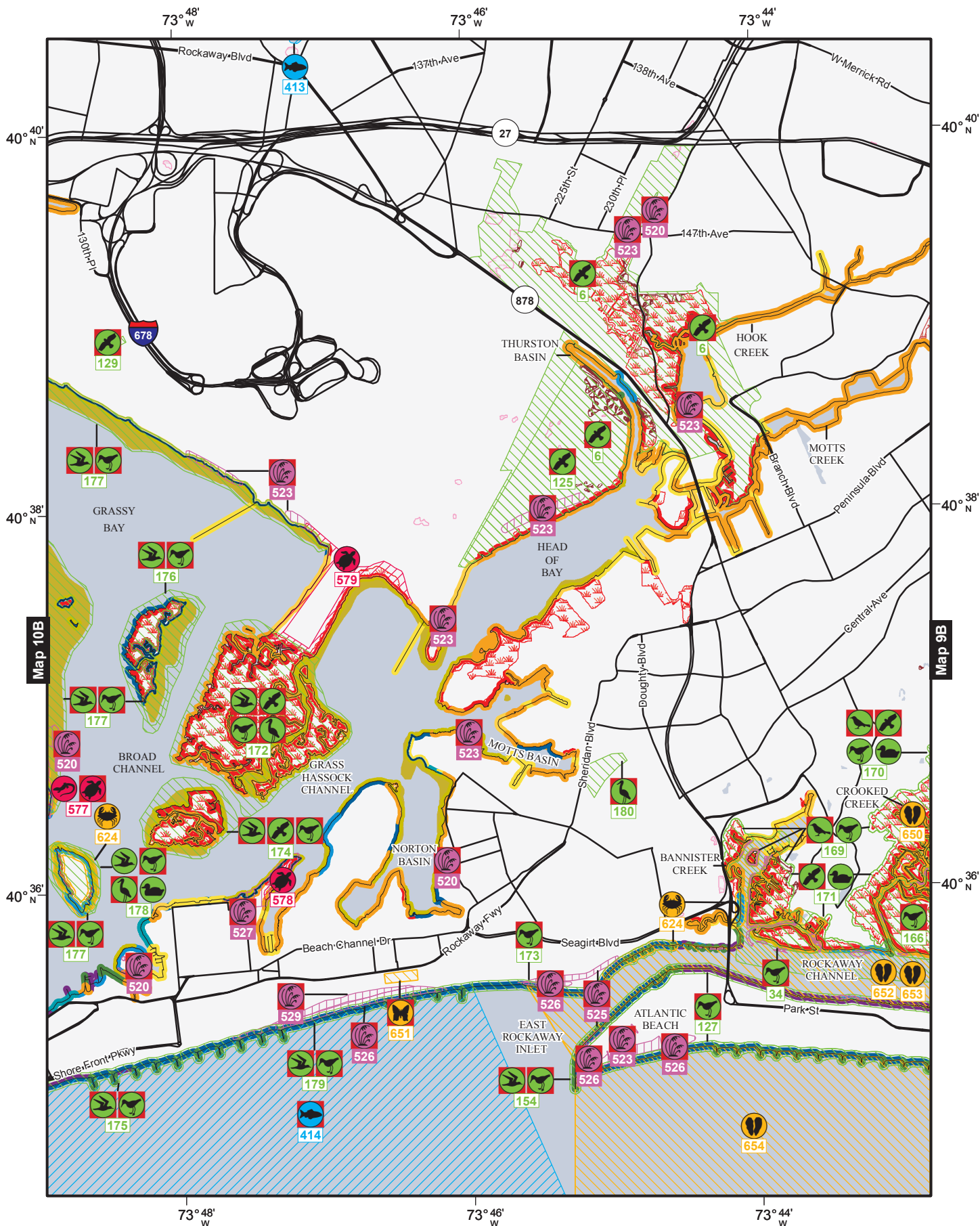
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	138,519.75	86.07	23%
10B	Freshwater Marshes	128.24	0.08	< 1%
10D	Scrub and Shrub Wetlands	2,662.86	1.65	< 1%
9A	Sheltered Tidal Flats	28,430.26	17.67	5%
9B	Vegetated Low Banks	147,936.51	91.92	24%
8B	Sheltered, Solid Man-Made Structures	40,778.67	25.34	7%
8C	Sheltered Riprap	13,462.13	8.36	2%
7	Exposed Tidal Flats	114,275.77	71.01	19%
6B	Riprap	9,978.44	6.20	2%
5	Mixed Sand and Gravel Beaches	1,376.43	0.86	< 1%
4	Coarse Grained Sand Beaches	13,326.40	8.28	2%
3A	Fine to Medium Grained Sand Beaches	78,912.48	49.03	13%
1A	Exposed, Rocky Shores	218.97	0.14	< 1%
1B	Exposed, Solid Man-Made Structures	18,817.16	11.69	3%

Total ESI Shoreline: 608,824.06 Total ESI Shoreline: 378.31
Total Shoreline: 326,928.00 Total Shoreline: 203.14

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

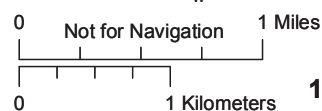




Map 10A
South Long Island



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



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Map 10A
South Long Island

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	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Monthly Presence
Algae	Macroalgae	High Ecological Value			Present													

BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Mig.(S)	Mig.(F)	Molt
6	Raptor	Northern harrier	Nesting	T/E		-													Apr-Aug	-	-	-
34	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
125	Raptor	Short-eared owl	Nesting	E/E		-													Apr-Jul	-	-	-
127	Shorebird	Sanderling	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
129	Raptor	Endangered raptor 1	Nesting	E/E		1 Pair													Mar-Jul	-	-	-
154	Gull/Tern	Black skimmer	Nesting	C/E		50-100 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		100-500 Pairs													May-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		200-300 Pairs													May-Sep	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	5-10 Pairs													Apr-Aug	-	-	-
166	Shorebird	American oystercatcher	Nesting	-/C		5-10 Pairs													Apr-Aug	-	-	-
169	Passerine	Seaside sparrow	General Distribution	C/-		-													May-Aug	-	-	-
	Shorebird	Shorebirds	Migration			High													-	Mar-May	-	-
170	Passerine	Seaside sparrow	General Distribution	C/-		-													May-Aug	-	-	-
	Raptor	Osprey	General Distribution	C/-		10S													Apr-Aug	-	-	-
	Shorebird	Shorebirds	Migration			High													-	Mar-May	-	-
	Waterfowl	Brant	Wintering			10000S													-	-	-	-
171	Raptor	Osprey	General Distribution	C/-		10S													Apr-Aug	-	-	-
	Waterfowl	Brant	Wintering			10000S													-	-	-	-
172	Gull/Tern	Common tern	Nesting	T/C		50-100 Pairs													May-Sep	-	-	-
	Gull/Tern	Herring gull	Nesting			1-10 Pairs													Apr-Sep	-	-	-
	Gull/Tern	Laughing gull	Nesting			1200 Pairs													May-Sep	-	-	-
	Raptor	Endangered raptor 1	Nesting	E/E		1 Pair													Mar-Jul	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Wading	Great egret	Nesting			1-10 Pairs													Apr-Aug	-	-	-
	Wading	Tricolored heron	Nesting	-/C		1 Pair													Apr-Aug	-	-	-
173	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
	Shorebird	Piping plover	Nesting	E/E	T	5-10 Pairs													Apr-Aug	-	-	-
174	Gull/Tern	Common tern	Migration	T/C		-													-	-	Aug-Sep	-
	Gull/Tern	Laughing gull	Nesting			41 Pairs													May-Sep	-	-	-
	Raptor	Endangered raptor 1	Nesting	E/E		1 Pair													Mar-Jul	-	-	-
	Shorebird	American oystercatcher	Migration	-/C		-													-	-	Aug-Sep	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-



BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	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	Migration	E/E	T	-													-	-	Aug-Sep	-	
	Shorebird	Red knot	Migration	-/E	T	High												-	-	Apr-May	Jul-Sep	-	
	Shorebird	Sanderling	Migration	-/C		High												-	-	Apr-May	Aug-Sep	-	
	Shorebird	Semipalmated sandpiper	Migration	-/C		High												-	-	Apr-May	Aug-Sep	-	
	Shorebird	Semipalmated sandpiper	Migration	-/C		High												-	-	Apr-May	Aug-Sep	-	
175	Gull/Tern	Black skimmer	Migration	C/E		10S												-	-	May	Aug-Oct	-	
	Shorebird	Piping plover	Migration	E/E	T	1S												-	-	-	Aug-Sep	-	
	Shorebird	Piping plover	Nesting	E/E	T	1-5 Pairs												-	-	Apr-Aug	Jul-Sep	-	
	Shorebird	Red knot	Migration	-/E	T	1S												-	-	Apr-May	Aug-Sep	-	
	Shorebird	Sanderling	Migration	-/C		1000S												-	-	Apr-May	Aug-Sep	-	
176	Shorebird	Semipalmated sandpiper	Migration	-/C		100S												-	-	Apr-May	Aug-Sep	-	
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S												-	-	Apr-May	Aug-Sep	-	
	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs												May-Sep	-	-	-	-	
	Gull/Tern	Laughing gull	Nesting			330 Pairs												May-Sep	-	-	-	-	
	Shorebird	American oystercatcher	Nesting	-/C		5-10 Pairs												Apr-Aug	-	-	-	-	
177	Gull/Tern	Common tern	Migration	T/C		-												-	-	-	Aug-Sep	-	
	Shorebird	American oystercatcher	Migration	-/C		-												-	-	-	Aug-Sep	-	
	Shorebird	Piping plover	Migration	E/E	T	-												-	-	-	Aug-Sep	-	
	Shorebird	Red knot	Migration	-/E	T	High												-	-	Apr-May	Jul-Sep	-	
	Shorebird	Sanderling	Migration	-/C		High												-	-	Apr-May	Aug-Sep	-	
178	Shorebird	Semipalmated sandpiper	Migration	-/C		High												-	-	Apr-May	Aug-Sep	-	
	Gull/Tern	G. black-backed gull	Nesting			10-50 Pairs												Apr-Jul	-	-	-	-	
	Gull/Tern	Herring gull	Nesting			100-500 Pairs												Apr-Sep	-	-	-	-	
	Shorebird	American oystercatcher	Nesting	-/C		10-25 Pairs												Apr-Aug	-	-	-	-	
	Wading	BC night-heron	Nesting	-/T		50-100 Pairs												Apr-Aug	-	-	-	-	
	Wading	Glossy ibis	Nesting	-/C		100-150 Pairs												Apr-Aug	-	-	-	-	
	Wading	Great egret	Nesting			50-100 Pairs												Apr-Aug	-	-	-	-	
	Wading	Green heron	Nesting			1 Pair												Apr-Sep	-	-	-	-	
	Wading	Little blue heron	Nesting	-/C		1-5 Pairs												Apr-Aug	-	-	-	-	
	Wading	Snowy egret	Nesting	-/C		50-100 Pairs												Apr-Aug	-	-	-	-	
	Wading	YC night-heron	Nesting	-/T		7 Pairs												Apr-Aug	-	-	-	-	
	Wading	YC night-heron	Nesting			1 Pair												Mar-Sep	-	-	-	-	
	Waterfowl	Mallard	Nesting			1 Pair												Mar-Sep	-	-	-	-	
	179	Gull/Tern	Common tern	Nesting	T/C		1-10 Pairs												May-Sep	-	-	-	-
		Gull/Tern	Least tern	Nesting	T/E		300-400 Pairs												May-Sep	-	-	-	-
Shorebird		American oystercatcher	Nesting	-/C		10-25 Pairs												Apr-Aug	-	-	-	-	
Shorebird		Piping plover	Nesting	E/E	T	10-25 Pairs												Apr-Aug	-	-	-	-	
Wading		YC night-heron	Nesting	-/T		40 Pairs												Apr-Aug	-	-	-	-	


FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
							J	F	M	A	M	J	J	A	S	O	N	D																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
413	Freshwater	Bluegill	Harvest Area			-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																


BIRDS

Subelement	Species	Mapping Qualifier	S T/C	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
 Gull/Tern	Common tern	General Distribution			Present														-	-	-
 Waterfowl	American black duck	Wintering			1000S														-	-	-
	Brant	Wintering			1000S														-	-	-
	Bufflehead	Wintering			1000S														-	-	-
	Canada goose	Wintering			1000S														-	-	-
	Long-tailed duck	Wintering			100S														-	-	-
	Ruddy duck	Wintering			1000S														-	-	-
	Scaup	Wintering			1000S														-	-	-
	Snow goose	Wintering			1000S														-	-	-
	Waterfowl	Wintering			1000S														-	-	-

FISH

	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							-/E	J	F	M	A	M	J	J	A	S	O	N					
	Diadromous	Atlantic sturgeon	General Distribution			Low													-	-	-	Jan-Dec	Oct-Jun
		Atlantic sturgeon	Migration	-/E	E	High													-	-	-	May-Jul	May-Jul


REPTILES & AMPHIBIANS

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










INVERTEBRATES

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults	
						J	F	M	A	M	J	J	A	S	O	N	D						
 Crab	Horseshoe crab	Concentration Area			High														-	-	-	Jan-Dec	Jan-Dec











MARINE MAMMALS

Subelement	Species	Mapping Qualifier	Monthly Presence												Mating	Calving	Pupping	Molt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
			S	F	Concentration			J	F	M	A	M	J	J					A	S	O	N	D																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
 Whale	Fin whale	General Distribution	E/E	E	Common																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				






BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Razorbill													-	-	-	-
	Bonaparte's gull													-	-	-	-
	G. black-backed gull													-	-	-	-
	Herring gull													-	-	-	-
	Marsh wren													Apr-Aug	-	-	-
	Nelson's sparrow													May-Aug	-	-	-
	Northern gannet													-	-	-	-
	Wilson's storm-petrel													-	-	-	-
	Willet													May-Aug	-	-	-
	Clapper rail													Apr-Sep	-	-	-
	American black duck													Apr-Aug	-	-	-
	Black scoter													-	-	-	-
	Canada goose													Mar-Jun	-	-	-
	Common eider													-	-	-	-
	Long-tailed duck													-	-	-	-
	Mallard													Mar-Sep	-	-	-
	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					
	Alewife													-	-	-	Nov-Apr	Nov-Apr
	Alewife													-	-	-	Apr-Nov	Mar-Jun
	American eel													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American eel													-	-	Jan-Feb	-	Sep-Dec
	American shad													-	-	-	Apr-Nov	Apr-Jul
	American shad													-	-	-	Nov-Apr	Nov-Apr
	Blueback herring													-	-	-	May-Nov	Mar-Jul
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	-	Apr-Nov	Mar-Nov
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic herring													-	-	-	Nov-Apr	Nov-Apr
	Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
	Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Black drum													-	-	-	Jul-Nov	Jul-Nov
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Black sea bass													-	-	-	Apr-Nov	Apr-Nov

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bluefish													-	-	-	May-Oct	Apr-Dec
	Bluefish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Apr-Nov	Apr-Nov
	Northern kingfish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Northern puffer													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Scup													-	-	-	Jun-Oct	Jun-Oct
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Scup													-	-	-	May-Nov	May-Nov
	Spot													-	-	-	May-Dec	May-Nov
	Spot													-	-	-	Apr-Nov	Apr-Nov
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Summer flounder													-	-	-	Apr-Oct	Apr-Oct
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Weakfish													May-Sep	May-Sep	May-Sep	May-Dec	May-Dec
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Weakfish													May-Aug	May-Aug	Jun-Aug	May-Nov	Apr-Nov
	White perch													-	-	-	Jan-Dec	Jan-Dec
	White perch													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jun	Apr-Jul	Jun-Nov	Jan-Dec	Jan-Dec
	Windowpane													Apr-Oct*	Apr-Oct*	Apr-Nov	Jan-Dec	Jan-Dec
	Winter flounder													Feb-Apr	Feb-Apr	Mar-Jun	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Winter flounder													Nov-Apr	Nov-Apr	Nov-Jun	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Apr	Jan-Apr
	Atlantic silverside													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Atlantic silverside													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	American sand lance													Nov-Feb	Nov-Feb	Dec-Jun	Dec-Jun	Nov-May
	American sand lance													-	-	-	-	Oct-Jun
	American sand lance													Nov-Apr	Nov-Apr	Nov-May	Nov-Apr	Nov-Apr
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Atlantic tomcod													-	-	Dec-Apr	Apr-Dec	Jan-Dec
	Clearnose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Pollock													-	-	-	Mar-Jun	-
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Red hake													-	-	-	May-Oct	May-Oct
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec




FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Nov	Mar-Nov
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Mar-Dec
	Winter skate													-	-	-	Sep-May	Sep-Nov
Marine Pelagic	Atlantic mackerel													-	-	-	Nov-Apr	-
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-


REPTILES & AMPHIBIANS

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

INVERTEBRATES

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

MARINE MAMMALS

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,103.17	1.72
10B	Freshwater Marshes	30.95	0.05
10C	Swamps	5.36	0.01
10D	Scrub and Shrub Wetlands	61.39	0.10
9A	Sheltered Tidal Flats	46.72	0.07
7	Exposed Tidal Flats	517.06	0.81

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	74,857.20	46.51	26%
10D	Scrub and Shrub Wetlands	1,551.13	0.96	1%
9A	Sheltered Tidal Flats	11,712.41	7.28	4%
9B	Vegetated Low Banks	94,276.03	58.58	33%
8B	Sheltered, Solid Man-Made Structures	15,485.00	9.62	5%
8C	Sheltered Riprap	7,855.47	4.88	3%
7	Exposed Tidal Flats	40,876.64	25.40	14%
6B	Riprap	5,250.54	3.26	2%
5	Mixed Sand and Gravel Beaches	893.10	0.55	< 1%
4	Coarse Grained Sand Beaches	5,647.54	3.51	2%
3A	Fine to Medium Grained Sand Beaches	25,625.77	15.92	9%
1A	Exposed, Rocky Shores	218.97	0.14	< 1%
1B	Exposed, Solid Man-Made Structures	4,382.12	2.72	2%

Total ESI Shoreline: 288,631.93 Total ESI Shoreline: 179.35
 Total Shoreline: 154,604.66 Total Shoreline: 96.07

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 10B
South Long Island

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	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
29	Raptor	Short-eared owl	Wintering	E/E		-													-	-	-	-
34	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
86	Diving	Pied-billed grebe	Nesting	T/E		-													Apr-Sep	-	-	-
107	Raptor	Northern harrier	Nesting	T/E		-													Apr-Aug	-	-	-
	Raptor	Short-eared owl	Nesting	E/E		-													Apr-Jul	-	-	-
129	Raptor	Endangered raptor 1	Nesting	E/E		1 Pair													Mar-Jul	-	-	-
167	Gull/Tern	Common tern	General Distribution	T/C		Present													-	-	-	-
175	Gull/Tern	Black skimmer	Migration	C/E		10S													-	May	Aug-Oct	-
	Shorebird	Piping plover	Migration	E/E	T	1S													-	-	Aug-Sep	-
	Shorebird	Piping plover	Nesting	E/E	T	1-5 Pairs													Apr-Aug	-	-	-
	Shorebird	Red knot	Migration	-/E	T	1S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		1000S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
181	Waterfowl	Black scoter	Concentration Area			High													-	-	-	-
182	Diving	D. crested cormorant	Nesting			100-500 Pairs													Jun-Sep	-	-	-
	Gull/Tern	G. black-backed gull	Nesting			10-50 Pairs													Apr-Jul	-	-	-
	Gull/Tern	Herring gull	Nesting			50-100 Pairs													Apr-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		5-10 Pairs													Apr-Aug	-	-	-
	Wading	BC night-heron	Nesting	-/T		1-10 Pairs													Apr-Aug	-	-	-
	Wading	Great egret	Nesting			10-50 Pairs													Apr-Aug	-	-	-
	Wading	Snowy egret	Nesting	-/C		10-50 Pairs													Apr-Aug	-	-	-
	Waterfowl	Canada goose	Nesting			2 Pairs													Mar-Jun	-	-	-
183	Gull/Tern	Common tern	Nesting	T/C		10-50 Pairs													May-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
184	Gull/Tern	Black skimmer	Migration	C/E		10S													-	May	Aug-Oct	-
	Shorebird	American oystercatcher	Migration	-/C		10S													-	-	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	1S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		1000S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
185	Gull/Tern	Black skimmer	Migration	C/E		10S													-	May	Aug-Oct	-
	Shorebird	American oystercatcher	Migration	-/C		1S													-	-	Aug-Sep	-
186	Shorebird	American oystercatcher	Migration	-/C		10S													-	-	Aug-Sep	-
	Shorebird	Red knot	Migration	-/E	T	10S													-	Apr-May	Jul-Sep	-
187	Gull/Tern	G. black-backed gull	Nesting			10-50 Pairs													Apr-Jul	-	-	-
	Gull/Tern	Herring gull	Nesting			500-1000 Pairs													Apr-Sep	-	-	-
	Shorebird	American oystercatcher	Nesting	-/C		25-50 Pairs													Apr-Aug	-	-	-
	Wading	BC night-heron	Nesting	-/T		100-300 Pairs													Apr-Aug	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
	Wading	Cattle egret	Nesting	-/T		1 Pair													Apr-Aug	-	-	-
	Wading	Glossy ibis	Nesting	-/C		100-150 Pairs													Apr-Aug	-	-	-
	Wading	Great egret	Nesting			100-200 Pairs													Apr-Aug	-	-	-
	Wading	Little blue heron	Nesting	-/C		12 Pairs													Apr-Aug	-	-	-
	Wading	Snowy egret	Nesting	-/C		50-100 Pairs													Apr-Aug	-	-	-
	Wading	Tricolored heron	Nesting	-/C		3 Pairs													Apr-Aug	-	-	-
	Wading	YC night-heron	Nesting	-/T		2 Pairs													Apr-Aug	-	-	-
188	Wading	BC night-heron	Concentration Area	-/T		38													-	-	-	-
	Wading	Glossy ibis	Concentration Area	-/C		56													-	-	-	-
	Wading	Great blue heron	Concentration Area	-/C		12													-	-	-	-
	Wading	Great egret	Concentration Area	-/C		72													-	-	-	-
	Wading	Little blue heron	Concentration Area	-/C		13													-	-	-	-
	Wading	Snowy egret	Concentration Area	-/C		104													-	-	-	-
	Wading	Tricolored heron	Concentration Area	-/C		5													-	-	-	-
	Wading	YC night-heron	Concentration Area	-/T		51													-	-	-	-
189	Wading	BC night-heron	Concentration Area	-/T		3													-	-	-	-
	Wading	Great blue heron	Concentration Area	-/C		4													-	-	-	-
	Wading	Great egret	Concentration Area	-/C		13													-	-	-	-
	Wading	Green heron	Concentration Area	-/C		2													-	-	-	-
	Wading	Little blue heron	Concentration Area	-/C		3													-	-	-	-
	Wading	Snowy egret	Concentration Area	-/C		11													-	-	-	-
	Wading	YC night-heron	Concentration Area	-/T		4													-	-	-	-
190	Wading	BC night-heron	Concentration Area	-/T		15													-	-	-	-
	Wading	Glossy ibis	Concentration Area	-/C		8													-	-	-	-
	Wading	Great blue heron	Concentration Area	-/C		11													-	-	-	-
	Wading	Great egret	Concentration Area	-/C		17													-	-	-	-
	Wading	Green heron	Concentration Area	-/C		2													-	-	-	-
	Wading	Snowy egret	Concentration Area	-/C		11													-	-	-	-
	Wading	Tricolored heron	Concentration Area	-/C		1													-	-	-	-
	Wading	YC night-heron	Concentration Area	-/T		14													-	-	-	-
191	Wading	BC night-heron	Concentration Area	-/T		6													-	-	-	-
	Wading	Great blue heron	Concentration Area	-/C		2													-	-	-	-
	Wading	Great egret	Concentration Area	-/C		7													-	-	-	-
	Wading	Green heron	Concentration Area	-/C		3													-	-	-	-
	Wading	Little blue heron	Concentration Area	-/C		1													-	-	-	-
	Wading	Snowy egret	Concentration Area	-/C		6													-	-	-	-
	Wading	YC night-heron	Concentration Area	-/T		13													-	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
415	Diadromous	Atlantic sturgeon	General Distribution	-/E	E	Rare													-	-	-	Jan-Dec	Jan-Dec
416	Diadromous	Atlantic sturgeon	Concentration Area	-/E	E	High													-	-	-	May-Nov*	-
	Diadromous	Atlantic sturgeon	General Distribution	-/E	E	Low													-	-	-	Jan-Dec	Oct-Jun
	Diadromous	Atlantic sturgeon	Migration	-/E	E	High													-	-	-	May-Jul	May-Jul

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
520	Plant	Endangered plant	Vulnerable Occurrence	E/E	-	-												
523	Plant	Threatened plant	Vulnerable Occurrence	T/-	-	-												
525	Plant	Rare plant	Vulnerable Occurrence	C/C	-	-												

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
550	Turtle	Common snapping turtle	Nesting			-												
553	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Thermal Regulation												
563	Turtle	Eastern box turtle	Nesting	C/C	-	-												
572	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active												
	Turtle	Eastern box turtle	Nesting	C/C	-	-												
573	Amphibian	Fowler's toad	Nesting	-C	-	-												
	Turtle	Eastern box turtle	Vulnerable Occurrence	C/C		Thermal Regulation												
575	Turtle	N. diamondback terrapin	Nesting			-												
577	Snake	Eastern milk snake	Nesting			-												
	Snake	Northern black racer	Nesting			-												
	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active												
	Turtle	Eastern box turtle	Nesting	C/C	-	-												
578	Turtle	N. diamondback terrapin	Nesting			50-100												
579	Turtle	N. diamondback terrapin	Nesting			1000S												
580	Snake	Eastern milk snake	Nesting			-												
	Snake	Northern black racer	Nesting			-												
	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active												
581	Turtle	Common snapping turtle	Nesting			-												
	Turtle	Painted turtle	Nesting			-												
582	Turtle	N. diamondback terrapin	Nesting			-												
	Turtle	Painted turtle	Nesting			-												
583	Turtle	Leatherback sea turtle	General Distribution	E/E	E	-												

INVERTEBRATES




Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence											
							J	F	M	A	M	J	J	A	S	O	N	D
624	Crab	Horseshoe crab	Spawning Area			-												
626	Invertebrate	R, LT, or LE invertebrate	Vulnerable Occurrence			-												
641	Crab	Horseshoe crab	Spawning Area			High												
647	Insect	Rare insect	Vulnerable Occurrence			-												
651	Insect	Checkered white	Vulnerable Occurrence	C/-		-												
655	Insect	Little bluet	Vulnerable Occurrence	T/-		-												
656	Crab	Horseshoe crab	Concentration Area			High												

MARINE MAMMALS


Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Calving	Pupping	Molt
							J	F	M	A	M	J	J	A	S	O	N	D			
686	Whale	Fin whale	General Distribution	E/E	E	Common													-	-	-
	Whale	Humpback whale	General Distribution	E/E	E	Common													-	-	-
	Whale	N.A. right whale	General Distribution	E/E	E	Uncommon, Regular													-	-	-
687	Whale	Humpback whale	General Distribution	E/E	E	Common													-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)




BIRDS

Subelement	Species	Mapping Qualifier	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	Common tern	Migration	T/C	-													-	-	Aug-Sep	-
		American oystercatcher	Migration	-/C	-														-	-	Aug-Sep
Piping plover		Migration	E/E	T	-													-	-	Aug-Sep	-
Red knot		Migration	-/E	T	High													-	-	Jul-Sep	-
Sanderling		Migration	-/C	High														-	-	Apr-May	-
Semipalmated sandpiper		Migration	-/C	High														-	-	Apr-May	-
	American black duck	Wintering			1000S													-	-	-	-
	Brant	Wintering			1000S													-	-	-	-
	Bufflehead	Wintering			1000S													-	-	-	-
	Canada goose	Wintering			1000S													-	-	-	-
	Long-tailed duck	Wintering			100S													-	-	-	-
	Ruddy duck	Wintering			1000S													-	-	-	-
	Scaup	Wintering			1000S													-	-	-	-
	Snow goose	Wintering			1000S													-	-	-	-
	Waterfowl	Wintering			1000S													-	-	-	-
																		-	-	-	-
																		-	-	-	-



REPTILES & AMPHIBIANS

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



BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
Alcid 	Razorbill													-	-	-	-
	Bonaparte's gull													-	-	-	-
	G. black-backed gull													-	-	-	-
Pelagic 	Herring gull													-	-	-	-
	Northern gannet													-	-	-	-
	Black scoter													-	-	-	-
Waterfowl 	Common eider													-	-	-	-
	Long-tailed duck													-	-	-	-
	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					
Diadromous 	Alewife													-	-	-	Jan-Dec	Feb-Jun
	Alewife													-	-	-	Apr-Nov	Mar-Jun
	Alewife													-	-	-	Nov-Apr	Nov-Apr
	American eel													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American eel													-	-	Jan-Feb	-	Sep-Dec
	American shad													-	-	-	Nov-Apr	Nov-Apr
	American shad													-	-	-	Apr-Jun	Apr-May
	Blueback herring													-	-	-	May-Nov	Mar-Jul
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	-	Apr-Nov	Mar-Nov
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Striped bass													-	-	-	Jan-Dec	Jan-Dec
	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic croaker													-	-	Sep-Nov	Jul-Nov	Jul-Nov
	Atlantic herring													-	-	-	Nov-May	Nov-May
Estuarine Nursery 	Atlantic herring													-	-	-	Nov-Apr	Nov-Apr
	Atlantic herring													-	-	Apr-May	Jan-May	Jan-May
	Atlantic menhaden													May-Oct*	May-Oct*	May-Oct*	Apr-Nov	Apr-Nov
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
	Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
	Bay anchovy													May-Aug	May-Aug	Jun-Sep	Jul-Mar	Jan-Dec
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Black drum													-	-	-	Jul-Nov	Jul-Nov
	Black sea bass													-	-	-	Apr-Nov	Apr-Nov
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Bluefish													-	-	-	May-Nov	May-Nov
	Bluefish													-	-	-	May-Oct	May-Oct

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Bluefish													-	-	-	May-Oct	Apr-Dec
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Northern kingfish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Apr-Nov	Apr-Nov
	Northern puffer													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Scup													Jul	Jul	Jul	Jun-Oct	Jun-Oct
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Scup													-	-	-	Jun-Oct	Jun-Oct
	Spot													-	-	-	Jun-Nov	Jun-Nov
	Spot													-	-	-	May-Dec	May-Nov
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Summer flounder													-	-	-	May-Oct	May-Oct
	Summer flounder													-	-	-	Apr-Oct	Apr-Oct
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Weakfish													May-Sep	May-Sep	May-Sep	May-Dec	May-Dec
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Weakfish													Jun-Aug	Jun-Aug	Jun-Aug	Jun-Nov	May-Dec
	White perch													-	-	-	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jul	Apr-Jul	Apr-Oct	Jan-Dec	Jan-Dec
	Windowpane													Apr-Oct*	Apr-Oct*	Apr-Nov	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Winter flounder													Nov-Apr	Nov-Apr	Nov-Jun	Jan-Dec	Jan-Dec
	Winter flounder													Nov-Apr	Nov-Apr	Nov-May	Jan-Dec	Oct-Jun
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	Atlantic silverside													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Killifish													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	Northern pipefish													May-Jul	-	May-Aug	Apr-Dec	Apr-Dec
	Silversides													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	American sand lance													Nov-Apr	Nov-Apr	Nov-Apr	Nov-Apr	Nov-Apr
	American sand lance													-	-	-	-	Oct-Jun
	American sand lance													Nov-Apr	Nov-Apr	Nov-May	Nov-Apr	Nov-Apr
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Atlantic tomcod													-	-	-	Jan-Dec	Jan-Dec
	Cleannose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Pollock													-	-	-	Mar-Jun	-
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Red hake													-	-	-	Nov-May	Nov-May




FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Mar-Dec
	Tautog													May	May	May	Jan-Dec	Apr-Nov
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Atlantic mackerel													-	-	-	Apr-Nov*	Apr-Nov*
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Butterfish													-	-	-	Apr-Nov	Apr-Nov
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct
	Spiny dogfish													-	-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	-	May-Nov	May-Nov
	Tiger shark													-	-	-	Jul-Oct	-


REPTILES & AMPHIBIANS

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

INVERTEBRATES

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

MARINE MAMMALS

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

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	615.08	0.96
10B	Freshwater Marshes	44.13	0.07
10D	Scrub and Shrub Wetlands	35.38	0.06
9A	Sheltered Tidal Flats	99.19	0.15
7	Exposed Tidal Flats	2,993.78	4.68

ESI SHORELINE HABITAT TYPES

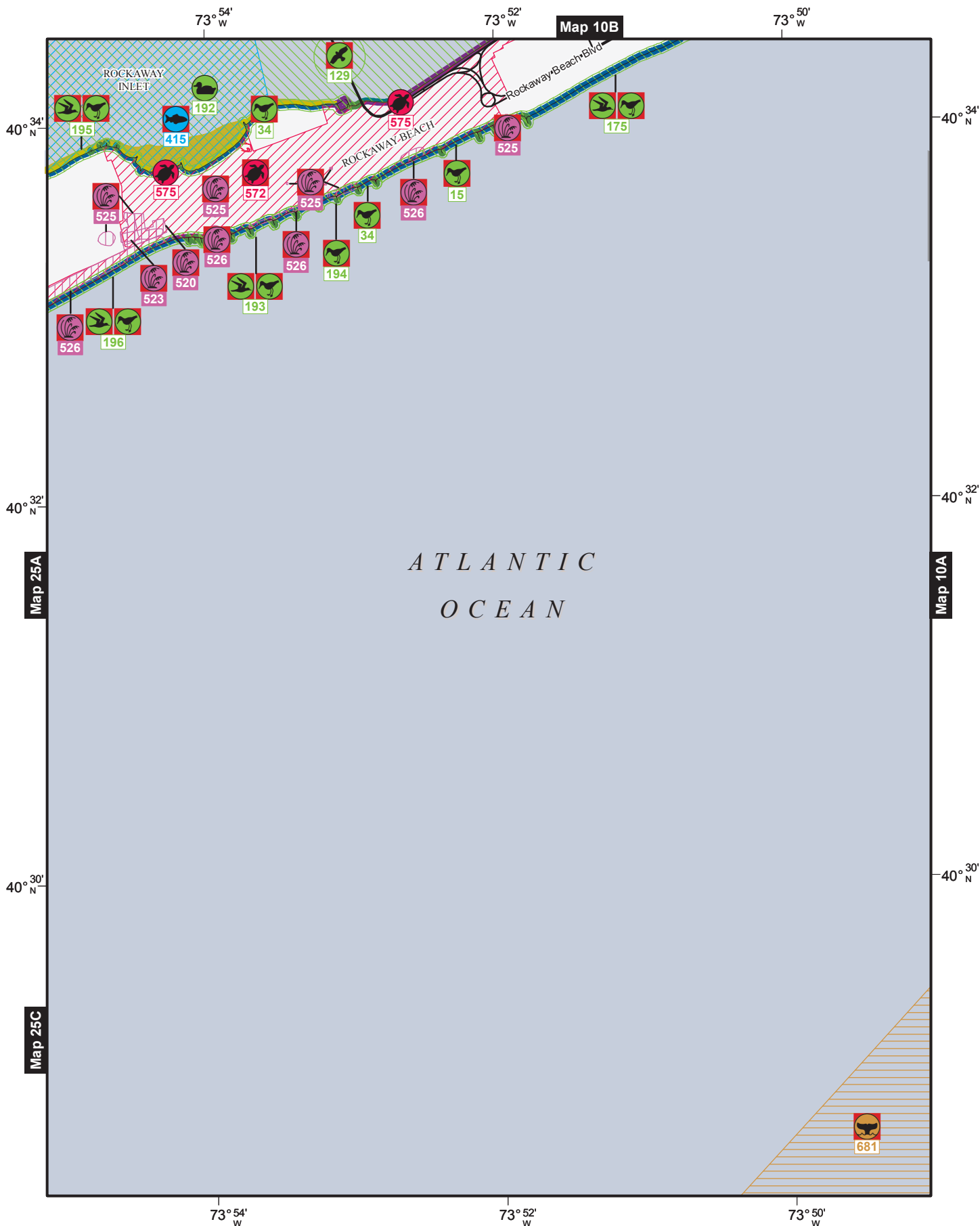
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	63,656.59	39.55	21%
10B	Freshwater Marshes	128.24	0.08	< 1%
10D	Scrub and Shrub Wetlands	1,111.73	0.69	< 1%
9A	Sheltered Tidal Flats	16,712.24	10.38	6%
9B	Vegetated Low Banks	53,655.17	33.34	18%
8B	Sheltered, Solid Man-Made Structures	25,296.33	15.72	8%
8C	Sheltered Riprap	5,606.97	3.48	2%
7	Exposed Tidal Flats	69,857.09	43.41	23%
6B	Riprap	3,059.57	1.90	1%
5	Mixed Sand and Gravel Beaches	483.33	0.30	< 1%
4	Coarse Grained Sand Beaches	7,678.85	4.77	3%
3A	Fine to Medium Grained Sand Beaches	43,179.84	26.83	14%
1B	Exposed, Solid Man-Made Structures	12,140.25	7.54	4%

Total ESI Shoreline: 302,566.17 Total ESI Shoreline: 188.01
 Total Shoreline: 159,021.53 Total Shoreline: 98.81

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

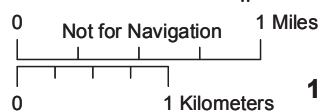




Map 10C
South Long Island



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



1:50,000



Map 10C
South Long Island

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	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
15	Shorebird	Piping plover	Nesting	E/E	T	5-10 Pairs													Apr-Aug	-	-	-
34	Shorebird	American oystercatcher	Nesting	-/C		1-5 Pairs													Apr-Aug	-	-	-
129	Raptor	Endangered raptor 1	Nesting	E/E		1 Pair													Mar-Jul	-	-	-
175	Gull/Tern	Black skimmer	Migration	C/E		10S													-	May	Aug-Oct	-
	Shorebird	Piping plover	Migration	E/E	T	1S													-	-	Aug-Sep	-
	Shorebird	Piping plover	Nesting	E/E	T	1-5 Pairs													Apr-Aug	-	-	-
	Shorebird	Red knot	Migration	-/E	T	1S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		1000S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		100S													-	Apr-May	Aug-Sep	-
192	Waterfowl	American black duck	Wintering	-/C		1000S													-	-	-	-
	Waterfowl	Brant	Wintering			1000S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			1000S													-	-	-	-
	Waterfowl	Canada goose	Wintering			1000S													-	-	-	-
	Waterfowl	Long-tailed duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			1000S													-	-	-	-
	Waterfowl	Scaup	Wintering			1000S													-	-	-	-
	Waterfowl	Snow goose	Wintering			1000S													-	-	-	-
	Waterfowl	Waterfowl	Wintering			1000S													-	-	-	-
193	Gull/Tern	Black skimmer	Migration	C/E		10S													-	May	Aug-Oct	-
	Shorebird	American oystercatcher	Migration	-/C		10S													-	-	Aug-Sep	-
194	Shorebird	Red knot	Migration	-/E	T	1S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		1000S													-	Apr-May	Aug-Sep	-
195	Gull/Tern	Black skimmer	Nesting	C/E		100-500 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		1000-2000 Pairs													May-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		300-400 Pairs													May-Sep	-	-	-
	Gull/Tern	Roseate tern	Migration	E/E	E	1S													-	May	Aug-Sep	-
	Shorebird	American oystercatcher	Migration	-/C		100S													-	-	Aug-Sep	-
	Shorebird	American oystercatcher	Nesting	-/C		10-25 Pairs													Apr-Aug	-	-	-
	Shorebird	Piping plover	Migration	E/E	T	1S													-	-	Aug-Sep	-
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													Apr-Aug	-	-	-
	Shorebird	Red knot	Migration	-/E	T	1S													-	Apr-May	Jul-Sep	-
	Shorebird	Sanderling	Migration	-/C		1000S													-	Apr-May	Aug-Sep	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		10S													-	Apr-May	Aug-Sep	-
196	Gull/Tern	Black skimmer	Nesting	C/E		100-500 Pairs													Apr-Aug	-	-	-
	Gull/Tern	Common tern	Nesting	T/C		1000-2000 Pairs													May-Sep	-	-	-
	Gull/Tern	Least tern	Nesting	T/E		300-400 Pairs													May-Sep	-	-	-
	Gull/Tern	Roseate tern	Migration	E/E	E	1S													-	May	Aug-Sep	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
	Shorebird	American oystercatcher	Migration	-/C		100S													-	-	Aug-Sep	-
	Shorebird	American oystercatcher	Nesting	-/C		10-25 Pairs													Apr-Aug	-	-	-
	Shorebird	Piping plover	Migration	E/E	T	1S													-	-	Aug-Sep	-
	Shorebird	Piping plover	Nesting	E/E	T	10-25 Pairs													Apr-Aug	-	-	-
	Shorebird	Semipalmated sandpiper	Migration	-/C		10S													-	Apr-May	Aug-Sep	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
415	Diadromous	Atlantic sturgeon	General Distribution	-/E	E	Rare													-	-	-	Jan-Dec	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
520	Plant	Endangered plant	Vulnerable Occurrence	E/E		-													-	-	-	-	-
523	Plant	Threatened plant	Vulnerable Occurrence	T/-		-													-	-	-	-	-
525	Plant	Rare plant	Vulnerable Occurrence	C/C		-													-	-	-	-	-
526	Wetland	Seabeach amaranth	Vulnerable Occurrence	T/E	T	-													-	-	-	-	-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
572	Turtle	Eastern box turtle	General Distribution	C/C		Present And Active													-	-	-	Apr-Nov	Apr-Nov
	Turtle	Eastern box turtle	Nesting	C/C		-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul
575	Turtle	N. diamondback terrapin	Nesting			-													Jun-Jul	Apr-Nov*	-	-	Jun-Jul

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
681	Whale	N.A. right whale	Migration	E/E	E	-													-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

Map ID	Subelement	Species	Mapping Qualifier	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	Common tern	General Distribution	T/C		Present													-	-	-	-
	Waterfowl	Black scoter	Concentration Area			High													-	-	-	-

FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
	Diadromous	Atlantic sturgeon	-/E	E	High													-	-	May-Nov*	-
		Atlantic sturgeon	-/E	E	Low													-	-	Jan-Dec	Oct-Jun
		Atlantic sturgeon	-/E	E	High													-	-	May-Jul	May-Jul


REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	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	T/T	T	-													-	-	May-Nov	May-Nov
		K. ridley sea turtle	E/E	E	-													-	-	May-Nov	-
		Leatherback sea turtle	E/E	E	-													-	-	May-Nov	May-Nov
		Loggerhead sea turtle	T/E	T	-													-	-	May-Nov	May-Nov

INVERTEBRATES




Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D				
	Crab	Horseshoe crab			High													-	-	Jan-Dec	Jan-Dec

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Whale	Fin whale	E/E	E	Common													-	-	-	-
		Humpback whale	E/E	E	Common													-	-	-	-
		N.A. right whale	E/E	E	Uncommon, Regular													-	-	-	-



ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS





Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Alcid	Razorbill																-	-	-	-
	Gull/Tern	Bonaparte's gull																-	-	-	-
	Pelagic	G. black-backed gull																-	-	-	-
		Herring gull																-	-	-	-
		Northern gannet																-	-	-	-
	Waterfowl	Wilson's storm-petrel																-	-	-	-
		Black scoter																-	-	-	-
		Common eider																-	-	-	-
		Long-tailed duck																-	-	-	-
		Surf scoter																-	-	-	-
		White-winged scoter																-	-	-	-

FISH

Monthly Presence

Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Alewife													-	-	-	Apr-Nov	Mar-Jun
	Alewife													-	-	-	Nov-Apr	Nov-Apr
	Alewife													-	-	-	Jan-Dec	Feb-Jun
	American eel													-	-	Apr-Aug	Jan-Dec	Sep-Nov
	American eel													-	-	Jan-Feb	-	Sep-Dec
	American shad													-	-	-	Nov-Apr	Nov-Apr
	American shad													-	-	-	Apr-Jun	Apr-May
	Blueback herring													-	-	-	May-Nov	Mar-Jul
	Blueback herring													-	-	-	Nov-Apr	Nov-Apr
	Striped bass													-	-	-	Mar-Nov	Mar-Nov
	Striped bass													-	-	-	Apr-Nov	Mar-Nov
	Striped bass													-	-	-	Jan-Dec	Jan-Dec
	Atlantic croaker													-	-	-	-	Jun-Dec
	Atlantic croaker													-	-	Sep-Nov	Jul-Nov	Jul-Nov
	Atlantic herring													-	-	-	Nov-May	Nov-May
	Atlantic herring													-	-	Apr-May	Jan-May	Jan-May
	Atlantic herring													-	-	-	Nov-Apr	Nov-Apr
	Atlantic menhaden													-	-	-	Apr-Nov	Mar-Nov
	Atlantic menhaden													Sep-Dec	Sep-Dec	Oct-Dec	Oct-Apr	Oct-Apr
	Atlantic menhaden													May-Oct*	May-Oct*	May-Oct*	Apr-Nov	Apr-Nov
	Bay anchovy													May-Jul	May-Jul	May-Dec	Jan-Dec	Jan-Dec
	Bay anchovy													May-Aug	May-Aug	Jun-Sep	Jul-Mar	Jan-Dec
	Bay anchovy													May-Nov	May-Nov	May-Dec	Jan-Dec	Jan-Dec
	Black drum													-	-	-	-	Mar-Oct
	Black drum													-	-	-	Jul-Nov	Jul-Nov
	Black sea bass													-	-	-	Apr-Nov	Apr-Nov
	Black sea bass													May-Oct	May-Oct	May-Nov	Mar-Nov	Mar-Nov
	Bluefish													-	-	-	May-Nov	May-Nov
	Bluefish													-	-	-	May-Oct	May-Oct
	Bluefish													-	-	-	May-Oct	Apr-Dec
	Northern kingfish													-	-	-	Jun-Nov	Jun-Nov
	Northern kingfish													-	-	-	May-Nov	May-Nov
	Northern kingfish													-	-	-	Apr-Nov	Apr-Nov
	Northern puffer													May-Aug	Jun-Oct	Jun-Oct	May-Oct	May-Oct
	Scup													-	-	-	Apr-Dec	Apr-Dec
	Scup													-	-	-	Jun-Oct	Jun-Oct
	Scup													Jul	Jul	Jul	Jun-Oct	Jun-Oct
	Spot													-	-	-	Jun-Nov	Jun-Nov
	Spot													-	-	-	Sep-Nov	Jun-Nov
	Spot													-	-	-	May-Dec	May-Nov
	Summer flounder													Sep-Nov	Sep-Nov	Sep-Dec	Apr-Nov	Apr-Nov
	Summer flounder													-	-	-	May-Oct	May-Oct
	Summer flounder													-	-	-	Apr-Oct	Apr-Oct
	Weakfish													Jun-Aug	Jun-Aug	Jun-Aug	Jun-Nov	May-Dec





FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Weakfish													Apr-Sep	Apr-Sep	May-Sep	Apr-Nov	Apr-Nov
	Weakfish													May-Sep	May-Sep	May-Sep	May-Dec	May-Dec
	White perch													-	-	-	Jan-Dec	Jan-Dec
	Windowpane													Mar-Nov*	Mar-Nov*	Apr-Nov*	Jan-Dec	Jan-Dec
	Windowpane													Apr-Oct*	Apr-Oct*	Apr-Nov	Jan-Dec	Jan-Dec
	Windowpane													Apr-Jul	Apr-Jul	Apr-Oct	Jan-Dec	Jan-Dec
	Winter flounder													Nov-Apr	Nov-Apr	Nov-Jun	Jan-Dec	Jan-Dec
	Winter flounder													-	-	-	Jan-Dec	Jan-Dec
	Winter flounder													Nov-Apr	Nov-Apr	Nov-May	Jan-Dec	Oct-Jun
	Atlantic silverside													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Atlantic silverside													-	-	-	Jan-Apr	Jan-Apr
	Killifish													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	Killifish													May-Aug	May-Aug	May-Sep	Jan-Dec	Jan-Dec
	Northern pipefish													May-Jul	-	May-Aug	Apr-Dec	Apr-Dec
	Northern pipefish													May-Aug	-	May-Oct	Jan-Dec	Jan-Dec
	Silversides													May-Aug	May-Aug	May-Aug	Jan-Dec	Jan-Dec
	American sand lance													Nov-Apr	Nov-Apr	Nov-Apr	Nov-Apr	Nov-Apr
	American sand lance													-	-	-	-	Oct-Jun
	American sand lance													Nov-Apr	Nov-Apr	Nov-May	Nov-Apr	Nov-Apr
	Atlantic cod													-	-	-	Nov-Apr	Nov-Apr
	Atlantic cod													-	-	-	Nov-Apr	-
	Atlantic tomcod													-	-	-	Jan-Dec	Jan-Dec
	Clearnose skate													-	-	-	Apr-Nov	Apr-Nov
	Goosefish													-	-	-	-	Jan-Jun
	Little skate													Jan-Dec	Jan-Dec	-	Jan-Dec	Jan-Dec
	Ocean pout													-	-	-	Dec-Aug	Dec-Aug
	Pollock													-	-	-	Mar-Jun	-
	Red hake													Jun-Sep	Jun-Sep	Jul-Oct	Jan-Dec	Jan-Dec
	Red hake													-	-	-	Nov-May	Nov-May
	Silver hake													May-Oct	May-Oct	May-Oct	Jan-Dec	Jan-Dec
	Smooth dogfish													May-Jun	May-Oct	-	Apr-Oct	Apr-Oct
	Tautog													May-Aug	May-Aug	Jun-Aug	Mar-Nov	Mar-Nov
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May-Aug	May-Aug	Jun-Aug	Jan-Dec	Jan-Dec
	Tautog													May	May	May	Jan-Dec	Apr-Nov
	Winter skate													-	-	-	Sep-May	Sep-Nov
	Atlantic mackerel													-	-	-	Nov-Apr*	Nov-Apr*
	Atlantic mackerel													-	-	-	Apr-Nov*	Apr-Nov*
	Bluefin tuna													-	-	-	Jun-Sep	-
	Butterfish													-	-	-	Apr-Nov	Apr-Nov
	Butterfish													May-Aug	May-Aug	May-Oct	May-Dec	May-Dec
	Dusky shark													-	-	-	May-Sep	May-Sep
	Sand tiger													-	-	-	Jun-Oct	-
	Sandbar shark													-	-	-	Jun-Oct	Jun-Oct


FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Shortfin mako													-	-	May-Oct	May-Oct
	Skipjack tuna													-	-	Jun-Sep	Jun-Sep
	Spiny dogfish													-	-	Oct-Apr	Oct-Apr
	Thresher shark													-	-	May-Nov	May-Nov
	Tiger shark													-	-	Jul-Oct	-

INVERTEBRATES

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

MARINE MAMMALS

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1.93	0.00
7	Exposed Tidal Flats	100.79	0.16

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
7	Exposed Tidal Flats	3,544.70	2.20	20%
6B	Riprap	1,668.34	1.04	9%
3A	Fine to Medium Grained Sand Beaches	10,108.25	6.28	57%
1B	Exposed, Solid Man-Made Structures	2,294.43	1.43	13%

Total ESI Shoreline: 17,615.71 Total ESI Shoreline: 10.95
 Total Shoreline: 13,300.16 Total Shoreline: 8.26







































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











LEGEND: NEW YORK AND NEW JERSEY




















Human-Use Features

-  Abandoned Vessel
-  Access
-  Airport
-  Anchorage
-  Aquaculture
-  Archaeological Sites
-  Army Corp of Engineers
-  Artificial Reef
-  Beach
-  Campground
-  Coast Guard
-  Diving Site
-  Boat Ramp
-  EPA Facility
-  EPA Region
-  Essential Habitat
-  FEMA region
-  Ferry
-  Historical Site
-  Landfill
-  Lock and Dam
-  Marina
-  Military
-  National Estuarine Research Reserve
-  National Park
-  Nature Conservancy
-  Oil Facility
-  Park
-  Port
-  Recreational Fishing
-  Renewable Energy
-  Repeated Measurement Site
-  Surfing
-  Tribal Land
-  Washover
-  Water Intake
-  Wildlife Refuge
-  Map ID

Human-Use Features (continued)

-  Pipeline
-  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)
-  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)
-  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.

LEGEND: NEW YORK AND NEW JERSEY

Sensitive Biological Resources

	Birds		Invertebrates		Habitats
	Birds		Bivalve/Barnacle/Chordate		Upland/Wetland/Plar
	Alcid/Pelagic		Cephalopod		Benthic
	Diving		Crab/Invertebrate/Shellfish		Terrestrial Mammal
	Gull/Tern/Bird		Insect		Bat
	Passerine		Gastropod		Small Mammal
	Raptor		Lobster		Marine Mammals
	Shorebird		Shrimp		Dolphin
	Wading		Reptiles &		Manatee
	Waterfowl		Amphibian/Frog/Lizard/Snake/Reptile		Pinniped
	Fish		Turtle		Whale
	Fish		Threatened or Endangered Species		Map ID
	Nursery				

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.

