

Environmental Sensitivity Index Maps

A Guide to Coastal Resources at Risk to Spilled Oil

South Carolina: Volume 1



Office of Response and Restoration

August 2015

NOAA

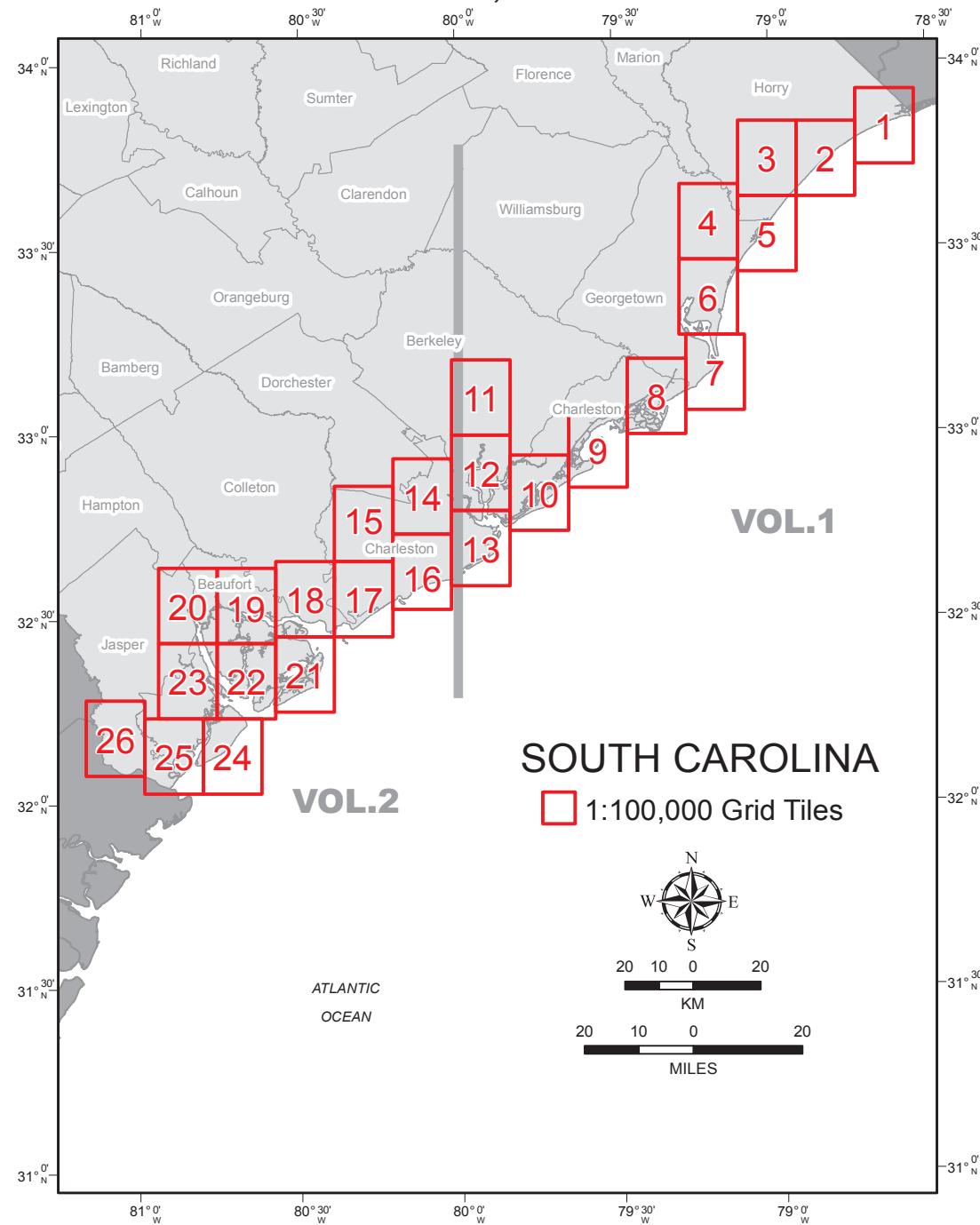
Environmental Sensitivity

Index Maps

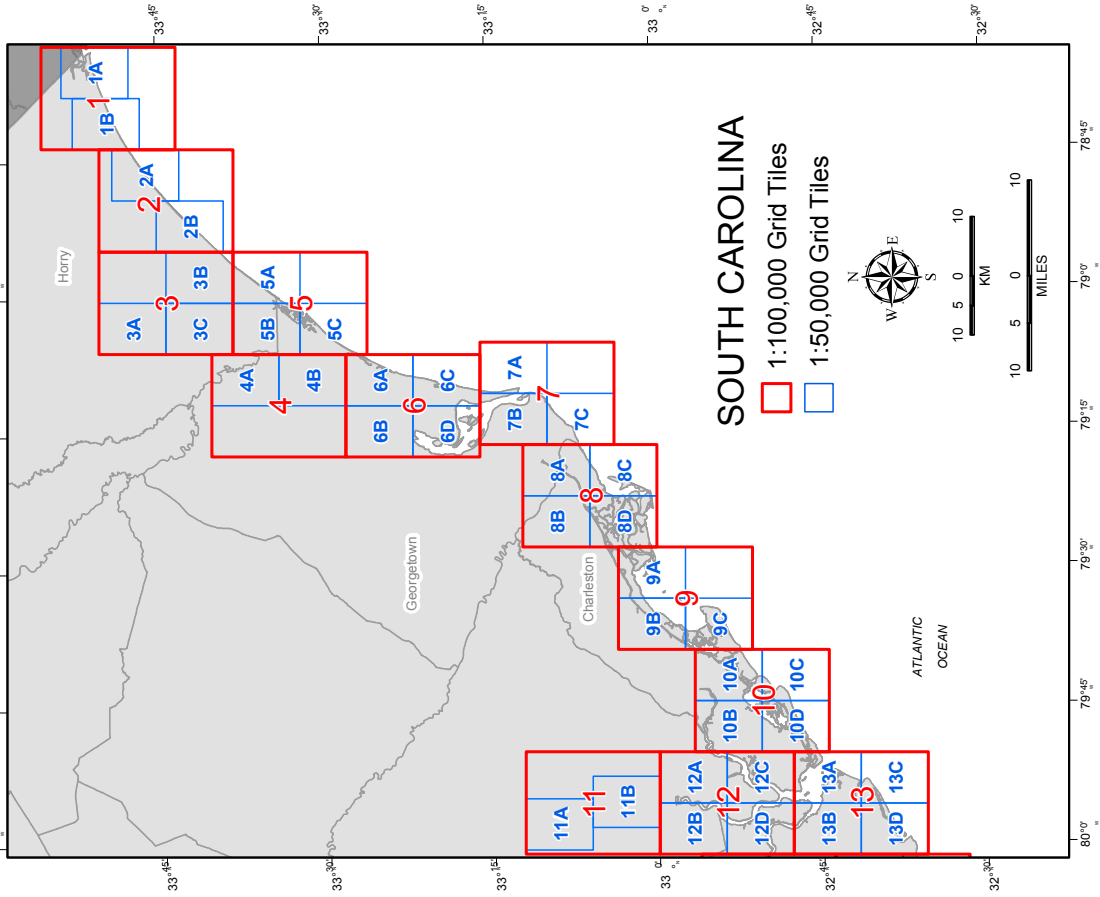
A Guide to Coastal Resources at Risk to Spilled Oil

South Carolina

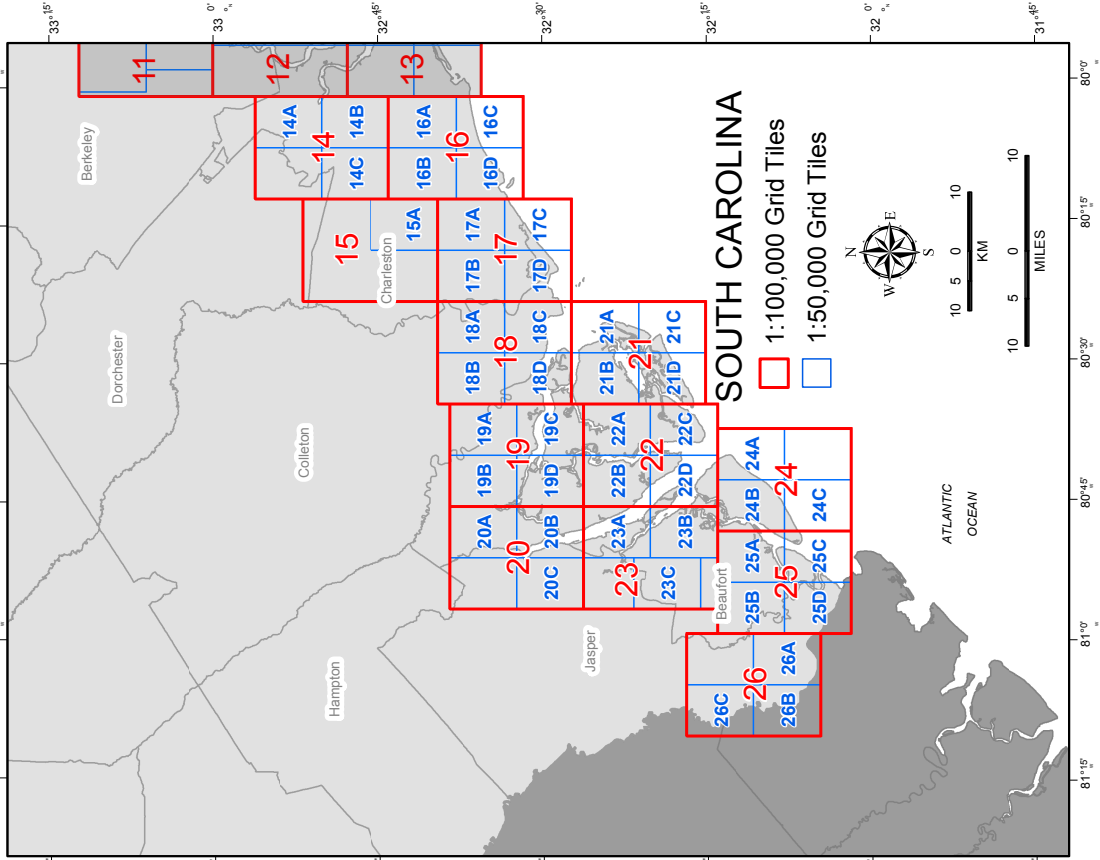
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CONTENTS

Introduction.....	v
Shoreline Habitat Mapping	v
Sensitive Biological Resources	vi
Marine Mammals.....	viii
Birds	ix
Herpetofauna.....	xii
Fish.....	xiv
Invertebrates.....	xvi
Habitats	xviii
Wildlife Rehabilitation	xviii
Human Use Resources	xix
Geographic Information System	xxii
Acknowledgements.....	xxiii
Appropriate Use of Atlas and Data	xxiii
Species List	xxiv
Shoreline Descriptions.....	xxvii
Exposed, Solid Man-Made Structures: ESI = 1B	xxvii
Exposed, Wave-Cut Platforms in Clay: ESI = 2A	xxviii
Exposed Scarps and Steep Slopes in Clay: ESI = 2B.....	xxix
Fine- to Medium-Grained Sand Beaches: ESI = 3A.....	xxx
Scarps and Steep Slopes in Sand: ESI = 3B	xxxi
Coarse-Grained Sand Beaches: ESI = 4.....	xxxii
Mixed Sand and Gravel Beaches: ESI = 5	xxxiii
Gravel Beaches: ESI = 6A.....	xxxiv
Riprap: ESI = 6B.....	xxxv
Exposed Tidal Flats: ESI = 7	xxxvi
Sheltered Scarps in Clay or Mud: ESI = 8A.....	xxxvii
Sheltered, Solid Man-Made Structures: ESI = 8B	xxxviii
Sheltered Riprap: ESI = 8C	xxxix
Sheltered Tidal Flats: ESI = 9A.....	xl
Vegetated Low Banks: ESI = 9B	xli
Salt- and Brackish-Water Marshes: ESI = 10A.....	xlii
Freshwater Marshes: ESI = 10B	xliii
Swamps: ESI = 10C	xliv
Scrub-Shrub Wetlands: ESI = 10D.....	xlvi

Environmental Sensitivity Index Maps

Map 1: Human Use Resources	1
Map 1A: Biological Resources.....	5
Map 1B: Biological Resources.....	13
Map 2: Human Use Resources	19
Map 2A: Biological Resources.....	23
Map 2B: Biological Resources.....	29
Map 3: Human Use Resources	35
Map 3A: Biological Resources.....	39
Map 3B: Biological Resources.....	43
Map 3C: Biological Resources	49
Map 4: Human Use Resources	53
Map 4A: Biological Resources.....	57
Map 4B: Biological Resources.....	61
Map 5: Human Use Resources	65
Map 5A: Biological Resources.....	69
Map 5B: Biological Resources.....	77
Map 5C: Biological Resources	85
Map 6: Human Use Resources	93
Map 6A: Biological Resources.....	97
Map 6B: Biological Resources.....	105
Map 6C: Biological Resources	111
Map 6D: Biological Resources	119
Map 7: Human Use Resources	125
Map 7A: Biological Resources.....	129
Map 7B: Biological Resources.....	137
Map 7C: Biological Resources	145
Map 8: Human Use Resources	153
Map 8A: Biological Resources.....	157
Map 8B: Biological Resources.....	165
Map 8C: Biological Resources	171
Map 8D: Biological Resources	179
Map 9: Human Use Resources	187
Map 9A: Biological Resources.....	191
Map 9B: Biological Resources.....	199
Map 9C: Biological Resources	207

Map 10: Human Use Resources	215
Map 10A: Biological Resources.....	219
Map 10B: Biological Resources.....	227
Map 10C: Biological Resources	233
Map 10D : Biological Resources	239
Map 11: Human Use Resources.....	245
Map 11A: Biological Resources.....	249
Map 11B: Biological Resources.....	253
Map 12: Human Use Resources	257
Map 12A: Biological Resources.....	261
Map 12B: Biological Resources.....	267
Map 12C: Biological Resources	273
Map 12D: Biological Resources	279
Map 13: Human Use Resources	285
Map 13A: Biological Resources.....	289
Map 13B: Biological Resources.....	297
Map 13C: Biological Resources	303
Map 13D: Biological Resources	309

Maps 14-23 contained in Volume 2

ENVIRONMENTAL SENSITIVITY INDEX: SOUTH CAROLINA

INTRODUCTION

This Environmental Sensitivity Index (ESI) atlas was developed for the marine and coastal areas of South Carolina. The atlas covers the entire coastal areas of South Carolina from the Georgia and South Carolina border in the Savannah River to the South Carolina and North Carolina border to the north at Little River. The South Carolina ESI extends 12 nautical miles seaward and the inland extent varies between 5 and 40 miles based on the coastline and any adjacent wetlands. The study area covers all coastal bays, harbors, and sounds including (from south to north) Calibogue Sound, Port Royal Sound, St Helena Sound, Charleston Harbor, Grey Bay, Hamlin Sound, Copahee Sound, Bullyard Sound, Bull Harbor, Bulls Bay, Cape Romain Harbor, Santee Bay, and Winyah Bay. Major tidal tributary rivers include (from south to north) east and north bank of the Savannah River, Wright River, New River, May River, Colleton River, Broad River, Beaufort River, Coosaw River, Combahee River, Edisto River, Kiawah River, Stono River, Ashley River, Cooper River, Wando River, Santee River, Waccamaw River, and Little River. The study area also includes the Intracoastal Waterway. 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.

SHORELINE HABITAT MAPPING

The shoreline and classifications were fully updated using the following sources and methods. The South Carolina shoreline was derived from the integration of the National Oceanic and Atmospheric Administration (NOAA) Continually Updated Shoreline Product (CUSP) (2001-2013); the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) dataset (1973-2007); and manual digitization at 1:4,000 from 2010-2012 Bing aerial imagery, ArcGIS Basemap World Imagery, and 2012-2014 Google Earth aerial imagery. The most recent shoreline was used where available.

The intertidal shoreline habitats were classified based on 2010-2014 low-altitude oblique aerial photography from: BING Pictometry, 2010-2012 Bing aerial imagery, ArcGIS Basemap World Imagery, and 2012-2014 Google Earth aerial imagery. Shoreline features of 10 meters (m) or greater in length were classified. In addition, wetland polygon datasets originally created by the USFWS 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 South Carolina presented in order of increasing sensitivity to spilled oil, are listed below.

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

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:

- South Carolina Department of Natural Resources (SCDNR) Division of Wildlife and Freshwater Fish (DWFF)
- SCDNR Lands, Water, and Conservation Division (LWCD)
- SCDNR Marine Resources Division (MRD)
- U.S. Fish and Wildlife Service (USFWS), Division of Migratory Bird Management (DMBM)
- USFWS Division of Biological Resources (DBR)
- U.S. National Park Service (NPS), Cumberland Island National Seashore
- National Marine Fisheries Service (NMFS)
- National Oceanic and Atmospheric Administration (NOAA)
- Governors' South Atlantic Alliance (GSAA) Coast and Ocean Portal
- Atlantic States Marine Fisheries Commission (ASMFC)

The above organizations provided the majority of the biological information included in the atlas. Other participating organizations will be featured in the sources table and cited 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 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 in November 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, and manatees. Species that are federally and state listed, and those that are vulnerable to oiling and response activities, are specifically emphasized. Marine mammal occurrence and seasonality information displayed in this atlas are based mainly on information gathered at workshops and via phone/email correspondence with local resource experts from NOAA, NMFS, SCDNR, GADNR, and USFWS. Additional hardcopy and digital data sources are listed below and included in the metadata. The most sensitive cetacean mapped in this atlas is the North Atlantic right whale (federally and state endangered). Right whales are found in South Carolina waters during the winter months as they migrate from northern feeding grounds to important calving habitat in Georgia waters. Right whales tend to avoid waters shallower than about 10 m and are not typically found in depths greater than 25 m. Critical habitat data are included in this atlas; however, they do not accurately represent the spatial extent of right whales in the Southeast (C. George, GADNR, pers. comm.). NMFS is currently in the process of updating the Southeast right whale critical habitat

boundaries. The proposed boundaries include a much larger area than the original critical habitat dataset. Unfortunately, the new critical habitat data will not likely be finalized until 2016, so the data could not be included in this atlas. Please check with NMFS on the latest critical habitat data for this species.

The West Indian manatee (federally and state endangered) was mapped from information provided by local resource experts. This species is frequently observed near marinas and boat slips (Shem Creek and Ft. Johnson in Charleston; Harbour Town in Hilton Head), but may be present throughout all inshore waters and within a mile of the shoreline during the spring, summer, and fall months.

Other whales and dolphins were mapped using information provided by local marine mammal experts as well as reviewing literature and the data from the East Coast Biologically Important Areas (BIAs). Bottlenose dolphins are the only species likely to occur regularly in inshore and offshore areas and may be present year round. Other species of cetaceans that may occur in South Carolina state and/or federal waters that were mapped in this atlas include: humpback whale (state and federally endangered), spotted dolphin, short-finned pilot whale, and pygmy sperm whale. Other pelagic cetacean species can occasionally move into the area without predictable occurrence. Species have been reported via stranding data or other observations, but are not included due to their relative rarity of occurrence within the mapped 'Area of Interest' (AOI) for this atlas.

Expert contacts for South Carolina marine mammals*:

Name	Agency	City	Phone	Species
Wayne McFee	NOAA	Charleston, SC	843/762-8592	Cetaceans
Al Segars	SCDNR	Beaufort, SC	843/252-4244	Cetaceans
Melissa Bimbi	USFWS	Charleston, SC	843/727-4707	Endangered Species
Bill Wikoff	USFWS	Townsend, GA	912/832-8739	Endangered Species

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

Major Data Sources Used: Marine Mammals

- Keller, C.A., L. Garrison, R. Baumstark, L.I. Ward-Geiger, and E. Hines. 2012. Application of a habitat model to define calving habitat of the North Atlantic right whale in the southeastern United States. *Endangered Species Research*. 18: 73-87.
- LaBrecque, E., C. Curtice, J. Harrison, S.M. Van Parijs, and P. Halpin. (Submitted). Biologically Important Areas for Cetaceans within the US Exclusive Economic Zone – East Coast Region.
- Waring, G.T., E. Josephson, K. Maze-Foley, and P. Rosel (eds.), 2013. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments. Common Bottlenose Dolphin (*Tursiops truncatus*) Southern South Carolina Estuarine System Stock. NOAA Technical Memorandum NMFS-NE-228. Northeast Fisheries Science Center, NMFS, NOAA, US Dept of Commerce. Woods Hole, MA. 475 pp.

BIRDS

Birds displayed in this atlas include: alcids, diving birds, gulls, terns, passerines, pelagic birds, raptors, shorebirds, wading birds, and waterfowl. Species that are federally and state listed, and coastal nesting, roosting, and migratory staging locations are specifically emphasized. Bird occurrence information displayed in this atlas is based on information gathered at workshops and via phone/email correspondence with local resource experts from SCDNR and USFWS. Additional hardcopy and digital sources are listed below and included in the metadata.

Tens of thousands of shorebirds migrate through South Carolina, with the highest numbers present during peak months of spring (April-May) and fall (August-September) migration. One hot spot includes Kiawah Island beaches where flocks of 8,000 red knots (federally and state threatened) have been observed. Piping plover (federally and state threatened) winter on most of the state's ocean-facing beaches. Of the tens of thousands of waterfowl that winter in South Carolina, SCDNR highlighted that as

many as 75% of the dabbling ducks may be found in the impoundments and marshes of the A.C.E. Basin and Santee River delta.

Breeding shorebirds, diving birds, gulls and terns – Survey data on locations of breeding shorebirds, diving birds, and terns were provided by SCDNR via shapefiles, spreadsheets, and expert local knowledge for the following species: American oystercatcher (state species of concern), black skimmer (state species of concern), brown pelican, gull-billed tern (state species of concern), least tern (state threatened), royal tern, sandwich tern, willet, and Wilson’s plover (state threatened). Point data were converted to polygons by associating points to sections of the coast (i.e., shell rakes, beaches, and small coastal islands) and creating a 50 m onshore/ offshore buffer, which in some areas was extended to include ESI polygons 7 and 9A (exposed and sheltered tidal flats, respectively) per expert opinion. Based on the data and expert information, concentrations were reported as “XX nests” or “XX pairs”. For American oystercatcher (surveyed in 2002) and Wilson’s plover (surveyed in 2012), these values represent the sum of all pairs from within a survey area. For seabird nesting colonies, values are the maximum number of nests from across survey years, 2010-2013. Additional source information is provided in the accompanying data tables and metadata.

Migrating and wintering shorebirds, diving birds, wading birds, gulls and terns – Migrating and wintering shorebird, diving bird, and tern information was provided by USFWS Integrated Waterbird Monitoring and Management (IWMM) and shorebird project surveys and SCDNR resource experts. IWMM surveys provided simple counts for impoundments from 2010 to 2012. SCDNR provided mid-winter shorebird surveys from 2014, non-breeding American oystercatcher observations from 2002, and expert knowledge. Red knot (federally and state threatened), piping plover (federally and state threatened), and marbled godwit were mapped based on the 2013 Shorebird Project Report published by USFWS. Survey areas were compiled to represent different sections of the coast (i.e., different beach habitats and small coastal islands). A 50 m onshore/offshore buffer was mapped along these coastal areas, and extended beyond the buffer to include ESI polygons 7 and 9A (exposed and sheltered tidal flats, respectively) per expert opinion. Due to uncertainty in species-level migration and wintering patterns in the state, species counts from IWMM and SCDNR midwinter shorebird data have been grouped into a single shorebirds category, and SCDNR specified the habitat preference of species identified in survey data, represented in the table below:

Habitat	Species	
Beaches, shell rakes, salt- and brackish-water marshes, and coastal impoundments	Black-bellied plover	Semipalmated sandpiper
	Dunlin	Short-billed dowitcher
	Killdeer	Willet
	Long-billed dowitcher	Wilson's plover*
	Semipalmated plover	
Beaches, shell rakes, and salt- and brackish-water marshes	American oystercatcher**	Ruddy turnstone
	Marbled godwit	Sandpiper
	Piping plover***	Whimbrel
	Red knot***	
Coastal impoundments	American avocet	Pectoral sandpiper
	Black-necked stilt	Stilted sandpiper
	Greater yellowlegs	White-rumped sandpiper
	Lesser yellowlegs	Wilson's snipe

* State threatened

** State species of concern

*** Federally and state threatened

Based on the maximum count across survey years, shorebird counts were binned into 100s or 1,000s of birds. Federal and state threatened and endangered species and state species of special concern from IWMM data are qualified as having a “vulnerable occurrence”.

Colonial wading and diving bird nesting and concentration areas – Three sources of data were used to map nesting colonial wading and diving birds. Locations of wading and diving bird nesting colonies and wood stork (federally threatened, state endangered) nesting colonies were mapped based on 2014 surveys. To mask the exact locations, a randomized geographic shift was applied to nesting points within 1-1.5 km of the original nest location. Shifted wading bird nest points were buffered by 2.5 km and wood stork nest points by 3.5 km to create a nesting polygon. Overlapping wading bird and wood stork buffers,

respectively, were merged and clipped to a 50 m buffer of the shoreline. Counts were reported as the sum of wading bird or wood stork colonies that occurred within the polygon. Wading bird concentration areas reflect impoundments counted in 2010-2012 IWMM surveys. Federal and state threatened and endangered species and state species of special concern from these data are qualified as having a “vulnerable occurrence” where they occur, while other wading birds have been grouped as “wading birds”. Counts were binned into 10s, 100s, or 1,000s. Wading bird and diving bird species that may be present at these locations include: doubled-crested cormorant, anhinga, great blue heron, tri-colored heron, cattle egret, black-crowned night heron, and white ibis.

Wetland associated waterfowl – Waterfowl data for South Carolina were mapped from USFWS 2010-2014 mid-winter waterfowl surveys, USFWS 2004-2015 Christmas Bird Count (CBC) data, USFWS IWMM data, and expert knowledge from SCDNR. Survey blocks were divided into three zones based on whether the habitat represented: 1) lower rivers and sounds, 2) saltwater and brackish creeks and marshes, or 3) freshwater rivers, impoundments, and marshes. For reporting species and concentrations, species counts less than 10 were combined into a more general grouping (e.g., dabbling ducks, diving ducks, etc.), while those with counts equal to or greater than 10 have been listed by species. Counts were binned into 10s, 100s, 1,000s, or 10,000s. Species were assigned to a specific zone and concentrations of species or species groups were adjusted per expert opinion. Nesting distributions of waterfowl were determined using species' presence during USFWS mid-winter waterfowl, IWMM, and CBC surveys alongside SCDNR expert knowledge. Nesting concentrations for waterfowl (i.e., “possible”) reflect areas where species were detected during winter surveys and expert knowledge. Numbers from wintering surveys are likely underestimates, since surveys do not necessarily occur during each species' months of peak abundance.

Atlantic Ocean seabirds – Distribution of nearshore and offshore pelagic birds, gulls, terns, diving birds, alcids, and waterfowl in the Atlantic Ocean, bays, and sounds were generated from discussions with resource experts, reports, and survey data. Alcids, diving birds, gulls, terns (except black tern), and northern gannet were mapped based on compiled survey data from USFWS that included USFWS Atlantic Coast Wintering Sea Duck Surveys (ACWSD; preliminary survey in 2008, full surveys 2009-11) and USFWS Atlantic Marine Assessment Program for Protected Species (AMAPPS) seabird surveys (preliminary survey in 2010, full-coast surveys in summer 2011, spring and fall 2012, winter 2014). Based on expert advice, data were first grouped into two offshore polygons (0-5 nautical miles [nm] from shore and 0-12 nm offshore). Species and species groups were placed into respective polygons based on their frequency of occurrence in these areas. Species in bays and sounds were mapped from SCDNR expert knowledge. Pelagic birds (except northern gannet), black tern, and phalaropes were mapped based on information from Wigh (2007) and Beaton et al. (2003).

Bald eagles – Bald eagle (state threatened) nest locations were mapped based on 2013-2014 nesting survey data provided by SCDNR. The exact locations were masked by SCDNR. The display of these data does not imply that areas mapped reflect current nest locations, but rather are to be used as a guide to what has been observed over recent years. Resource experts should be contacted in the event of a spill.

Secretive marsh birds – Distributions of black rail, clapper rail, king rail, and least bittern were provided by SCDNR. Distributions of seaside sparrow, saltmarsh sparrow, and Nelson's sparrow were based on discussions with resource experts. Seaside sparrow nesting points represent sites with known high concentrations of seaside sparrow.

Note that locations of nesting, wintering, and/or migratory sites, species composition within polygons, and particularly concentration values are based on a compilation of observations made over multi-year periods and are not meant to accurately reflect ‘current’ conditions in the case of an event. Survey limitations and adjustments in protocols over the years, changes in shoreline geomorphology (particularly on small/ephemeral islands), weather, and other ecological factors contribute to the condition of nesting colonies and migratory or other concentrations at any given time. Also, note that concentrations vary throughout the multi-month nesting, migratory, and wintering periods listed in the seasonality table. Please contact local resource experts in the event of a spill or if data are to be used for any reason other than spill planning or response.

Expert contacts for South Carolina birds*:

Name	Agency	City	Phone	Species
Chris Hill	Coastal Carolina University	Conway, SC	843/349-2567	Marsh sparrows
Christy Hand	SCDNR DWFF	Green Pond, SC	843/844-2473	Wading and marsh birds
Dean Harrigal	SCDNR DWFF	Green Pond, SC	843/844-8957	Waterfowl
Charlotte Hope	SCDNR DWFF	Charleston, SC	843/953-9017	Bald eagle
Felicia Sanders	SCDNR DWFF	McClellan-ville, SC	843/520-0961	Shorebirds
Melissa Bimbi	USFWS Ecological Services	Charleston, SC	843/727-4707	Endangered species
Tim Jones	USFWS DMBM	Laurel, MD	301/497-5674	Seabirds
Paul Padding	USFWS DMBM	Laurel, MD	301/497-5851	Waterfowl
Emily Silverman	USFWS DMBM	Laurel, MD	301/497-5801	Seabirds
John Stanton	USFWS DMBM	Columbia, NC	252/796-2400	Waterfowl/shorebirds

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

Major Data Sources Used: Birds

- Beaton, G., P.W. Sykes Jr., and J.W. Parrish, Jr. 2003. Annotated Checklist of South Carolina Birds. 5th Ed. South Carolina Ornithological Society.
- Cely, J.E., D.P. Ferral, and B.A. Glover. 1993. Marsh Bird Survey, Final Report. South Carolina Wildlife and Marine Resources Department. Columbia, South Carolina. 38 pp.
- Kennamer, R.A. 1997. Hooded mergansers breeding in the upper coastal plain of South Carolina. The Chat, 61(2), 117-119.
- NOAA. Atlantic Marine Assessment Program and Protected Species surveys, vector digital data.
- Post, W. and C.A. Seals. 2000. Breeding biology of the common moorhen in an impounded cattail marsh. Journal of Field Ornithology, 71(3), 437-442.
- SCDNR. 2008. American oystercatcher statewide breeding surveys, spreadsheet.
- SCDNR. 2003. American oystercatcher winter surveys, spreadsheet.
- SCDNR. 2014. Bald eagle nesting sites, spreadsheet.
- SCDNR. 2013. Seabird nesting colonies surveys (2011-2013), spreadsheet.
- SCDNR. 2015. Mid-winter shorebird count summaries, spreadsheets and hardcopy maps.
- SCDNR. 2014. Wading bird breeding survey, spreadsheet.
- SCDNR. 2014. Wilson's plover breeding survey, spreadsheet.
- SCDNR. 2014. Wood stork breeding surveys, spreadsheet.
- USFWS DBR. 2012. Integrated Waterfowl Monitoring and Management surveys, vector digital data and spreadsheet.
- USFWS DMBM. 2014. Mid-winter waterfowl surveys, vector digital data and spreadsheet.
- USFWS DMBM. 2012. Atlantic coast wintering sea duck survey data, vector digital data.
- USFWS DMBM. 2014. Atlantic coast seabird survey data, vector digital data.
- Wigh, R. 2007. A Review of Bird Species on the South Atlantic Bight. Unpublished report.

HERPETOFAUNA

Herpetofauna depicted in this atlas include sea turtles, diamondback terrapin, eastern diamond-backed rattlesnake (state species of special concern), and protected amphibians that breed and brumate in ephemeral wetlands. Sea turtle occurrence and seasonality information displayed in this atlas is based mainly on information provided by agencies and local resource experts from: SCDNR, GSAA, and USFWS. Occurrence and seasonality information for all other herpetofauna is based on information provided by SCDNR. Additional hardcopy and digital data sources are listed below and included in the metadata.

Flatwoods salamander (federally and state endangered), gopher frog (state endangered), and dwarf siren (state threatened) have been mapped based on documented occurrences to upland areas, freshwater marshes (ESI 10B), swamps (ESI 10C), and scrub-shrub wetlands (ESI 10D) because the ephemeral wetlands in which these species breed may occur at a finer scale than the scale at which wetlands (ESI 10B,C,D) were mapped. Flatwoods salamander and gopher frog are more likely to be present in these wetlands during their brumation and breeding seasons and move into uplands during the remainder of the year. For flatwoods salamander this period occurs October through May, and for gopher frog it occurs December through June. Dwarf siren may be present in wetlands year-round.

Eastern diamondback rattlesnake (state species of special concern) have been mapped broadly to upland areas, but occurrences in the state become more common moving south from the Santee River. Concentration areas have been left unmapped to protect this species from potential poaching.

Diamondback terrapins (subspecies: Carolina diamondback terrapin, *Malaclemys terrapin centrata*) were mapped in salt- and brackish-water marshes (ESI 10A polygons). All marshes and creeks seaward of Highway 17 may be considered potential habitat for terrapins, which are fairly abundant in coastal South Carolina. Depending on water temperatures, it is likely that terrapins are buried in the mud from December through February during brumation. Terrapins may nest on upland areas that border marshes on both sides of barrier islands, although mostly on the marsh side of the islands. Nesting in South Carolina occurs from April through July.

Green (federally and state threatened), Kemp's ridley (federally and state endangered), leatherback (federally and state endangered) and loggerhead (federally and state threatened) sea turtles were mapped in this atlas. South Carolina's outer sand beaches are important nesting habitat for loggerhead sea turtle, and occasional nesting habitat for leatherback and green sea turtles. Nesting typically occurs in South Carolina from April to June (leatherback sea turtle) and May to August (loggerhead and green sea turtle). Data that represent documented nesting in South Carolina from 2006-2011 were provided by SCDNR via the GSAA Coast and Ocean Portal. The concentration values ("high", "medium", and "low") were based on density data also provided by SCDNR.

Digital polygon data were created to document sea turtle in-water presence for inshore waters (loggerhead, leatherback, green, and Kemp's ridley) and offshore waters (leatherback and loggerhead) based on information provided by local resource experts. Seasonality data for nesting and in-water presence was based on information provided by USFWS and SCDNR.

Expert contacts for South Carolina herpetofauna*:

Name	Agency	City	Phone	Species
Will Dillman	SCDNR DWFF	Columbia, SC	803/734-3886	T/E/rare reptiles and amphibians
Michelle Pate	SCDNR MRD	Charleston, SC	843/953-9052	Sea turtles
Melissa Bimbi	USFWS Ecological Services	Charleston, SC	843/727-0427	Endangered species
Al Segars	SCDNR	Beaufort, SC	843/252-4244	Sea turtles
Mike Arendt	SCDNR	Charleston, SC	843/953-9097	Sea turtles

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

Major Data Sources Used: Herpetofauna

- Arendt M.D., A.L. Segars J.I. Byrd J. Boynton, J.D. Whitaker L. Parker, D.W. Owens, G. Blanvillain, J.M. Quattro, and M.A. Roberts. 2012. Seasonal distribution patterns of juvenile loggerhead sea turtles (*Caretta caretta*) following capture from a shipping channel in the Northwest Atlantic Ocean. *Marine Biology* 159(1):127–139.
- Conant, T.A., P.H. Dutton, T. Eguchi, S.P. Epperly, C.C. Fahy, M.H. Godfrey, S.L. MacPherson, E.E. Possardt, B.A. Schroeder, J.A. Seminoff, M.L. Snover, C.M. Upite, and B.E. Witherington. 2009. Loggerhead sea turtle (*Caretta caretta*) 2009 status review under the U.S. Endangered Species Act. Report of the Loggerhead Biological Review Team to the National Marine Fisheries Service, August 2009. 222 pp.
- SCDNR. 2013. TurtleNests_SC. Vector digital data. GSAA Coast and Ocean Portal. <http://gsaaportal.org/>.
- Van Dolah, R.F. and P.P. Maier. 1993. The distribution of loggerhead turtles (*Caretta caretta*) in the entrance channel of Charleston harbor, South Carolina, U.S.A. *Journal of Coastal Research*, 9(4): 1004-1012.

FISH

Fish species depicted in this atlas include select 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 SCDNR, ASMFC, USFWS, and NOAA's National Ocean Service.

Freshwater and Anadromous fish - Populations of shortnose (federally and state endangered) and Atlantic sturgeon (federally endangered) are found in South Carolina waters. They inhabit most of the major river systems in South Carolina. Ongoing and recent telemetry work has led to the identification of seasonal concentration areas used by both species of sturgeon. The only documented shortnose sturgeon spawning site in the AOI for the SC ESI is an area on the Cooper River, directly below Pinopolis Dam. No Atlantic sturgeon spawning areas are known to occur within the AOI for the SC ESI. Concentration areas for shortnose and Atlantic sturgeon have been identified on several of the large rivers in South Carolina, and they are mapped in the ESI as polygons with a mapping qualifier of 'Concentration area' and a concentration of 'High'. In addition to these areas, the general distribution of both species of sturgeon is represented in the atlas with a mapping qualifier of 'general distribution' and concentrations of 'present', 'rare', or 'low' based on expert opinion of SCDNR. Areas of 'Low' concentrations were assigned to areas that experts know do not have high concentrations, but do not feel like their knowledge is thorough enough to assign a concentration of 'Rare'. Many of the concentration areas are quite large, in part due to the mobile nature of the species, but also to cover the potential for interannual range shifts caused by variable hydrologic conditions (i.e., freshwater inflow and salinity).

Despite their known seasonal movements, sturgeon could potentially be found in coastal waters at any point during the year. Adults generally migrate upstream to spawning grounds in the spring and/or fall; however, they do not spawn every year, so some adults remain in coastal areas through the summer. Adult and subadult Atlantic sturgeon make regular movements into the ocean in the fall, where some may move as far north as Delaware. Adult shortnose sturgeon typically remain in riverine and estuarine environment, though there is some indication that they can migrate to different river systems using the ocean. Juveniles of both species can be found in riverine and estuarine areas year round.

Other anadromous species were mapped to their respective habitats based on anecdotal information provided by SCDNR, including: American eel, striped bass, blueback herring, and shad. Unlike populations found in more northern portions of their range, striped bass in South Carolina do not migrate into the ocean. Known striped bass spawning areas, along with their general distribution are represented in the atlas. Shad, herring, and eels do not spawn in the area; habitats mapped in the atlas represent adult and juvenile migration corridors and general distributions. Please note, eel life histories do not match the standard ESI terminology, so for the purpose of this ESI, 'juveniles' correspond to immigrating glass eels and 'adults' refer to resident yellow eels and emigrating silver eels. Robust redhorse were mapped to the Savannah River to match mapping from the Georgia ESI. Robust redhorse have been collected in the Savannah River; however, the polygon in the ESI represents the potential range

of this species. Several other anadromous and freshwater species are captured in the estuarine fish surveys described below (e.g., sunfishes).

Nearshore and Estuarine Fish Species – Nearshore marine and estuarine distributions of fishes were mapped primarily using data provided by SCDNR and the Southeast Area Monitoring and Assessment Program (SEAMAP) of the ASMFC. These data sets were supplemented with information from the Estuarine Living Marine Resources program (ELMR; Nelson et al., 1991), Jennings and Weyers (2002), and expert knowledge from SCDNR.

Two fishery-independent data sets were provided by SCDNR staff: South Carolina Trammel Net Sampling data, and the South Carolina Electrofishing Sampling data. Each dataset was summarized by SCDNR staff for the sampling years 2002-2014 to give total number of occurrences per sampling station. From this summary, the frequency of each species caught during each month for each sampling region was calculated. Polygonal sampling regions were created using geographic distribution of sampling stations and were vetted by SCDNR staff. Species that were found to occur with a 10% frequency or higher in a given month for a given sampling region were marked as present for that month and sampling region. The full 13 years of data were available for the following estuaries and river: St. Helena Sound, Edisto River, Combahee River, Charleston Harbor, Ashley River, Cooper River, Wando River, Bulls Bay and Muddy Bay, Winyah Bay, PeeDee River, and Waccamaw River. A number of other areas had more limited sampling data, often only a year or two, including: Port Royal Sound, Santee River, and the Stono, Wadmalaw, and Kiawah Rivers. For these areas, sampling data were used to construct preliminary seasonal presence/absences that were supplemented with expert knowledge from SCDNR staff or other sources. Areas in between sampling stations, most often these occurred between electrofishing and trammel stations, were populated using combinations of seasonalities from adjacent sampling. Additional distributions and life history seasonalities, such as larvae, eggs, and spawning months, were typically gathered from ELMR Program data (Nelson et al., 1991) or expert knowledge provided by SCDNR staff.

For the nearshore area out to 10m depth, fish species distributions and seasonalities were created using data from the SEAMAP program, both the Inner Strata Sampling Data and the Longline Surveys of the ASMFC. Fishery-independent sampling for the Inner Strata Sampling program is conducted in roughly three months out of the year—April, July, and October; however, sampling in practice strays into many of the preceding and following months. Data used for the ESI included the years 2004-2013, and the frequencies of species caught were used to determine monthly presence/absence. Presence within a month was determined by the same 10% frequency cut-off as was used with SCDNR fishery independent sampling data. Sampling months were used as proxies for the season within which sampling occurred. Thus, if a species was found to be present in April, it was assumed to be present in March and May; likewise, this was done for June and August (July), and September and November (October). In the Savannah River, data from Jennings and Weyers (2002) and Gut and Curran (2015) were used to determine distributions and seasonalities of species in all reaches of the estuary, Jennings and Weyers (2002) data were used in areas that averaged less than 15 ppt salinity and Gut and Curran (2015) data were used for the lower estuary.

Additional polygons that represent known aggregation sites of estuarine-dependent fish spawning in the Charleston Harbor area were delineated based on expert knowledge and published reports. The coast has not been comprehensively surveyed for spawning locations, so more information on these species' life history is also contained in the 'general distribution' polygons to capture seasons in which spawning, eggs, and larvae are likely to be present.

South Carolina bays and estuaries, especially Bulls Bay, are important nursery areas for several shark species. Nursery areas and general distributions of sharks were mapped based on anecdotal information provided by SCDNR, based on their experience surveying in South Carolina. Please note, the life-history stages for fish do not match the correct terminology for sharks. As a result, areas with months for shark 'larvae' represent months for which that polygon serves as habitat or a nursery area for young-of-year sharks (i.e. primary nursery areas).

Expert contacts for South Carolina fish*:

Name	Agency	City	Phone	Species
John Archambault	SCDNR	Charleston, SC	(843) 953-9234	Marine and estuarine fish
Bryan Frazier	SCDNR	Charleston, SC	(843) 953-9843	Sharks
Chad Holbrook	SCDNR	Bonneau, SC	(843) 825-3387	Andromous species
Cecil Jennings	GA CFWRU	Atlanta, GA	(706) 542-4837	Savannah River Fish
Scott Lamprecht	SCDNR	Bonneau, SC	(843) 825-3387	Striped bass
William Post	SCDNR	Charleston, SC	(843) 953-9821	Andromous species
Pearse Webster	SCDNR	Charleston, SC	(843) 953-9222	Marine fish, SEAMAP

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

Major Data Sources Used: Fish

- Archambault, John. 2015. Nearshore and inshore fish and invertebrate life history and distribution information. Personal communication.
- Atlantic States Marine Fisheries Commission. 2015. Southeast area monitoring and assessment program, South Atlantic inner strata sampling data, 2004-2013. Arlington, VA. Online database.
- Gut, J.A. and M.C. Curran. 2015. Savannah River Estuary fish sampling data.
- Jennings, C. and R.S. Weyers, 2002. Temporal and spatial distribution of estuarine-dependent species in the Savannah River estuary. Annual report prepared for Georgia Ports Authority, Project No.: 10-21-RR251-148, 48pp.
- Nelson, D.M., E.A. Irlandi, L.R. Settle, M.E. Monaco, and L. Coston-Clements. 1991. Distribution and abundance of fishes and invertebrates in southeast estuaries. ELMR Report No. 9, 167pp. Silver Spring, MD.
- Roumallit, W.S., S. Tyree, and G. Reikirk. 1997. Spawning times and locations of spotted seatrout in the Charleston Harbor from acoustic surveys. Final report to Charleston Harbor Project, Bureau of Ocean & Coastal Resources Management, S.C. Dept. of Health & Environmental Control, 11 pp.
- Saucier, M.H., D.M. Baltz, and W.A. Roumallit. 1992. Hydrophone identification of spawning sites of spotted seatrout, *Cynoscion nebulosus*, near Charleston, South Carolina. Northeast Gulf Science, 12:141-145.
- South Carolina Department of Natural Resources. 2015. South Carolina trammel net sampling data, 2002-2014. Excel spreadsheet.
- South Carolina Department of Natural Resources. 2015. South Carolina electrofishing sampling data, 2002-2014. Excel spreadsheet.
- Webster, Pearse. 2015. Marine resources of South Carolina. Personal communication.

INVERTEBRATES

Invertebrates depicted in this atlas include selected marine and estuarine species of commercial, ecological, and/or conservation value. Crabs, oysters, and shrimp support valuable commercial and/or recreational shellfisheries along the South Carolina coast.

Nearshore and Estuarine Invertebrate Species – Five main sources of data were used to depict invertebrate distribution and seasonality of invertebrate species. These were personal interviews with resource experts from SCDNR; fishery-independent sampling data provided by SCDNR; fishery-independent sampling data provided by the ASMFC Southeast Area Monitoring and Assessment Program (SEAMAP); hardcopy maps and coordinates depicting horseshoe crab spawning beaches and nursery areas; and vector digital data on oyster reef locations provided by SCDNR.

Nearshore marine and estuarine distributions of brown shrimp, white shrimp, and blue crab were mapped using expert knowledge of SCDNR staff, SCDNR Trammel Data, and life history information from Estuarine Living Marine Resources (ELMR) program (Nelson et al., 1991). Nearshore marine

distributions of Atlantic brief squid and cannonball jellyfish were mapped primarily using data provided by SEAMAP. Presence and absence by month calculated from SCDNR and ASMFC data used the exact same methods as were used for fish species. SCDNR trammel data were used to map blue crab distributions, with data summarized by SCDNR staff for the years 2002-2014 to give total number of blue crab occurrences per sampling station. From this summary, the frequency of blue crab caught was calculated for each month and sampling region. Polygonal sampling regions were created using geographic distribution of sampling stations and vetted by SCDNR staff. When blue crab was found to occur with a 10% frequency or higher in a given month for a given sampling region it was marked as present for that month and sampling region. Blue crab were mapped to the following estuary and river systems using this method: St. Helena Sound, Charleston Harbor, Lower Wando River, Bulls Bay and Muddy Bay, and Winyah Bay. Additional life history seasonalities, such as larvae, eggs, and spawning months, were typically gathered from interviews with resource experts at SCDNR, USFWS Species Profiles, or ELMR Program data (Nelson et al., 1991).

For the nearshore area out to 10 m depth, invertebrate species distribution and seasonalities were supplemented with data from the SEAMAP program of ASMFC. Fishery-independent sampling for the SEAMAP program is conducted in roughly three months out of the year, April, July, and October; however, sampling in practice strays into many of the preceding and following months. Data used for the ESI included the years 2004-2013, and the frequencies of species caught were used to determine monthly presence/absence. Presence within a month was determined by the same 10% frequency cut-off as was used with SCDNR fishery independent sampling data. Sampling months were used as proxies for the season within which sampling occurred. Thus, if a species was found to be present in April, it was assumed to be present in March and May; likewise this was done for June and August (July), and September and November (October). After consulting with SEAMAP/SCDNR staff and reviewing literature on nearshore species, seasonalities of select species were used to populate areas from 10m depth out to the boundary of the AOI.

Horseshoe crab spawning and nursery areas were mapped based on hardcopy maps and lists of coordinates provided by Amy Fowler with SCDNR. After digitizing these areas for the ESI product, the geographies of nursery and spawning areas were vetted by SCDNR staff. In addition, the general distribution of horseshoe crabs is represented in the ESI, and is based on expert opinion.

Oyster reefs were mapped using digital data provided by SCDNR. The minimum mapping unit of the South Carolina Oyster Reef data set was 5 m². In order to minimize the number of polygons, ensure inclusion of smaller reefs not captured with the mapping methods, and create a more generalized distribution, polygons in the data set were buffered by 25 m and merged together. Oyster reefs mapped in the ESI are not the only reefs that could occur in coastal areas, but represent the majority of reefs present.

Expert contacts for South Carolina invertebrates*:

Name	Agency	City	Phone	Species/ Program
John Archambault	SCDNR	Charleston, SC	(843) 953-9234	Marine and estuarine invertebrates
Larry Delancey	SCDNR	Charleston, SC	(843) 953-9099	Penaeid Shrimp and Blue Crab
Amy Fowler	SCDNR	Charleston, SC	(843) 953-6457	Horseshoe crabs
Peter Kingsley-Smith	SCDNR	Charleston, SC	(843)- 953-9840	Oysters
Pearse Webster	SCDNR	Charleston, SC	(843) 953-9222	Marine invertebrates, SEAMAP

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

Major Data Sources Used: Invertebrates

Archambault, John. 2015. Nearshore and inshore fish and invertebrate life history and distribution information. Personal communication.

Atlantic States Marine Fisheries Commission. 2015. Southeast area monitoring and assessment program, South Atlantic inner strata sampling data, 2004-2013. Arlington, VA. Online database.

- Delancey, Larry. 2015. Life history, distribution, and seasonality of fishes and invertebrates of coastal South Carolina. Personal communication.
- Fowler, Amy. 2015. Horseshoe crab life history and distribution information. Personal communication.
- Larson, S.C., M.J. Van Den Avyle, and E.L. Bozeman Jr. 1989. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (South Atlantic) – brown shrimp. U.S. Fish and Wildlife Service Biological Report 82 (11.90). U.S. Army Corps of Engineers TR EL-82-4. 14 pp.
- Muncy, R.J. 1984. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (South Atlantic) – white shrimp. U.S. Fish and Wildlife Service Biological Report 82 (11.27). U.S. Army Corps of Engineers TR EL-82-4. 19 pp.
- Nelson, D.M., E.A. Irlandi, L.R. Settle, M.E. Monaco, and L. Coston-Clements. 1991. Distribution and abundance of fishes and invertebrates in southeast estuaries. ELMR Report No. 9, 167pp. Silver Spring, MD.
- SCDNR. 2015. South Carolina horseshoe crab critical habitat maps. Hardcopy maps.
- SCDNR. 2010. SCDNR Oyster 2010 Live. Vector digital data.
- Webster, Pearse. 2015. Marine resources of South Carolina. Personal communication.

HABITATS

Plant Species and Sensitive Ecological Communities – SCDNR LWCD provided records from SCDNR’s Rare, Threatened, & Endangered Species (RTES) GIS data and herbarium records from the University of South Carolina (USC) and Clemson University. Plant species included from this data were selected by resource experts and are listed in the atlas’s species list. The only federally protected species to occur within the project area is seabeach amaranth (federally threatened). In addition, shell midden occurrences in the RTES GIS data have been mapped because of the variety of rare trees, shrubs, and herbs associated with the high-calcium soils of these habitats. To mask the exact location of herbarium records, an arbitrary geographic shift was applied within 25 m of the original location. Shifted points were buffered with a 50 m radial buffer to create a polygon. Any overlapping polygons for a single species were dissolved into a single occurrence. Additional shell midden locations may be known by the South Carolina State Historic Preservation Office (SC SHPO), but could not be mapped due to the likely archaeological significance and sensitivity of these sites. Resource experts and SC SHPO should be contacted in the event of a spill. The display of these data does not imply that areas reflect current plant locations, but rather are to be used as a guide to what has been observed historically and in recent years (mainly 1983-2014).

Expert contacts for South Carolina rare plants*:

Name	Agency	City	Phone	Species/ Program
Julie Holling	SCDNR LWCD	Columbia, SC	803/734-3917	Heritage Trust Program
Bert Pittman	SCDNR LWCD	Columbia, SC	803/734-3920	Rare plants
Herrick Brown	A.C. Moore Herbarium, USC	Columbia, SC	803/777-8196	Rare plants

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

Major Data Sources Used: Habitats

- SCDNR. 2015. Element occurrence records, vector digital data.
- SCDNR. 2015. USC and Clemson University herbarium records, spreadsheet.

WILDLIFE REHABILITATION

The following contacts provide 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.

SCDNR Wildlife Hotline (sea turtles and marine mammals): 1-800-922-5431.

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 RESOURCES maps.

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.

A Map ID can be found in the accompanying data tables for each point and polygonal feature 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		Management Area
	Access		Marina
	Airport		Military Installation
	Anchorage		National Estuarine Research Reserve
	Army Corps of Engineers		National Forest
	Artificial Reef		National Park
	Beach		Nature Conservancy
	Boat Ramp		NOAA Facility
	Coast Guard		Park
	Commercial Fishing		Port
	Critical Habitat		Renewable Energy
	EPA Facility		Repeated Measurement Site
	EPA Region		River Mile
	Essential Habitat		Tribal Land
	FEMA Region		Washover
	Heliport		Waste Disposal
	Historical Site		Water Intake
	Lock and Dam		Wildlife Refuge

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

Access Site: Locations where it is possible to gain vehicular access to the shoreline or isolated coastal sites and islands were mapped from expert knowledge. For some areas, such as islands, vehicles and equipment would need to be transported to access sites on barges.

Airport/Heliport: Locations of airports, airfields, landing strips, heliports, etc. were downloaded from the National Transportation Atlas Databases maintained by the Federal Aviation Administration.

Anchorage: Locations where commercial vessels can be anchored offshore were provided by the NOAA Office for Coastal Management.

Army Corps of Engineers: U.S. Army Corps of Engineers (USACE) districts and divisions data were provided from the geospatial platform maintained by USACE.

Artificial Reef: Artificial reef data were provided by SCDNR.

Beach: Locations of recreational beaches used for activities such as swimming, sun-bathing, fishing, etc. were mapped from expert knowledge.

Boat Ramp: Boat ramp location data were provided by SCDNR.

Coast Guard: U.S. Coast Guard (USCG) stations were provided by the USCG and USACE. USCG district boundaries were provided by the USCG.

Commercial Fishing: Commercial trawling zones and shellfish permit areas were provided by SCDNR.

County Boundary: Boundaries for counties were downloaded from the U.S. Census Bureau MAF/TIGER geographic database.

Critical Habitat: Designated Critical Habitat was mapped for the frosted flatwoods salamander, piping plover, and loggerhead sea turtle. Data were provided by the USFWS and NOAA NMFS.

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: Habitat areas of particular concern (HAPCs) to support the key life stages of Snapper/Grouper, Shrimp, Coral, and Coastal Migratory Pelagics were obtained from the South Atlantic Fisheries Management Council.

Federal Emergency Management Agency Region: Jurisdictional region boundaries were provided by the Federal Emergency Management Agency (FEMA).

Historical Site: Historical sites were provided by the NPS National Register of Historic Places (2007).

Lock and Dam: Marine lock and dam system data were downloaded from the National Transportation Atlas Database.

Management Area: Management areas in this ESI atlas include: preserves, mitigation sites, wildlife management areas, natural areas, etc. These data were provided by SCDNR.

Marina: Marina location data were provided by SC DHEC, Ocean and Coastal Resource Management Division.

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

National Estuarine Research Reserve (NERR): NERR boundary data were provided by the ACE Basin NERR and the North Inlet-Winyah Bay NERR.

National Forest: The boundary of the Francis Marion and Sumter National Forest were provided by the U.S. Department of Agriculture (USDA) Forest Service Automated Lands Program.

National Guard: Army National Guard Units were provided by Environmental Systems Research Institute (ESRI).

National Park: National park boundaries were provided by NPS.

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

NOAA Facility: Locations of NOAA facilities were digitized as points from address matching and verified with Google Earth imagery.

Park: State park boundaries were provided by SCDNR.

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

Rail Route: Locations of railways were downloaded from the National Transportation Atlas Databases, maintained by the Department of Transportation.

Renewable Energy: Wind energy planning and development data were provided by the Bureau of Ocean Energy Management's Office of Renewable Energy. Coastal Energy Facilities provided by NOAA's Coastal Services Center depict the locations of facilities that generate electricity from biomass.

Repeated Measurement Site: Repeated measurement sites represent NOAA national data buoy locations (DB), NOAA Mussel Watch monitoring sites (MWS), NOAA Tides and Current's tide prediction gauges (TG), NOAA National Water Level Observation Network (NWLON), and NOAA Physical Oceanographic Real-Time System (PORTS).

River Mile: Locations of sequential river mile markers were derived from the USACE Waterway Mile Marker database.

Shipping Lane: Shipping lanes in U.S. Waters were provided by NOAA's Coastal and Marine Spatial Planning office.

State Waters: State waters boundaries provided by Marine Cadastre operated by NOAA's Office for Coastal Management.

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.

Waste Disposal: Locations represent ocean disposal sites of dredged material removed from the bottom of waterbodies in order to maintain navigation channels and berthing areas. Data were provided by NOAA Ocean Service, Office of Coastal Management.

Water Intake: Locations of fish hatchery water intakes were provided by USFWS, expert knowledge, and SC Department of Health and Environmental Control.

Wildlife Refuge: Seven National Wildlife Refuges (NWR) fall within the ESI atlas area: Cape Romain NWR, Earnest F. Hollings ACE Basin NWR, Pinckney Island NWR, Santee NWR, Savannah NWR, Tybee NWR, and Waccamaw NWR. Locations of NWRs were provided by the USFWS.

GEOGRAPHIC INFORMATION SYSTEM

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

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

MAJOR ROADS

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

SHORELINE CLASSIFICATIONS

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

SENSITIVE BIOLOGICAL RESOURCES

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

HUMAN-USE FEATURES

Human-use features are represented as polygons, points or lines. Management areas such as wildlife refuges, national parks and state parks are mapped as polygons. Known locations such as marinas, high

use beaches, airports and water intakes are displayed as points when security risks allow. Bridges and railroads are mapped as line features.

ACKNOWLEDGMENTS

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The biological and human-use data included on the maps were provided by numerous individuals and agencies, including: USFWS, USGS, NPS, SCDNR, NOAA, FAA, USACE, GSAA, USCG, EPA, FEMA, NPS, NERR, TNC, and others. Staff at these organizations contributed a vast amount of information to this effort, including first-hand expertise, publications, maps, and digital data. Roads included on printed atlases were obtained through the Federal Highway Administration's National Highway Planning Network geospatial network database (Edition 14.05, published May 1, 2014, <http://www.fhwa.dot.gov/>). Cover photo courtesy of *Research Planning, Inc.*

At Research Planning, Inc. in Columbia, South Carolina, numerous scientific, GIS, and graphic staff were involved with different phases of the project. Mark White, GIS Director, and Christine Boring, Biology Dept. Manager, were co-Project Managers. The ESI shoreline was classified by Jennifer Horsman, Tim McClinton, and Thomas Minter. The biological and human-use data were collected and compiled onto base maps by Christine Boring, Jennifer Weaver, Lincoln Smith, Michael Bauman, Heidi Dunagan, and Emily Watson. Lee Diveley, Katy Beckham, Jeff Dahlin, Emily Watson, Chris Locke, and Bryan Thom processed and produced the GIS data. Joe Holmes produced the final documents.

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 the any contributing agencies. Likewise, information contained in the atlas and database cannot be used in place of consultations with natural and cultural resource agencies, or in place of field surveys. This atlas should not be used for navigation.

SPECIES LIST

Common Name*	Scientific Name*		
BIRDS		WADING	
ALCID		<u>American bittern</u>	<u><i>Botaurus lentiginosus</i></u>
Alcids	-	<u>Black rail</u>	<u><i>Laterallus jamaicensis</i></u>
DIVING		Clapper rail	<i>Rallus longirostris</i>
Brown pelican	<i>Pelecanus occidentalis</i>	Great egret	<i>Ardea alba</i>
Diving birds	-	King rail	<i>Rallus elegans</i>
Double-crested		Least bittern	<i>Ixobrychus exilis</i>
cormorant	<i>Phalacrocorax auritus</i>	<u>Little blue heron</u>	<u><i>Egretta caerulea</i></u>
Loons	<i>Gavia spp.</i>	Snowy egret	<i>Egretta thula</i>
Pied-billed grebe	<i>Podilymbus podiceps</i>	Wading birds	-
GULL/TERN		White ibis	<i>Eudocimus albus</i>
<u>Black skimmer</u>	<u><i>Rynchops niger</i></u>	<u>Wood stork</u>	<u><i>Mycteria americana</i></u>
Common tern	<i>Sterna hirundo</i>	WATERFOWL	
Forster's tern	<i>Sterna forsteri</i>	American black	
<u>Gull-billed tern</u>	<u><i>Gelochelidon nilotica</i></u>	duck	<i>Anas rubripes</i>
Gulls	-	American coot	<i>Fulica americana</i>
<u>Least tern</u>	<u><i>Sternula antillarum</i></u>	American wigeon	<i>Anas americana</i>
Royal tern	<i>Thalasseus maximus</i>	Black-bellied	
Sandwich tern	<i>Thalasseus sandvicensis</i>	whistling-duck	<i>Dendrocygna autumnalis</i>
Terns	-	Blue-winged teal	<i>Anas discors</i>
PASSERINE		Bufflehead	<i>Bucephala albeola</i>
Nelson's sparrow	<i>Ammodramus nelsoni</i>	Canada goose	<i>Branta canadensis</i>
Saltmarsh sparrow	<i>Ammodramus caudacutus</i>	Canvasback	<i>Aythya valisineria</i>
Seaside sparrow	<i>Ammodramus maritimus</i>	Common gallinule	<i>Gallinula galeata</i>
PELAGIC		Common moorhen	<i>Gallinula chloropus</i>
Black-capped		Dabbling ducks	-
petrel	<i>Pterodroma hasitata</i>	Diving ducks	-
Jaegers	<i>Stercorarius spp.</i>	Gadwall	<i>Anas strepera</i>
Northern gannet	<i>Morus bassanus</i>	Greater white-	
Shearwaters	-	fronted goose	<i>Anser albifrons</i>
Storm-petrels	-	Green-winged teal	<i>Anas crecca</i>
RAPTOR		Hooded	
<u>Bald eagle</u>	<u><i>Haliaeetus leucocephalus</i></u>	merganser	<i>Lophodytes cucullatus</i>
SHOREBIRD		Lesser scaup	<i>Aythya affinis</i>
<u>American</u>		Mallard	<i>Anas platyrhynchos</i>
<u>oystercatcher</u>	<u><i>Haematopus palliatus</i></u>	Mergansers	-
Marbled godwit	<i>Limosa fedoa</i>	Mottled duck	<i>Anas fulvigula</i>
Phalaropes	<i>Phalaropus spp.</i>	Mute swan	<i>Cygnus olor</i>
<u>Piping plover</u>	<u><i>Charadrius melodus</i></u>	Northern pintail	<i>Anas acuta</i>
<u>Red knot</u>	<u><i>Calidris canutus</i></u>	Northern shoveler	<i>Anas clypeata</i>
Shorebirds	-	Red-breasted	
Willet	<i>Tringa semipalmata</i>	merganser	<i>Mergus serrator</i>
<u>Wilson's plover</u>	<u><i>Charadrius wilsonia</i></u>	Redhead	<i>Aythya americana</i>
		Ring-necked duck	<i>Aythya collaris</i>
		Ruddy duck	<i>Oxyura jamaicensis</i>
		Scaup	<i>Aythya spp.</i>
		Scoters	<i>Melanitta spp.</i>
		Snow goose	<i>Chen caerulescens</i>
		Tundra swan	<i>Cygnus columbianus</i>
		Waterfowl	-
		Wood duck	<i>Aix sponsa</i>

SPECIES LIST

Common Name*	Scientific Name*
FISH	
American eel	<i>Anguilla rostrata</i>
American shad	<i>Alosa sapidissima</i>
Anchovies	<i>Anchoa spp.</i>
Atlantic croaker	<i>Micropogonias undulatus</i>
Atlantic menhaden	<i>Brevoortia tyrannus</i>
Atlantic sharpnose shark	<i>Rhizoprionodon terraenovae</i>
Atlantic spadefish	<i>Chaetodipterus faber</i>
<u>Atlantic sturgeon</u>	<u><i>Acipenser oxyrinchus</i></u>
Black drum	<i>Pogonias cromis</i>
Black sea bass	<i>Centropristis striata</i>
Blacknose shark	<i>Carcharhinus acronotus</i>
Blacktip shark	<i>Carcharhinus limbatus</i>
Blue catfish	<i>Ictalurus furcatus</i>
Blueback herring	<i>Alosa aestivalis</i>
Bluefish	<i>Pomatomus saltatrix</i>
Bluegill	<i>Lepomis macrochirus</i>
Bonnethead shark	<i>Sphyrna tiburo</i>
Bull shark	<i>Carcharhinus leucas</i>
Catfish	<i>Ictalurus spp.</i>
Channel catfish	<i>Ictalurus punctatus</i>
Cobia	<i>Rachycentron canadum</i>
Finetooth shark	<i>Carcharhinus isodon</i>
Flathead catfish	<i>Pylodictis olivaris</i>
Florida pompano	<i>Trachinotus carolinus</i>
Fringed flounder	<i>Etropus crossotus</i>
Giant manta	<i>Manta birostris</i>
Gray snapper	<i>Lutjanus griseus</i>
Great hammerhead	<i>Sphyrna mokarran</i>
Hickory shad	<i>Alosa mediocris</i>
King mackerel	<i>Scomberomorus cavalla</i>
Ladyfish	<i>Elops saurus</i>
Largemouth bass	<i>Micropterus salmoides</i>
Lemon shark	<i>Negaprion brevirostris</i>
Porgies	<i>Stenotomus spp.</i>
Red drum	<i>Sciaenops ocellatus</i>
Redbreast sunfish	<i>Lepomis auritus</i>
Redear sunfish	<i>Lepomis microlophus</i>
Robust redhorse	<i>Moxostoma robustum</i>
Sandbar shark	<i>Carcharhinus plumbeus</i>
Scalloped hammerhead	<i>Sphyrna lewini</i>
Sheepshead	<i>Archosargus probatocephalus</i>
<u>Shortnose sturgeon</u>	<u><i>Acipenser brevirostrum</i></u>

Silver seatrout	<i>Cynoscion nothus</i>
Smooth dogfish	<i>Mustelus canis</i>
Southern flounder	<i>Paralichthys lethostigma</i>
Southern kingfish	<i>Menticirrhus americanus</i>
Spanish mackerel	<i>Scomberomorus maculatus</i>
Spinner shark	<i>Carcharhinus brevipinna</i>
Spiny dogfish	<i>Squalus acanthias</i>
Spot	<i>Leiostomus xanthurus</i>
Spotted hake	<i>Urophycis regia</i>
Spotted seatrout	<i>Cynoscion nebulosus</i>
Star drum	<i>Stellifer lanceolatus</i>
Striped bass	<i>Morone saxatilis</i>
Striped mullet	<i>Mugil cephalus</i>
Summer flounder	<i>Paralichthys dentatus</i>
Sunfish	<i>Lepomis spp.</i>
Tiger shark	<i>Galeocerdo cuvier</i>
Weakfish	<i>Cynoscion regalis</i>
White shark	<i>Carcharodon carcharias</i>
Common Name*	Scientific Name*

HABITATS

PLANT

Bandanna of the Everglades	<i>Canna flaccida</i>
Blackstem spleenwort	<i>Asplenium resiliens</i>
Climbing fetterbush	<i>Pieris phillyreifolia</i>
Fourangle flatsedge	<i>Cyperus tetragonus</i>
	<i>Helianthemum georgianum</i>
Georgia frostweed	<i>Forestiera godfreyi</i>
Godfrey's privet	<i>Fimbristylis perpusilla</i>
Harper's fimbry	<i>Agrimonia incisa</i>
Incised groovebur	
Large-stem morning-glory	<i>Ipomoea macrorrhiza</i>
Leafless swallow-wort	<i>Orthosia scoparia</i>
Long sedge	<i>Carex folliculata</i>
Manyflower grasspink	<i>Calopogon multiflorus</i>
	<i>Rhapidophyllum hystrix</i>
Needle palm	<i>Carya myristiciformis</i>
Nutmeg hickory	<i>Sabatia kennedyana</i>
Plymouth gentian	<i>Eryngium aquaticum</i>
Ravenel's eryngo	<i>var. ravenelii</i>
Robbins' spikerush	<i>Eleocharis robbinsii</i>
Rough thoroughwort	<i>Eupatorium pilosum</i>

SPECIES LIST

HABITATS, cont.

Common Name*	Scientific Name*
Sarvis holly	<i>Ilex amelanctier</i>
Shadow-witch orchid	<i>Ponthieva racemosa</i>
Shoreline sedge	<i>Carex hyalinolepis</i>
Smooth hedgenettle	<i>Stachys tenuifolia</i>
Viviparous spikerush	<i>Eleocharis vivipara</i>
Widow sedge	<i>Carex basiantha</i>
UPLAND	
Southern privet	<i>Forestiera segregata</i>
WETLAND	
Carolinal lilaeopsis	<i>Lilaeopsis carolinensis</i>
<u>Seabeach amaranth</u>	<u><i>Amaranthus pumilus</i></u>
Shell middens	-
Spoon-flower	<i>Peltandra sagittifolia</i>

Common Name*	Scientific Name*
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HERPETOFAUNA

AMPHIBIAN

<u>Flatwoods salamander</u>	<u><i>Amblystoma cingulatum</i></u>
<u>Gopher frog</u>	<u><i>Lithobates capito</i></u>
<u>Northern dwarf siren</u>	<u><i>Pseudobranchius striatus</i></u>

SNAKE

<u>Eastern diamond-backed rattlesnake</u>	<u><i>Crotalus adamanteus</i></u>
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TURTLE

Carolina diamondback terrapin	<i>Malaclemys terrapin centrata</i>
<u>Green sea turtle</u>	<u><i>Chelonia mydas</i></u>
<u>Kemp's ridley sea turtle</u>	<u><i>Lepidochelys kempii</i></u>
<u>Leatherback sea turtle</u>	<u><i>Dermochelys coriacea</i></u>
<u>Loggerhead sea turtle</u>	<u><i>Caretta caretta</i></u>

INVERTEBRATES

Common Name*	Scientific Name*
BIVALVE	
Eastern oyster	<i>Crassostrea virginica</i>
CEPHALOPOD	
Atlantic brief squid	<i>Loliguncula brevis</i>
CRAB	
Blue crab	<i>Callinectes sapidus</i>
Horseshoe crab	<i>Limulus polyphemus</i>
INVERT	
Cannonball jellyfish	<i>Stomolophus meleagris</i>
SHRIMP	
Brown shrimp	<i>Farfantepenaeus aztecus</i>
White shrimp	<i>Litopenaeus setiferus</i>

Common Name*	Scientific Name*
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MARINE MAMMALS

DOLPHIN

Atlantic spotted dolphin	<i>Stenella frontalis</i>
Bottlenose dolphin	<i>Tursiops truncatus</i>

MANATEE

<u>West Indian manatee</u>	<u><i>Trichechus manatus</i></u>
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WHALE

<u>Humpback whale</u>	<u><i>Megaptera novaeangliae</i></u>
<u>North Atlantic right whale</u>	<u><i>Eubalaena glacialis</i></u>
Pygmy sperm whale	<i>Kogia breviceps</i>
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>

*Underlined species are listed as either Threatened or Endangered under the Federal Endangered Species Act, and/or are listed as Threatened, Endangered, or Special Concern under State (South Carolina) statutes.

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



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 CLAY

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 generally low because they are rapidly eroding
- These shorelines are relatively uncommon and occur mostly along the outer coast



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, because any stranded oil is quickly removed by wave action
- Manual cleanup is advised to minimize the volume of sediment removed from the shore and requiring disposal
- Traffic through beach and dune areas should be limited to prevent contamination of clean areas and disturbance of habitat and birds

SHORELINE DESCRIPTIONS

EXPOSED SCARPS AND STEEP SLOPES IN CLAY

ESI = 2

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 and/or shell fragments
- Generally low biological utilization due to strong currents
- Typically backed by wetland vegetation
- Very uncommon, comprising less than 1% of the shoreline



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

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 and shell fragments and are common along the outer barrier island coastline
- There can be heavy accumulations of wrack present
- They are utilized by birds for nesting, foraging, and loafing, and by turtles for nesting
- Upper beach fauna include ghost crabs and amphipods; lower beach fauna can be moderate, but highly variable



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
- They normally form along embankments of sandy dredge-spoil material and at cutbanks in rivers; they also form where tidal creeks intercept old sandy beach ridge deposits
- Some scarps are fronted by narrow beaches, if the erosion rates are moderate and episodic
- Trees growing at the top of these slopes are eventually undercut and woody debris can accumulate at the base of the scarp
- Biological utilization by birds and infauna is low



PREDICTED OIL BEHAVIOR

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

RESPONSE CONSIDERATIONS

- 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 moderately sloping, are of variable width, and are composed of soft sediments and shell fragments. These characteristics combine to lower their trafficability
- Species density and diversity is generally lower than on fine-grained sand beaches
- They are less common than fine-grained beaches and generally occur along banks of major rivers



PREDICTED OIL BEHAVIOR

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

RESPONSE CONSIDERATIONS

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

SHORELINE DESCRIPTIONS

MIXED SAND AND GRAVEL BEACHES

ESI = 5

DESCRIPTION

- Moderately sloping beaches composed of a mixture of sand and shell fragments
- Because of the mixed sediment sizes, there may be some areas on the beach of pure sand or shell
- Sediment desiccation and mobility on exposed beaches can cause low densities of 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
- The presence of attached algae and barnacles indicates beaches that are relatively sheltered, with the more stable substrate supporting richer biota



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 in South Carolina are composed almost entirely of shell; they often occur as lag deposits where the finer-grained sediments have been eroded away
- They can be very steep, with multiple wave-built berms forming the upper beach
- Shell beaches are common near oyster reefs and along the Intracoastal Waterway where spoil mounds have been reworked by boat wakes into steep shell berms
- There are low densities of infauna because the coarse sediments dry out during low tide
- They can occur as perched berms and washovers of shell atop wave-cut mud and marsh platforms and scarps
- They are important nesting areas for American oystercatchers and roosting areas for shorebirds, especially during high tide



PREDICTED OIL BEHAVIOR

- Deep penetration of stranded oil is likely on wave-built gravel beaches and shell berms because of their high permeability
- There is less risk of oil penetration in the shell formed as lag deposits because of the lower permeability of the finer-grained sediments below
- Deeply penetrated oil can leach out for long periods, thick oil layers can harden into asphalt pavements
- 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
- 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, or concrete
- Riprap structures are common along shorelines exposed to wave action (outer coasts, large bays and harbors, navigable channels) 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



Photo credit: L. Dial – Flickr.com

SHORELINE DESCRIPTIONS

EXPOSED TIDAL FLATS

ESI = 7

DESCRIPTION

- Exposed tidal flats are broad, flat, intertidal areas composed primarily of sand and minor amounts of shell
- The presence of sand indicates that tidal currents and waves are strong enough to mobilize the sediments
- They are often associated with another shoreline type on the landward side of the flat, though they can occur as separate shoals; they are commonly associated with tidal inlets and are found at meander bends in large tidal creeks/river channels
- Biological utilization can be very high, with large numbers of infauna, heavy use by birds for roosting and foraging, and by foraging fish
- They are also highly utilized for recreational fishing



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 SCARPS IN CLAY OR MUD

ESI = 8A

DESCRIPTION

- Sheltered scarps form by boat wake erosion of marsh fronts or muddy substrates along navigable channels
- There may be some fringing marsh at the base of the scarp along the edge of the water

PREDICTED OIL BEHAVIOR

- Oil will not adhere to the wet sediment surface, but could penetrate root cavities and burrows if they drain at low tide
- Oil will coat vegetation at the water line
- 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
- Where the high-tide area is accessible, it may be feasible to remove heavy oil accumulations and oiled debris
- The muddy substrate cannot support heavy equipment, and even foot traffic could disrupt the sediments and mix oil deeper



SHORELINE DESCRIPTIONS

SHELTERED, SOLID MAN-MADE STRUCTURES

ESI = 8B

DESCRIPTION

- These structures are solid man-made structures such as seawalls, groins, revetments, piers, and port facilities
- Most of the structures are designed to protect a single lot, thus their composition, design, and condition are highly variable; most are constructed of concrete, wood, or metal
- These structures are found inside harbors and bays in highly developed areas, sheltered from direct exposure to waves
- Often there is no exposed beach at low tide, but multiple habitats are indicated if present
- Attached animal and plant life can be sparse
- They can have high recreational use, particularly in public areas



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, or concrete
- These structures are found inside harbors and bays in developed areas, sheltered from direct exposure to waves
- Attached biota are highly variable in cover, with sparse biota in fresh/brackish areas and higher biota in salt water areas

PREDICTED OIL BEHAVIOR

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

RESPONSE CONSIDERATIONS

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



SHORELINE DESCRIPTIONS

SHELTERED TIDAL FLATS

ESI = 9A

DESCRIPTION

- Sheltered tidal flats are composed primarily of mud with minor amounts of sand and shell
- They are present in calm-water habitats, sheltered from regular wave activity, and are usually backed by marshes
- The sediments are very soft and cannot support even light foot traffic in many areas
- They can have heavy wrack deposits along the upper fringe
- Large concentrations of shellfish, worms, and snails can be found on and in the sediments
- They are heavily utilized by birds and fish 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 may be severe

RESPONSE CONSIDERATIONS

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

PREDICTED OIL BEHAVIOR

- During low water stages, the oil could strand as a narrow band of sediment at the water level
- During high water stages, the oil could cover and coat the vegetation



Photo credit: Mogollon_1 - Flickr.com

- Oiling may cause loss of the grasses, but the trees should survive unless oil penetrates and persists in the substrate

RESPONSE CONSIDERATIONS

- Low-pressure flushing of oiled areas is effective in removing moderate to heavy accumulations of fresh oil from along the banks
- Sorbent and containment boom should be placed on the water side of the cleanup operations to contain and collect oil outflow
- Low- to high-pressure flushing can be used to remove weathered oil from tree roots and trunks, if deemed necessary in areas of high-use by humans or wildlife

SHORELINE DESCRIPTIONS

SALT- AND BRACKISH-WATER MARSHES

ESI = 10A

DESCRIPTION

- These are grassy 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 barrier islands and other exposed areas where sand is abundant
- Exposed areas are located along bays with wide fetches and along heavily trafficked waterways
- Sheltered areas and tidal creeks are not exposed to significant wave or boat wake activity
- Resident flora and fauna are abundant and diverse, with high utilization by birds, fish, and shellfish



PREDICTED OIL BEHAVIOR

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

RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is natural recovery; natural removal processes and rates should be evaluated prior to conducting cleanup
- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing. During flushing, care must be taken to prevent transporting oil to sensitive areas down slope or along shore
- Cleanup activities should be carefully supervised to avoid vegetation damage
- Any cleanup activity must not mix the oil deeper into the sediments; trampling of the roots 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 along major rivers and tributary creeks
- Those along major channels are exposed to strong currents and boat wakes; smaller channels tend to be sheltered
- The sediment substrate is seldom exposed because daily water level changes are low; greater changes result from floods and wind-generated tides



- Resident flora and fauna are abundant and diverse, with high utilization by birds and fish

PREDICTED OIL BEHAVIOR

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

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- 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
- Live woody vegetation should not be cut; flushing or wiping with sorbents can be used to reduce contact hazards by wildlife and humans

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
- They are common in disturbed/modified areas such as dredge spoil mounds and along the edges of right-of-ways (utilities, pipelines, etc.) that cross channels
- 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
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- Under stagnant water conditions, herding of oil with water spray may be needed to push oil to collection areas
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- 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
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- Resident flora and fauna are abundant and diverse



PREDICTED OIL BEHAVIOR

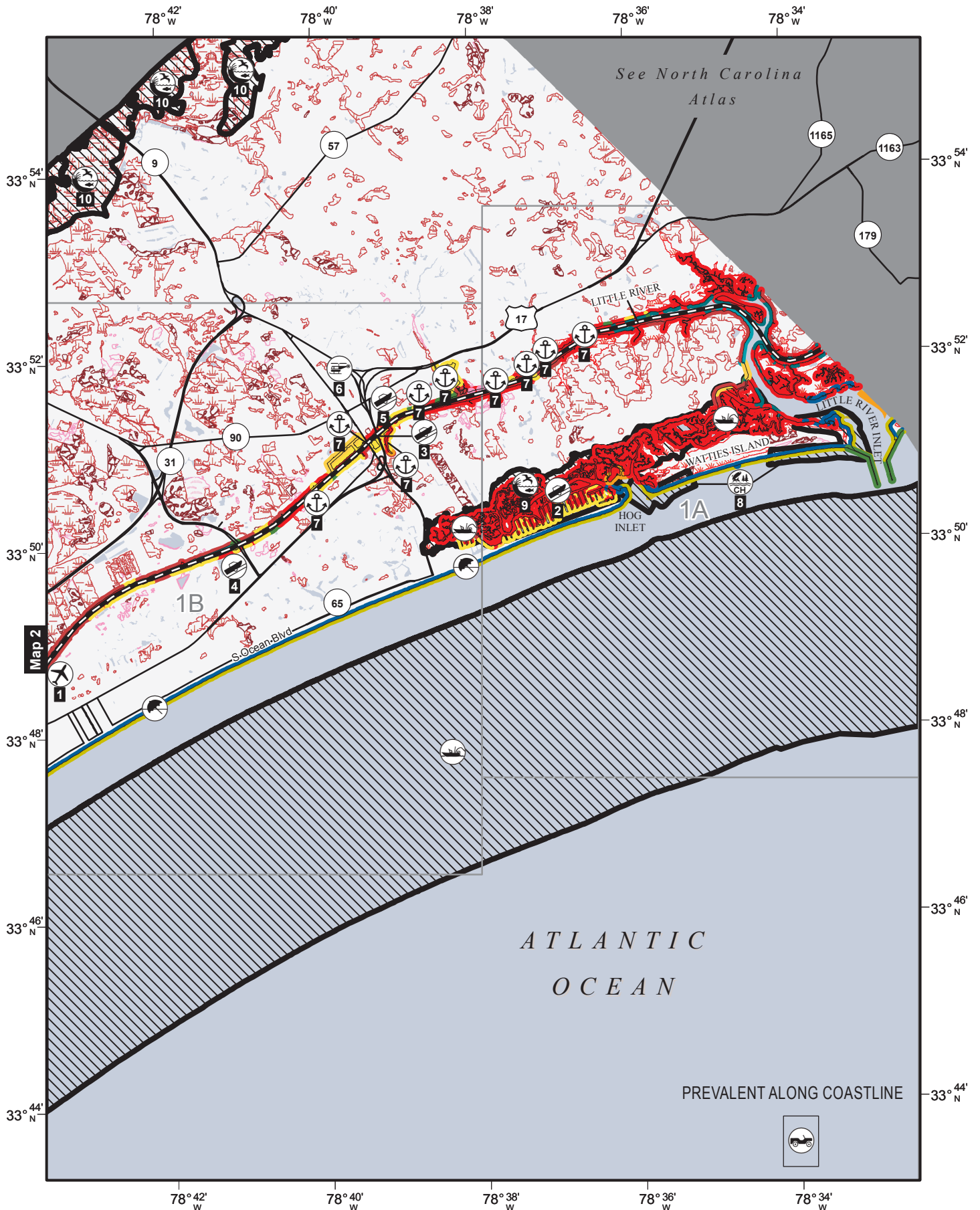
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- During high water, most of the oil passes through the wetland, coating the vegetation above the waterline
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- Penetration into the soils is usually limited because of high water levels, muddy composition, surface organic debris, and vegetation cover
- There can be large amounts of oily debris
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ENVIRONMENTAL SENSITIVITY INDEX MAPS





Map 1
South Carolina



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: August 2015

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000

Map 1
South Carolina

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AIRPORT	GRAND STRAND AIRPORT	
2	BOAT RAMP	CHERRY GROVE	CITY OF N MYRTLE BEACH
3	BOAT RAMP	JOHNNY CAUSEY BOATING FACILITY	SCDOT
4	BOAT RAMP	NORTH MYRTLE BEACH	CITY OF N MYRTLE BEACH
5	BOAT RAMP	T CRAIG CAMPBELL	SCDOT
6	HELIPORT	SEACOAST MEDICAL CENTER	
7	MARINA	MARINA	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
8	CRITICAL HABITAT	PIPING PLOVER CRITICAL HABITAT	
9	MANAGEMENT AREA	LITTLE RIVER MARSH LAND	US FISH AND WILDLIFE SERVICE
10	MANAGEMENT AREA	WACCAMAW RIVER HERITAGE PRESERVE	

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SHRIMP HAPC	SOUTH ATLANTIC FMC	866-723-6210
ESSENTIAL HABITAT	SNAPPER/GROUPER HAPC	SOUTH ATLANTIC FMC	866-723-6210

JURISDICTIONS			
COUNTY:	HORRY COUNTY	FEMA:	REGION IV
COAST GUARD:	DISTRICT 7, SECTOR CHARLESTON	EPA:	REGION 4
USACE:	SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT		

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,640.41	2.56
10B	Freshwater Marshes	366.35	0.57
10C	Swamps	5,576.99	8.71
10D	Scrub and Shrub Wetlands	1,056.03	1.65
9A	Sheltered Tidal Flats	15.68	0.02
7	Exposed Tidal Flats	18.64	0.03

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	201,994.68	125.51	66%
10B	Freshwater Marshes	158.52	0.10	< 1%
10C	Swamps	13,716.59	8.52	4%
10D	Scrub and Shrub Wetlands	127.90	0.08	< 1%
9A	Sheltered Tidal Flats	1,134.31	0.70	< 1%
9B	Vegetated Low Banks	181.73	0.11	< 1%
8B	Sheltered, Solid Man-Made Structures	29,684.07	18.44	10%
8C	Sheltered Riprap	3,535.46	2.20	1%
7	Exposed Tidal Flats	20,590.49	12.79	7%
6A	Gravel Beaches	7,278.55	4.52	2%
6B	Riprap	5,896.42	3.66	2%
5	Mixed Sand and Gravel Beaches	2,381.99	1.48	1%
3A	Fine to Medium Grained Sand Beaches	21,463.84	13.34	7%
1B	Exposed, Solid Man-Made Structures	207.58	0.13	< 1%

Total ESI Shoreline: 308,352.13 Total ESI Shoreline: 191.60
Total Shoreline: 244,165.13 Total Shoreline: 151.72

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 Carolina

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	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			10S													-	-	-	-
	Waterfowl	Scaup	Rafting			100S													-	-	-	-
	Waterfowl	Scoters	Migration			100S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			1,000S													-	-	-	-
2	Shorebird	American oystercatcher	Wintering	C		-													-	-	-	-
	Shorebird	Marbled godwit	Wintering			-													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-
	Shorebird	Red knot	Migration		T	1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering		T	100S													-	-	-	-
3	Shorebird	Wilson's plover	Wintering	T		-													-	-	-	-
	Shorebird	American oystercatcher	Wintering	C		-													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-
	Shorebird	Wilson's plover	Wintering	T		-													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
6	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Passerine	Seaside sparrow	Nesting			-													-	Apr-Aug	-	-
	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		8 Pairs													-	Mar-Jul	-	-

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					
223	Diadromous	Atlantic sturgeon	Migration		E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-	-	-	Jan-Dec	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Occurrence	Vulnerable	M	J	A	S	O	N	D
							J	F	M	A	M	J	J	A	S	O	N	D									
267	Wetland	Seabeach amaranth				-													-	-	-	-	-	-	-	-	-
	Wetland				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					
296	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Low													-	-	-	-	-
297	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Medium													-	-	-	-	-

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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec

MARINE MAMMALS


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

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)



BIRDS

<div></div>	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	Scaup	Rafting			1,000S													-	-		
		Scoters	Migration			1,000S												-	Apr-Jun	-		
		Scoters	Rafting			10,000S												-	-	-		



FISH

<div></div>	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	American eel	Migration			-													-	-	-	Jan-May	Sep-Jan
		American shad	Migration			-													-	-	-	Aug-Dec	Jan-May
		Atlantic sturgeon	General Distribution	E		Present													-	-	-	-	Jan-Dec
		Blueback herring	Migration			-													-	-	-	Aug-Dec	Jan-May
		Hickory shad	Migration			-													-	-	-	Aug-Dec	Jan-May
		Shortnose sturgeon	General Distribution	E	E	Low													-	-	-	-	Jan-Dec

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					
 	Snake	Diamondback rattlesnake	C		Possible														-	-	-	-
	Turtle	Green sea turtle	T	T	-														-	-	-	-
		K. ridley sea turtle	E	E	-														-	-	-	-
		Leatherback sea turtle	E	E	-														-	-	-	-
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	

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				
 Manatee	West Indian manatee	General Distribution	E	E	-													-	-	-	-
 Whale	Humpback whale	General Distribution	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	Alcids													-	-	-	-
 Diving	Brown pelican													-	-	Jul-Oct	-
	D. crested cormorant													-	-	-	-
	Diving birds													-	-	-	-
	Loons													-	-	-	-
 Gull/Tern	Gulls													-	-	-	-
	Terns													-	-	-	-
 Passerine	Seaside sparrow													-	-	-	-
 Pelagic	Black-capped petrel													-	-	-	-
	Jaegers													-	-	-	-
	Northern gannet													-	-	-	-
	Shearwaters													-	-	-	-
	Storm-petrels													-	-	-	-
 Shorebird	Phalaropes													-	-	-	-
 Wading	Clapper rail													-	-	-	-
														Mar-Sep	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Estuarine Nursery	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atlantic croaker													-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	Nov-Apr	May-Sep	May-Sep
	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Black sea bass													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													-	-	-	-	Aug-Nov
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	May-Nov	May-Nov

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern flounder													-	-	-	-	-
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	-	-
	Spot													-	-	-	-	-
	Spotted seatrout													May-Aug	-	May-Aug	Jan-Dec	Jan-Dec
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
Fish Marine Benthic	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	-	Dec-Apr
Marine Pelagic	Spotted hake													-	-	-	-	-
	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	Dec-Apr
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr



REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
 Cephalopod	Atlantic brief squid													-	-	-	-
	Blue crab													-	May-Nov	-	-
 Invertebrate	Blue crab													-	May-Nov	Jan-Dec	Jan-Dec
	Blue crab													Apr-Sep	May-Nov	-	Apr-Sep
	Cannonball jellyfish													-	-	-	-
	Brown shrimp													-	Jan-Mar	-	Jun-Nov
	Brown shrimp													-	Mar-Jun	Mar-Aug	Jun-Nov
Shrimp	White shrimp													May-Sep	Jun-Sep	-	Mar-Nov
	White shrimp													-	Jun-Sep	Jan-Dec	May-Nov

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Dolphin	Atl. spotted dolphin													-	-	-	-
	Bottlenose dolphin													-	-	-	-
 Whale	Pygmy sperm whale													-	-	-	-
	S.finned pilot whale													-	-	-	-

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	1,489.28	2.33
10B	Freshwater Marshes	39.22	0.06
10C	Swamps	920.26	1.44
10D	Scrub and Shrub Wetlands	103.44	0.16
9A	Sheltered Tidal Flats	15.68	0.02
7	Exposed Tidal Flats	18.64	0.03

ESI SHORELINE HABITAT TYPES

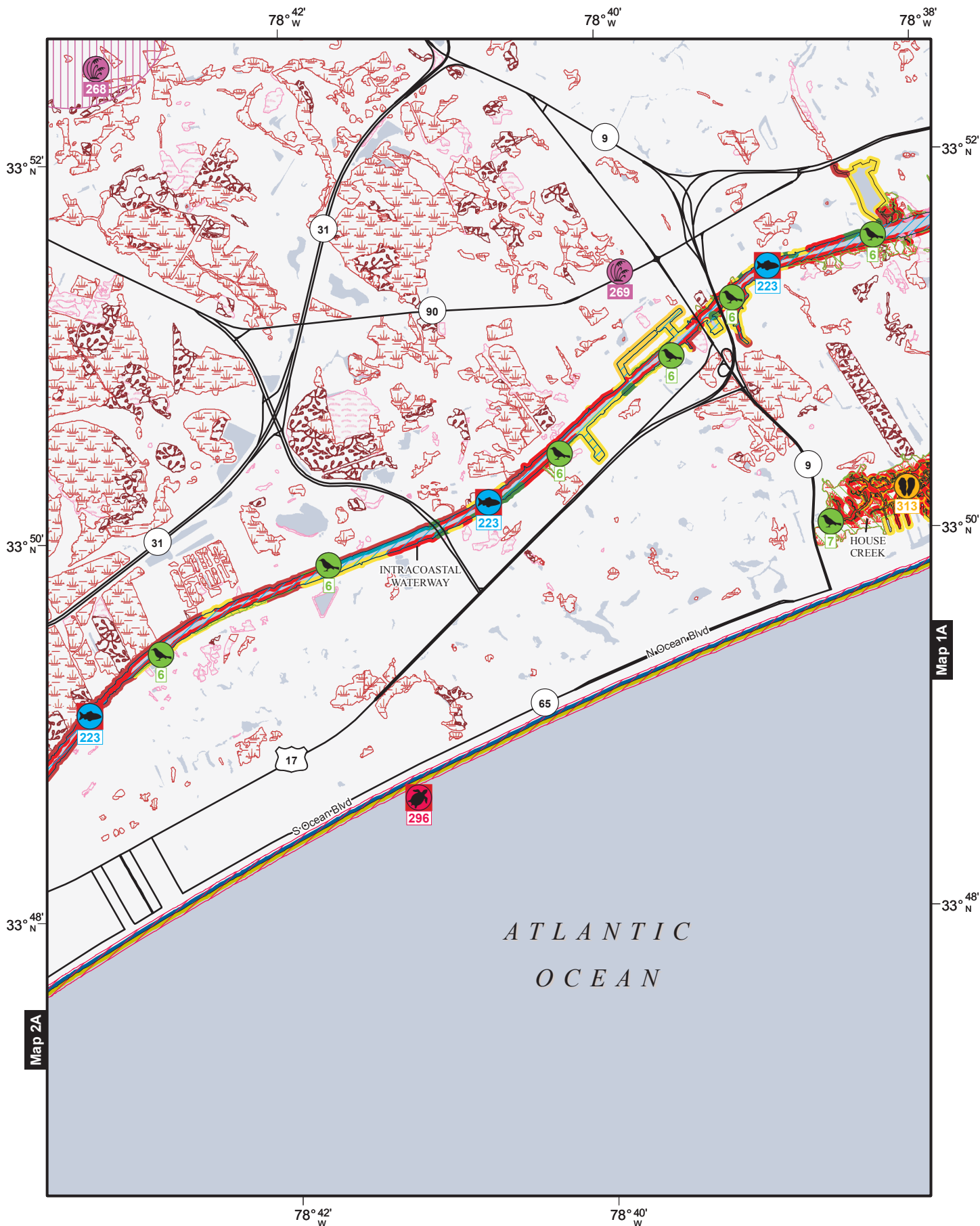
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	170,001.34	105.63	74%
10B	Freshwater Marshes	51.50	0.03	< 1%
10C	Swamps	5,793.10	3.60	3%
10D	Scrub and Shrub Wetlands	114.67	0.07	< 1%
9A	Sheltered Tidal Flats	1,134.31	0.70	< 1%
9B	Vegetated Low Banks	121.73	0.08	< 1%
8B	Sheltered, Solid Man-Made Structures	16,846.63	10.47	7%
8C	Sheltered Riprap	1,132.07	0.70	< 1%
7	Exposed Tidal Flats	10,888.01	6.77	5%
6A	Gravel Beaches	7,240.27	4.50	3%
6B	Riprap	4,241.74	2.64	2%
5	Mixed Sand and Gravel Beaches	1,453.18	0.90	1%
3A	Fine to Medium Grained Sand Beaches	11,809.40	7.34	5%
1B	Exposed, Solid Man-Made Structures	207.58	0.13	< 1%

Total ESI Shoreline: 231,035.54 Total ESI Shoreline: 143.56
Total Shoreline: 191,527.72 Total Shoreline: 119.01

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

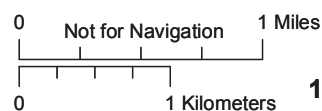




Map 1B
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



Map 1B
South Carolina

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
							J	F	M	A	M	J	J	A	S	O	N	D					
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-	-
7	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-	-

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					
223	Diadromous	Atlantic sturgeon	Migration		E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	Migration		E	Present													-	-	-	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					
268	Plant	Plymouth gentian	Vulnerable Occurrence			-													-	-	-	-	-
269	Plant	Harper's fimbry	Vulnerable Occurrence			-													-	-	-	-	-

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					
296	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Low													-	-	-	-	-

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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
	Waterfowl	Scaup	Rafting			1,000S													-	-	-	-	-
		Scoters	Migration			1,000S													-	Apr-Jun	-	-	-
		Scoters	Rafting			10,000S													-	-	-	-	-


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	American eel			-													-	-	-	Adults Sep-Jan
		American shad			-													-	-	-	Jan-May
		Atlantic sturgeon		E	Present													-	-	-	Jan-Dec
		Blueback herring			-													-	-	-	Jan-May
		Hickory shad			-													-	-	-	Jan-May
	Shortnose sturgeon	General Distribution	E	E	Low													-	-	-	Jan-Dec

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				
	Snake	Diamondback rattlesnake			Possible													-	-	-	-
	Turtle	Green sea turtle	T	T	-													-	-	-	-
		K. ridley sea turtle	E	E	-													-	-	-	-
		Leatherback sea turtle	E	E	-													-	-	-	-
		Loggerhead sea turtle	T	T	-													-	-	-	-

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			
	Manatee	West Indian manatee	E	E	-													-	-	-
	Whale	Humpback whale	E	E	-													-	-	-




ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Mig.(S)	Mig.(F)	Molt
						J	F	M	A	M	J	J	A	S	O	N	D				
	Alcid	Alcids																-	-	-	-
	Diving	Brown pelican																-	-	-	-
		D. crested cormorant																-	-	-	-
		Diving birds																-	-	-	-
		Loons																-	-	-	-
	Gull/Tern	Gulls																-	-	-	-
		Terns																-	-	-	-
	Passerine	Seaside sparrow																-	-	-	-
	Pelagic	Black-capped petrel																-	-	-	-
		Jaegers																-	-	-	-
		Northern gannet																-	-	-	-
		Shearwaters																-	-	-	-
		Storm-petrels																-	-	-	-
	Shorebird	Phalaropes																-	-	-	-
	Wading	Clapper rail																-	-	-	-

FISH

Monthly Presence

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atlantic croaker													-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Black sea bass													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Porgies													-	-	-	-	-
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	-	-
	Star drum													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	-	Dec-Apr
	Spotted hake													-	-	-	-	-
	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	Dec-Apr
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Cephalopod	Atlantic brief squid													-	-	-	-	-
 Crab	Blue crab													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
 Invertebrate	Cannonball jellyfish													-	-	-	-	-
 Shrimp	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov

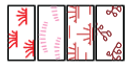
MARINE MAMMALS

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

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	150.85	0.24
10B	Freshwater Marshes	305.03	0.48
10C	Swamps	2,142.55	3.35
10D	Scrub and Shrub Wetlands	578.14	0.90

ESI SHORELINE HABITAT TYPES



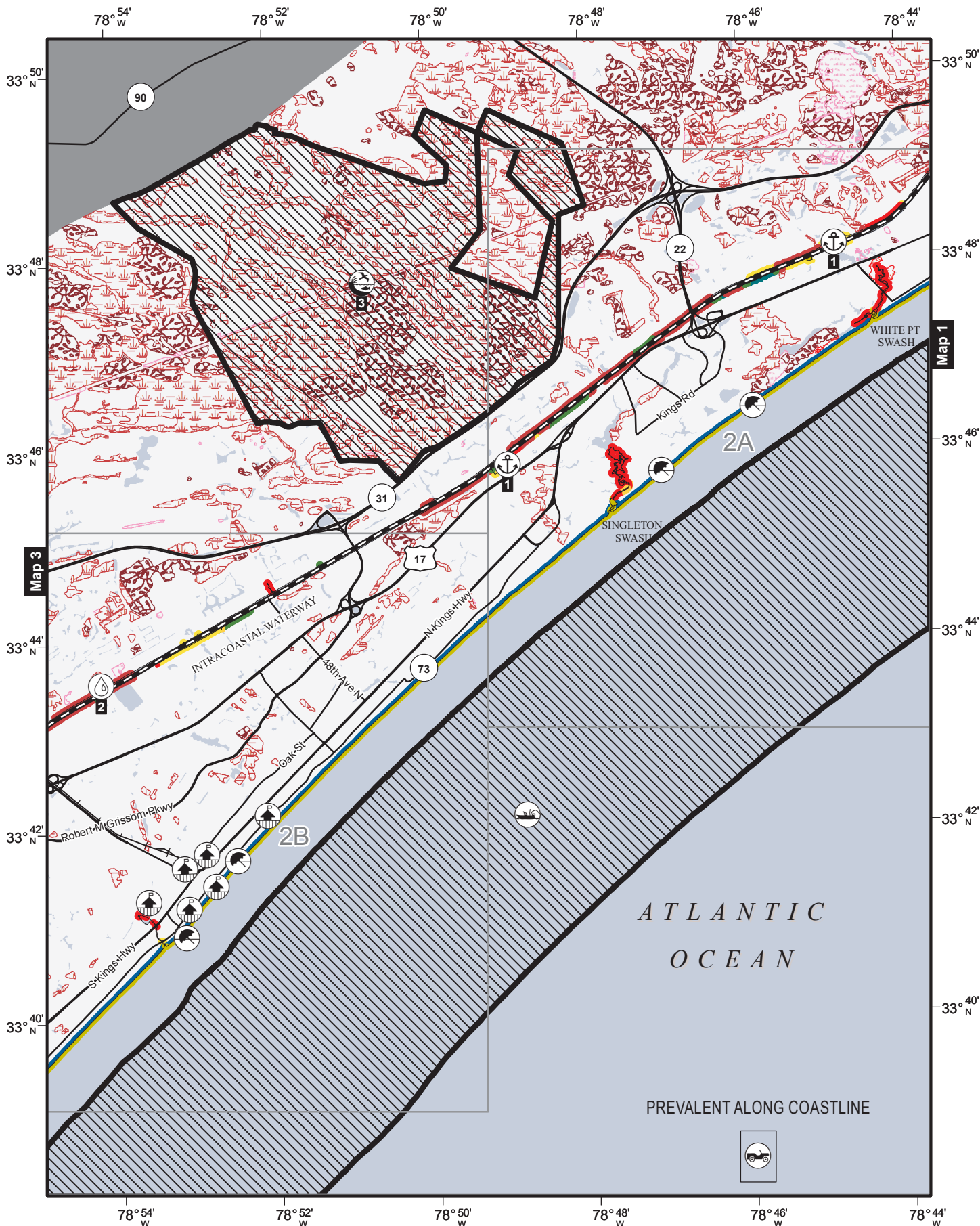
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	31,939.65	19.85	41%
10B	Freshwater Marshes	103.65	0.06	< 1%
10C	Swamps	7,940.59	4.93	10%
10D	Scrub and Shrub Wetlands	13.23	0.01	< 1%
9B	Vegetated Low Banks	60.00	0.04	< 1%
8B	Sheltered, Solid Man-Made Structures	12,833.77	7.97	17%
8C	Sheltered Riprap	2,403.39	1.49	3%
7	Exposed Tidal Flats	9,702.95	6.03	13%
6A	Gravel Beaches	38.28	0.02	< 1%
6B	Riprap	1,654.68	1.03	2%
5	Mixed Sand and Gravel Beaches	928.81	0.58	1%
3A	Fine to Medium Grained Sand Beaches	9,654.91	6.00	12%

Total ESI Shoreline: 77,273.90 Total ESI Shoreline: 48.02
Total Shoreline: 52,580.81 Total Shoreline: 32.67

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

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





Map 2
South Carolina



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: August 2015

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000

Map 2
South Carolina

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	MARINA	MARINA	
2	WATER INTAKE	MYRTLE BEACH CITY OF	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
3	MANAGEMENT AREA	LEWIS OCEAN BAN HERITAGE PRESERVE	SOUTH CAROLINA DEPARTMENT OF NATURAL RESOL 803-734-3914

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	COASTAL MIGRATORY PELAGIC HAPC	SOUTH ATLANTIC FMC	866-723-6210
ESSENTIAL HABITAT	CORAL, CORAL REEF, AND LIVE/HARDBTM HABITAT HAPC	SOUTH ATLANTIC FMC	866-723-6210

JURISDICTIONS

COUNTY:	HORRY COUNTY	FEMA:	REGION IV
COAST GUARD:	DISTRICT 7, SECTOR CHARLESTON	EPA:	REGION 4
USACE:	SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT		

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	73.07	0.11
10B	Freshwater Marshes	482.08	0.75
10C	Swamps	10,200.29	15.94
10D	Scrub and Shrub Wetlands	4,264.53	6.66
9A	Sheltered Tidal Flats	0.88	0.00
7	Exposed Tidal Flats	2.72	0.00

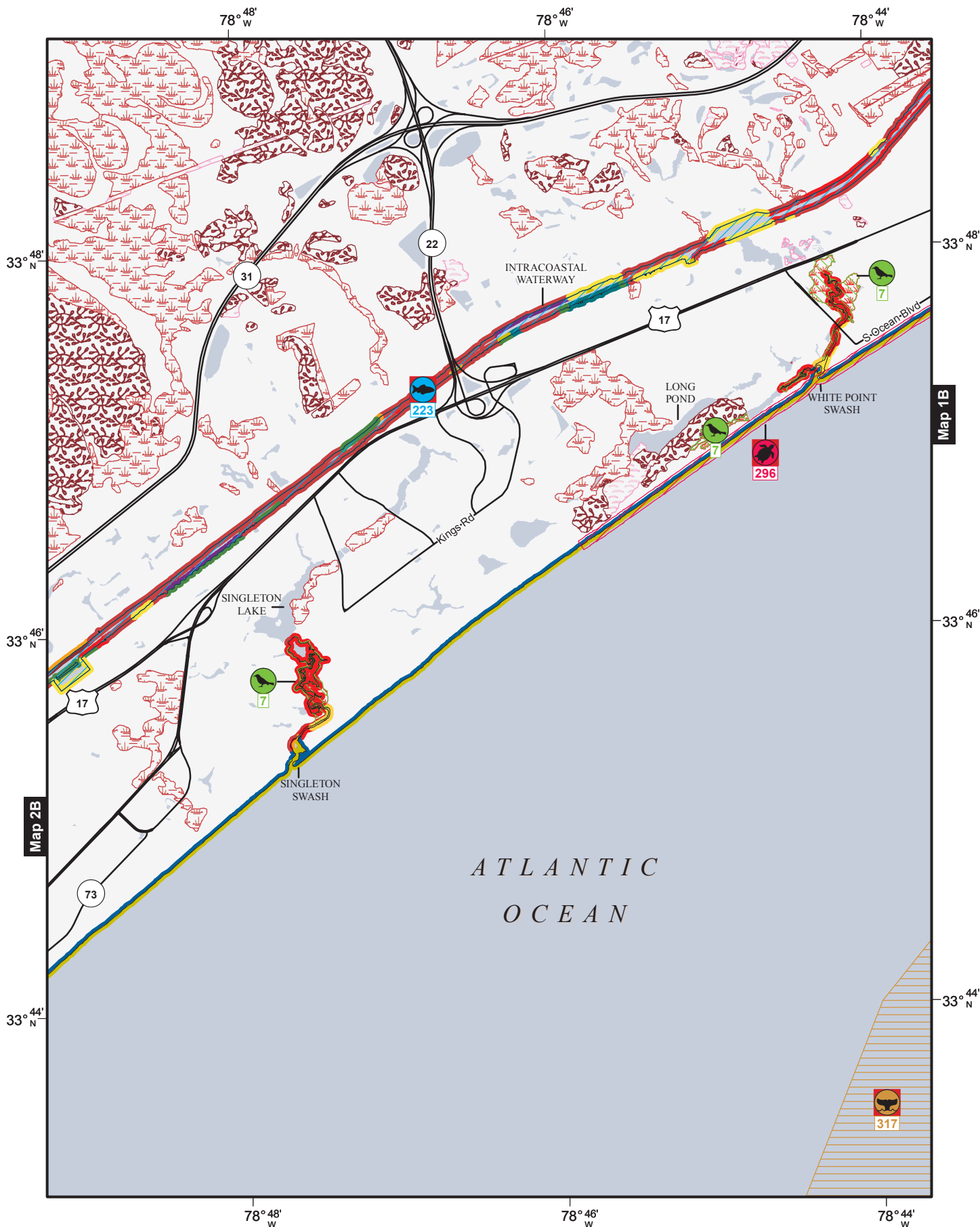
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	27,377.84	17.01	21%
10C	Swamps	27,968.72	17.38	22%
10D	Scrub and Shrub Wetlands	1,156.53	0.72	1%
9A	Sheltered Tidal Flats	511.05	0.32	< 1%
9B	Vegetated Low Banks	1,019.05	0.63	1%
8B	Sheltered, Solid Man-Made Structures	10,999.43	6.83	9%
8C	Sheltered Riprap	709.57	0.44	1%
7	Exposed Tidal Flats	26,624.24	16.54	21%
6A	Gravel Beaches	1,467.69	0.91	1%
6B	Riprap	4,628.92	2.88	4%
5	Mixed Sand and Gravel Beaches	79.80	0.05	< 1%
3A	Fine to Medium Grained Sand Beaches	24,686.16	15.34	19%
1B	Exposed, Solid Man-Made Structures	1,915.10	1.19	1%
Total ESI Shoreline:		129,144.11	80.25	
Total Shoreline:		80,830.36	50.23	

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

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





Map 2A
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 2A
South Carolina

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	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-

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					
223	Diadromous	Atlantic sturgeon	Migration		E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	Migration		E	Present													-	-	-	Jan-Dec	Jan-Dec

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					
296	Turtle	Green sea turtle	Nesting		T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting		E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting		T	Low													-	-	-	-	-

MARINE MAMMALS


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

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)

BIRDS

<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				
Waterfowl	Scaup	Rafting			1,000S														-	-	-
	Scoters	Migration			1,000S													-	Apr-Jun	-	-
	Scoters	Rafting			10,000S													-	-	-	-



FISH

<div></div> <div>Subelement</div>	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	American eel	Migration		-													-	-	Jan-May	Sep-Jan	
		American shad	Migration			-												-	-	Jan-May	Aug-Dec	
		Atlantic sturgeon	General Distribution		E	Present												-	-	Jan-Dec	Jan-Dec	
		Blueback herring	Migration			-												-	-	Aug-Dec	Jan-May	

FISH (continued)

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				
	Hickory shad	Migration			-													-	-	-	Jan-May
	Shortnose sturgeon	General Distribution	E	E	Low													-	-	-	Jan-Dec

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				
	Diamondback rattlesnake	General Distribution	C		Possible													-	-	-	-
	Green sea turtle	General Distribution	T	T	-													-	-	-	-
	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-
	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-

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			
	West Indian manatee	General Distribution	E	E	-													-	-	-
	Humpback whale	General Distribution	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				
	Alcids																	-	-	-	-
	Brown pelican																	-	Jul-Oct	-	-
	D. crested cormorant																	-	-	-	-
	Diving birds																	-	-	-	-
	Loons																	-	-	-	-
	Gulls																	-	-	-	-
	Terns																	-	-	-	-
	Seaside sparrow																	-	-	-	-
	Black-capped petrel																	-	-	-	-
	Jaegers																	-	-	-	-
	Northern gannet																	-	-	-	-
	Shearwaters																	-	-	-	-
	Storm-petrels																	-	-	-	-
	Phalaropes																	-	-	-	-
	Clapper rail																	Mar-Sep	-	-	-

FISH





Monthly Presence

Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atlantic croaker													-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Black sea bass													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Porgies													-	-	-	-	-
	Red drum													-	-	-	-	Aug-Nov
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
Fish	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	-	-
	Star drum													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
Marine Benthic	Smooth dogfish													-	-	-	-	Dec-Apr
	Spotted hake													-	-	-	-	-
	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
Marine Pelagic	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	Dec-Apr
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr



REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Cephalopod	Atlantic brief squid													-	-	-	-	-
 Crab	Blue crab													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
	Blue crab													-	-	May-Nov	-	-
 Invertebrate	Cannonball jellyfish													-	-	-	-	-
 Shrimp	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Dolphin	Atl. spotted dolphin													-	-	-	-
	Bottlenose dolphin													-	-	-	-
 Whale	Pygmy sperm whale													-	-	-	-
	S.finned pilot whale													-	-	-	-

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	67.62	0.11
10B	Freshwater Marshes	117.79	0.18
10C	Swamps	1,708.95	2.67
10D	Scrub and Shrub Wetlands	1,012.97	1.58
9A	Sheltered Tidal Flats	0.88	0.00
7	Exposed Tidal Flats	2.72	0.00

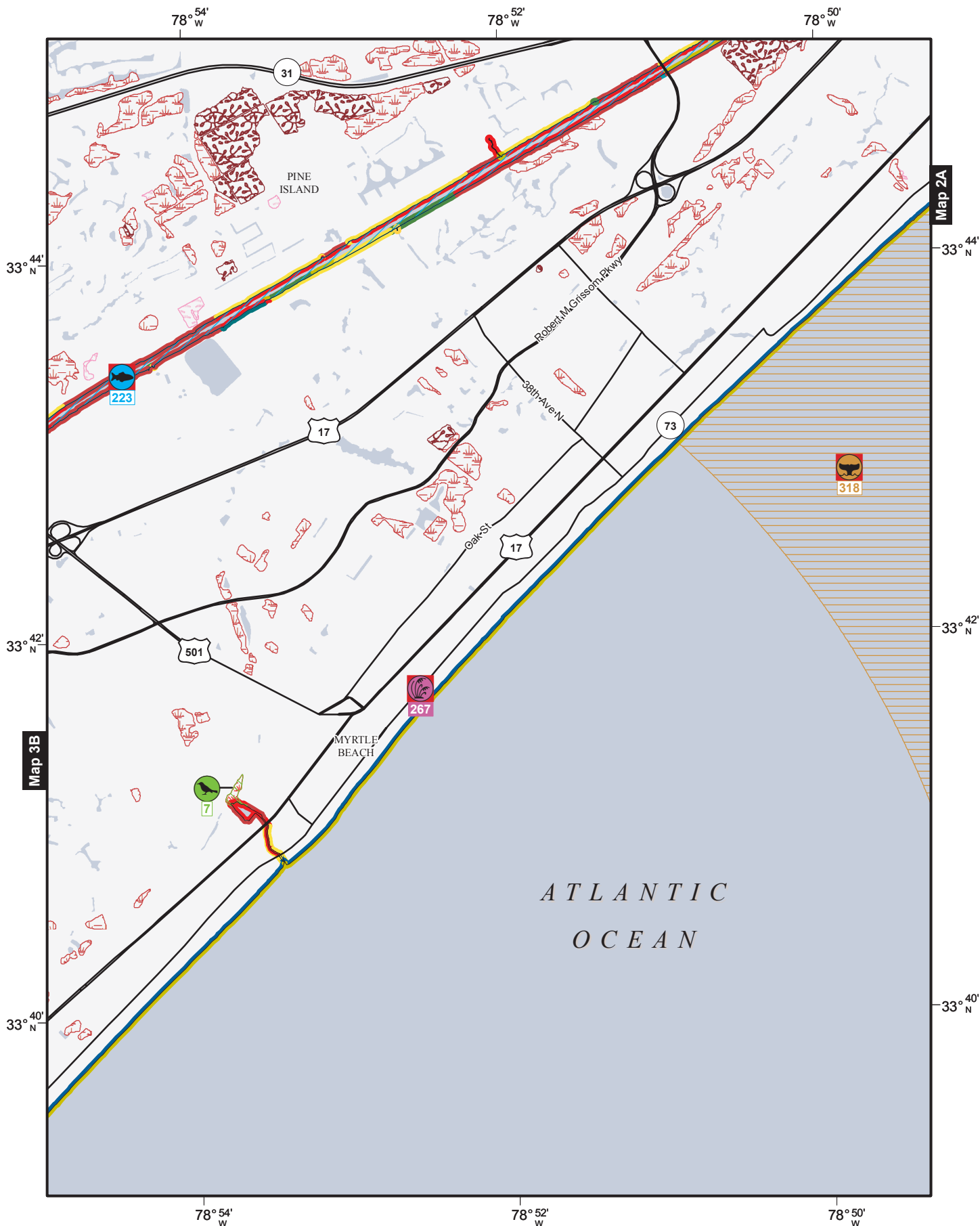
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	15,487.69	9.62	23%
10C	Swamps	15,056.40	9.36	23%
10D	Scrub and Shrub Wetlands	540.96	0.34	1%
9A	Sheltered Tidal Flats	511.05	0.32	1%
9B	Vegetated Low Banks	726.61	0.45	1%
8B	Sheltered, Solid Man-Made Structures	3,898.75	2.42	6%
8C	Sheltered Riprap	651.60	0.40	1%
7	Exposed Tidal Flats	12,274.47	7.63	18%
6A	Gravel Beaches	974.07	0.61	1%
6B	Riprap	2,615.92	1.63	4%
3A	Fine to Medium Grained Sand Beaches	12,037.84	7.48	18%
1B	Exposed, Solid Man-Made Structures	1,915.10	1.19	3%
Total ESI Shoreline:		66,690.45	41.44	
Total Shoreline:		45,726.97	28.41	

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

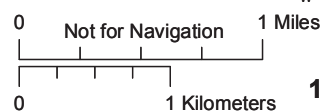




Map 2B
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



Map 2B
South Carolina

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					
7	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-	-

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					
223	Diadromous	Atlantic sturgeon	Migration		E	Present													-	-	-	-	-
	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-	-	-	-	-

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					
267	Wetland	Seabeach amaranth	Vulnerable Occurrence		T	-													-	-	-	-	-

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					
318	Whale	Humpback whale	General Distribution	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					
	Waterfowl	Scaup	Rafting			1,000S												-	-	-	-	-
		Scoters	Migration			1,000S												-	Apr-Jun	-	-	-
		Scoters	Rafting			10,000S												-	-	-	-	-

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	American eel	Migration			-												-	-	-	-	-
		American shad	Migration			-												-	-	-	-	-
		Atlantic sturgeon	General Distribution	E		Present												-	-	-	-	-
		Blueback herring	Migration			-												-	-	-	-	-
		Hickory shad	Migration			-												-	-	-	-	-
		Shortnose sturgeon	General Distribution	E	E	Low												-	-	-	-	-

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					
 Snake	Diamondback rattlesnake	General Distribution	C		Possible													-	-	-	-	-
 Turtle	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-

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				
 Manatee	West Indian manatee	General Distribution	E	E	-													-	-	-	-
 Whale	Humpback whale	Concentration Area	E	E	Common													-	-	-	-

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	Alcids																	-	-	-	-
 Diving	Brown pelican																	-	-	-	-
	D. crested cormorant																	-	-	-	-
	Diving birds																	-	-	-	-
	Loons																	-	-	-	-
 Gull/Tern	Gulls																	-	-	-	-
	Terns																	-	-	-	-
 Passerine	Seaside sparrow																	-	-	-	-
 Pelagic	Black-capped petrel																	-	-	-	-
	Jaegers																	-	-	-	-
	Northern gannet																	-	-	-	-
	Shearwaters																	-	-	-	-
	Storm-petrels																	-	-	-	-
 Shorebird	Phalaropes																	-	-	-	-
 Wading	Clapper rail																	-	-	-	-

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					
 Estuarine Nursery	Atl. sharpnose shark																	-	-	-	Feb-Dec	Feb-Dec
	Atlantic croaker																	-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic menhaden																	-	-	Dec-May	Sep-Nov	Mar-Nov
	Black sea bass																	-	-	-	-	-
	Bluefish																	-	-	-	-	-
	Bonnethead shark																	-	-	-	Apr-Nov	Apr-Nov
	Bull shark																	-	-	-	Apr-Oct	Apr-Oct

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					
<div><div></div><div></div></div>	Silver seatrout													-	-	-	-	
	Southern flounder													-	-	-	-	
	Southern kingfish													-	-	-	-	
	Spot													-	-	-	-	
	Star drum													-	-	-	-	
	Summer flounder													-	-	-	-	
	Weakfish													-	-	-	-	
	Great hammerhead													-	-	Apr-Oct	Apr-Oct	
	Atlantic spadefish													-	-	-	-	
	Florida pompano													-	-	-	-	
	Fringed flounder													-	-	-	-	
	Lemon shark													-	-	Apr-Nov	Apr-Nov	
	Smooth dogfish													-	-	-	Dec-Apr	
	Spotted hake													-	-	-	-	
	Anchovies													-	-	-	-	
	Blacknose shark													-	-	Apr-Oct	Apr-Oct	
	Blacktip shark													-	-	Apr-Oct	Apr-Oct	
	Cobia													-	-	Apr-Nov	Apr-Sep	
	Finetooth shark													-	-	May-Oct	May-Oct	
	Giant manta													-	-	-	-	
	King mackerel													-	-	Sep-Nov	Sep-Nov	
	Sandbar shark													-	-	Apr-Oct	Apr-Oct	
	Scalloped hammerhead													-	-	May-Oct	May-Oct	
	Spanish mackerel													-	-	-	-	
	Spinner shark													-	-	Oct-Dec	Oct-Dec	
	Spiny dogfish													-	-	-	Dec-Apr	
	Tiger shark													-	-	Apr-Nov	Apr-Nov	
	White shark													-	-	Dec-Apr	Dec-Apr	

REPTILES & AMPHIBIANS

<i>Subelement</i>	<i>Species</i>	<i>Monthly Presence</i>												<i>Nest</i>	<i>Hatch</i>	<i>Internest</i>	<i>Juveniles</i>	<i>Adults</i>
 Turtle	C. diamondback terrapin	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
		■	■	■	■	■	■	■	■	■	■	■	■					

INVERTEBRATES

<i>Subelement</i>	<i>Species</i>	<i>Monthly Presence</i>												<i>Spawn</i>	<i>Eggs</i>	<i>Larvae</i>	<i>Juveniles</i>	<i>Adults</i>
 Cephalopod	Atlantic brief squid	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
 Crab	Blue crab													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
 Invertebrate	Cannonball jellyfish													-	-	-	-	-
 Shrimp	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov

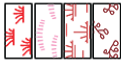
MARINE MAMMALS

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

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	5.45	0.01
10B	Freshwater Marshes	17.08	0.03
10C	Swamps	577.67	0.90
10D	Scrub and Shrub Wetlands	235.65	0.37



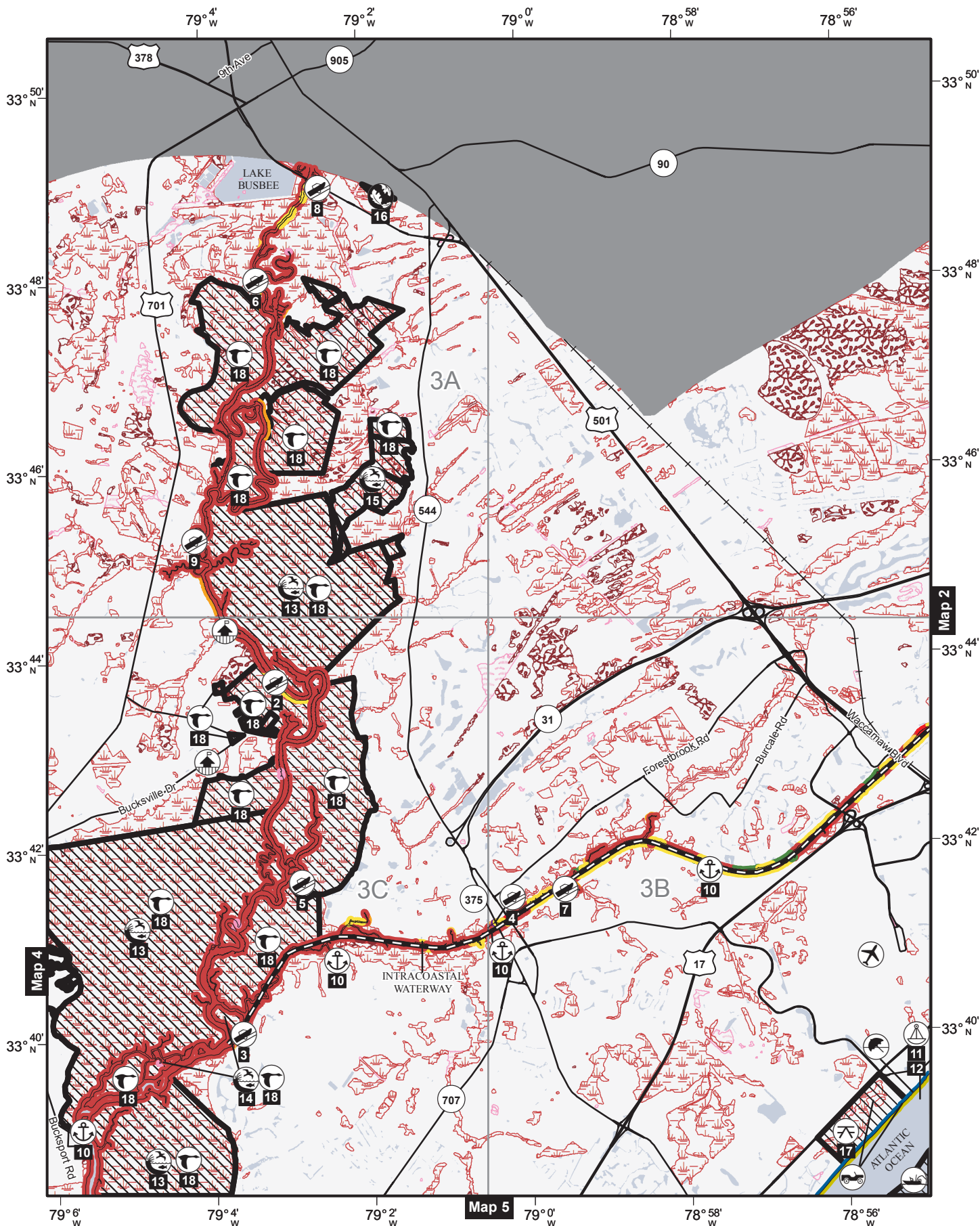
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	10,816.05	6.72	20%
10C	Swamps	8,735.95	5.43	16%
8B	Sheltered, Solid Man-Made Structures	6,624.65	4.12	12%
8C	Sheltered Riprap	57.98	0.04	< 1%
7	Exposed Tidal Flats	13,485.64	8.38	25%
6A	Gravel Beaches	493.62	0.31	1%
6B	Riprap	1,311.08	0.81	2%
5	Mixed Sand and Gravel Beaches	79.80	0.05	< 1%
3A	Fine to Medium Grained Sand Beaches	12,648.25	7.86	23%
Total ESI Shoreline:		54,253.02	33.71	
Total Shoreline:		30,158.48	18.74	

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 3
South Carolina



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: August 2015

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 3
South Carolina

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AIRPORT	MYRTLE BEACH INTL AIRPORT	
2	BOAT RAMP	BUCKSVILLE	HORRY COUNTY
3	BOAT RAMP	ENTERPRISE	HORRY COUNTY
4	BOAT RAMP	HIGHWAY 544	SCDOT/HORRY CO
5	BOAT RAMP	PEACH TREE	SCDOT
6	BOAT RAMP	PITCH	HORRY COUNTY
7	BOAT RAMP	ROSEWOOD	SCDNR
8	BOAT RAMP	SAVANNAH BLUFF	HORRY COUNTY
9	BOAT RAMP	TODDVILLE BOAT RAMP	HORRY COUNTY
10	MARINA	MARINA	
11	REPEATED MEASUREMENT SITE	DB - 8661070 - SPRINGMAID PIER, SC	
12	REPEATED MEASUREMENT SITE	NWLN - SPRINGMAID PIER	NATIONAL WATER LEVEL PROGRAM 301-713-2815

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
13	MANAGEMENT AREA	BUCKSPORT & OLIVER MITIGATION SITE	SOUTH CAROLINA DEPARTMENT OF NATURAL RESOL
14	MANAGEMENT AREA	GEORGIA PACIFIC TRACTS	SOUTH CAROLINA DEPARTMENT OF NATURAL RESOL
15	MANAGEMENT AREA	GEORGIA PACIFIC TRACTS	
16	NATURE CONSERVANCY	WACCAMAW RIVER FEE	THE NATURE CONSERVANCY
17	PARK	MYRTLE BEACH STATE PARK	
18	WILDLIFE REFUGE	WACCAMAW NATIONAL WILDLIFE REFUGE	WACCAMAW NATIONAL WILDLIFE REFUGE 843-527-8069

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	COASTAL MIGRATORY PELAGIC HAPC	SOUTH ATLANTIC FMC	866-723-6210
ESSENTIAL HABITAT	CORAL, CORAL REEF, AND LIVE/HARDBTM HABITAT HAPC	SOUTH ATLANTIC FMC	866-723-6210

JURISDICTIONS			
COUNTY:	HORRY COUNTY	FEMA:	REGION IV
COAST GUARD:	DISTRICT 7, SECTOR CHARLESTON	EPA:	REGION 4
USACE:	SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT		

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES



ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10B	Freshwater Marshes	703.62	1.10
10C	Swamps	23,351.27	36.49
10D	Scrub and Shrub Wetlands	2,373.66	3.71

ESI SHORELINE HABITAT TYPES

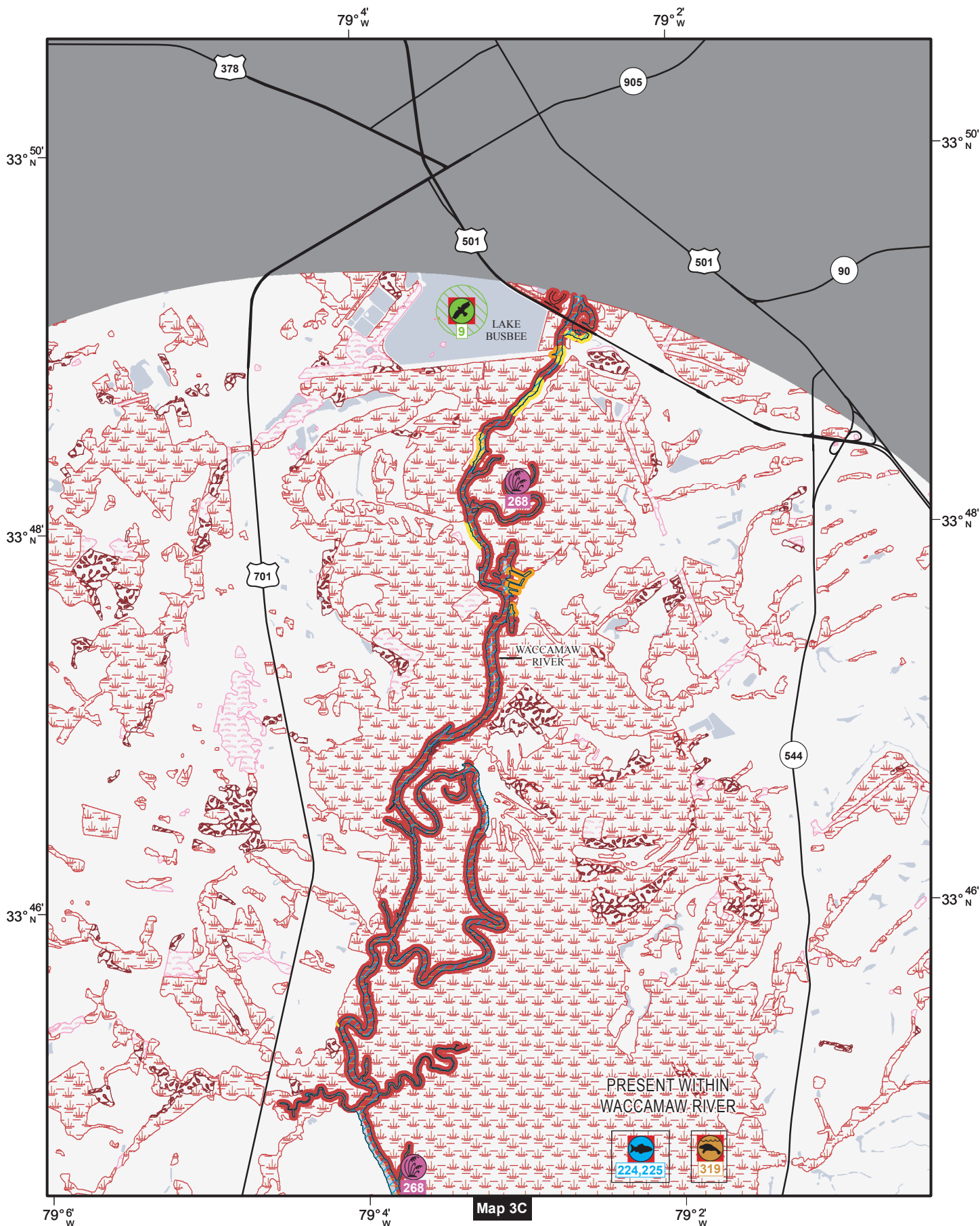
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	5,015.81	3.12	3%
10B	Freshwater Marshes	1,249.21	0.78	1%
10C	Swamps	162,875.71	101.21	82%
10D	Scrub and Shrub Wetlands	349.22	0.22	< 1%
9B	Vegetated Low Banks	5,000.83	3.11	3%
8B	Sheltered, Solid Man-Made Structures	13,290.88	8.26	7%
8C	Sheltered Riprap	2,170.39	1.35	1%
7	Exposed Tidal Flats	3,536.21	2.20	2%
6B	Riprap	1,700.52	1.06	1%
3A	Fine to Medium Grained Sand Beaches	3,253.68	2.02	2%
1B	Exposed, Solid Man-Made Structures	49.81	0.03	< 1%

Total ESI Shoreline: 198,492.26 Total ESI Shoreline: 123.34
 Total Shoreline: 185,499.59 Total Shoreline: 115.26

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

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





Map 3A
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



Map 3A
South Carolina

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
9	Raptor	Bald eagle	Nesting	T		Possible	J F M A M J J A S O N D	Oct-May	-	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence	Spawn	Eggs	Larvae	Juveniles	Adults
224	Diadromous	Atlantic sturgeon	General Distribution	E		Rare	J F M A M J J A S O N D	-	-	-	-	Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution	E		Rare	J F M A M J J A S O N D	-	-	-	-	Jan-Dec
225	Diadromous	American shad	Migration			High	J F M A M J J A S O N D	-	-	-	-	Jan-May
	Diadromous	Blueback herring	Migration			High	J F M A M J J A S O N D	-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-	J F M A M J J A S O N D	-	-	-	-	Jan-May

HABITATS & RARE PLANTS


Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence	Mating	Calving	Pupping	Molt
268	Plant	Plymouth gentian	Vulnerable Occurrence			-	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
319	Manatee	West Indian manatee	General Distribution	E		-	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
 Wading	Wading birds	Nesting			1 Rookery	J F M A M J J A S O N D	Feb-Sep	-	-	-
	Wood stork	Nesting	E	T	1 Rookery	J F M A M J J A S O N D	Mar-Sep	-	-	-

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence	Nest	Hatch	Internest	Juveniles	Adults
 Snake	Diamondback rattlesnake	General Distribution	C		Possible	J F M A M J J A S O N D	-	-	-	-	-

FISH

	Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous	American eel													-	-	-	Jan-May	Jan-Dec
		American shad													-	-	-	Jan-Dec	-
		Blueback herring													-	-	-	Jan-Dec	-
		Hickory shad													-	-	-	Jan-Dec	-
	Estuarine Nursery	Striped bass													-	-	-	Jan-Dec	Jan-Dec
		Atlantic croaker													-	-	-	Jan-Sep	Jan-Sep
		Atlantic menhaden													-	-	-	Feb-Oct*	Feb-Oct*
		Red drum													-	-	-	Jan-Dec	Jan-Dec
		Southern flounder													-	-	-	Jan-Dec	Jan-Dec
		Spot													-	-	-	Feb-Dec	Feb-Dec
	Freshwater	Striped mullet													-	-	-	-	-
		Blue catfish													-	-	-	Feb-Dec	Feb-Dec
		Flathead catfish													-	-	-	Jun-Nov*	Jun-Nov*

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	371.59	0.58
10C	Swamps	7,539.52	11.78
10D	Scrub and Shrub Wetlands	512.74	0.80

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10B	Freshwater Marshes	498.12	0.31	1%
10C	Swamps	52,562.03	32.66	91%
10D	Scrub and Shrub Wetlands	115.60	0.07	< 1%
9B	Vegetated Low Banks	3,035.23	1.89	5%
8B	Sheltered, Solid Man-Made Structures	1,117.62	0.69	2%
8C	Sheltered Riprap	344.36	0.21	1%

Total ESI Shoreline: 57,672.96 Total ESI Shoreline: 35.84
Total Shoreline: 55,108.51 Total Shoreline: 34.24

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 Carolina

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				
9	Raptor	Bald eagle	Nesting	T		Possible													Oct-May	-	-	-
10	Waterfowl	Scaup	Rafting			1,000S													-	-	-	-
	Waterfowl	Scoters	Migration			1,000S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			10,000S													-	-	-	-

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					
223	Diadromous	Atlantic sturgeon	Migration		E	Present													-	-	-	Jan-Dec	Jan-Dec
226	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	American eel	Migration			-													-	-	-	Jan-May	Sep-Jan
	Diadromous	American shad	Migration			-													-	-	-	Aug-Dec	Jan-May
	Diadromous	Atlantic sturgeon	General Distribution		E	Present													-	-	-	-	Jan-Dec
	Diadromous	Blueback herring	Migration			-													-	-	-	Aug-Dec	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	Aug-Dec	Jan-May
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Low													-	-	-	-	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					
267	Wetland	Seabeach amaranth	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					
296	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
298	Turtle	Loggerhead sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
	Turtle	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-






MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
319	Manatee	West Indian manatee	General Distribution	E	E	-													-	-	-	-	-
320	Whale	Humpback whale	Concentration Area	E	E	Common													-	-	-	-	-
WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)																							


REPTILES & AMPHIBIANS

<div><div></div><div></div></div> <div>Subelement</div>	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					
	Snake	Diamondback rattlesnake	General Distribution	C	Possible													-	-	-	-	-
ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)																						

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Alcid													-	-	-	-
	Diving													-	-	Jul-Oct	-
	D. crested cormorant													-	-	-	-
	Diving birds													-	-	-	-
	Loons													-	-	-	-
	Gulls													-	-	-	-
	Terns													-	-	-	-
	Pelagic													-	-	-	-
	Black-capped petrel													-	-	-	-
	Jaegers													-	-	-	-
	Northern gannet													-	-	-	-
	Shearwaters													-	-	-	-
	Storm-petrels													-	-	-	-
	Shorebird													-	-	-	-
	Phalaropes													-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Estuarine Nursery													-	-	-	Feb-Dec	Feb-Dec
	Atl. sharpnose shark													-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	Dec-May	Sep-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	-	-
	Black sea bass													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Porgies													-	-	-	-	-
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern kingfish													-	-	-	-	-

FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Spot													-	-	-	-
	Star drum													-	-	-	-
	Summer flounder													-	-	-	-
	Weakfish													-	-	-	-
Fish	Great hammerhead													-	-	Apr-Oct	Apr-Oct
Marine Benthic	Atlantic spadefish													-	-	-	-
	Florida pompano													-	-	-	-
	Fringed flounder													-	-	-	-
	Lemon shark													-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	Dec-Apr
	Spotted hake													-	-	-	-
Marine Pelagic	Anchovies													-	-	-	-
	Blacknose shark													-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-
	King mackerel													-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-
	Spinner shark													-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	Dec-Apr
	Tiger shark													-	-	Apr-Nov	Apr-Nov
	White shark													-	-	Dec-Apr	Dec-Apr

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
Cephalopod	Atlantic brief squid													-	-	-	-
Crab	Blue crab													Apr-Sep	May-Nov	-	Apr-Sep
Invertebrate	Cannonball jellyfish													-	-	-	-
Shrimp	Brown shrimp													-	Jan-Mar	-	Jun-Nov
	White shrimp													May-Sep	May-Sep	-	Mar-Nov

MARINE MAMMALS

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

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	132.10	0.21
10C	Swamps	2,965.87	4.63
10D	Scrub and Shrub Wetlands	374.41	0.59

ESI SHORELINE HABITAT TYPES

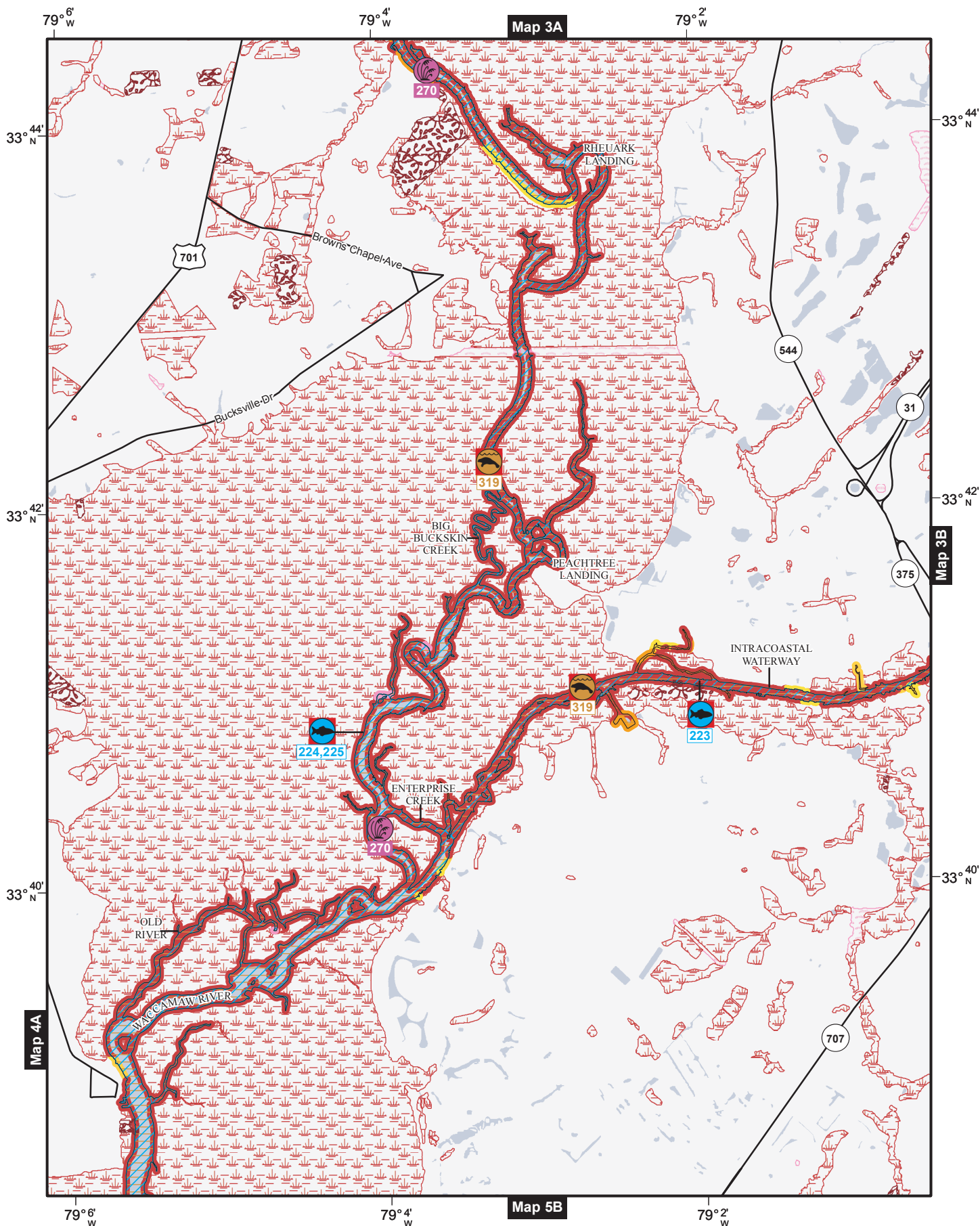
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	5,014.79	3.12	13%
10C	Swamps	13,581.47	8.44	35%
9B	Vegetated Low Banks	748.39	0.47	2%
8B	Sheltered, Solid Man-Made Structures	9,387.91	5.83	25%
8C	Sheltered Riprap	1,008.64	0.63	3%
7	Exposed Tidal Flats	3,534.76	2.20	9%
6B	Riprap	1,700.52	1.06	4%
3A	Fine to Medium Grained Sand Beaches	3,252.23	2.02	8%
1B	Exposed, Solid Man-Made Structures	49.81	0.03	< 1%

Total ESI Shoreline: 38,278.51 Total ESI Shoreline: 23.79
 Total Shoreline: 29,172.35 Total Shoreline: 18.13

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

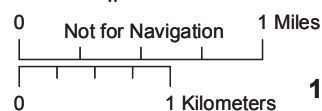




Map 3C
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



Map 3C
South Carolina

BIOLOGICAL RESOURCES

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

DISPLAYED ON MAP

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
223	Diadromous	Atlantic sturgeon	Migration	E	E	Present													-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-	-	Jan-Dec	Jan-Dec
224	Diadromous	Atlantic sturgeon	General Distribution	E	E	Rare													-	-	-	Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Rare													-	-	-	Jan-Dec
225	Diadromous	American shad	Migration			High													-	-	-	Jan-May
	Diadromous	Blueback herring	Migration			High													-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	Jan-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				
270	Plant	Sarvis holly	Vulnerable Occurrence			-													-	-	-	-

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				
319	Manatee	West Indian manatee	General Distribution	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				
	Wading	Wading birds	Nesting			2 Rookeries													Feb-Sep	-	-	-

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					
	Snake	Diamondback rattlesnake	General Distribution	C		Possible													-	-	-	-	-

FISH

	Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous	American eel													-	-	-	Jan-May	Jan-Dec
		American shad													-	-	-	Jan-Dec	-
		Blueback herring													-	-	-	Jan-Dec	-
		Hickory shad													-	-	-	Jan-Dec	-
		Striped bass													-	-	-	Jan-Dec	-
	Estuarine Nursery	Atlantic croaker													-	-	-	Jan-Dec	Jan-Dec
		Atlantic menhaden													-	-	-	Jan-Sep	Jan-Sep
		Red drum													-	-	-	Feb-Oct*	Feb-Oct*
		Southern flounder													-	-	-	Jan-Dec	Jan-Dec
		Spot													-	-	-	Jan-Dec	Jan-Dec
	Freshwater	Striped mullet													-	-	-	-	-
		Blue catfish													-	-	-	Feb-Dec	Feb-Dec
		Flathead catfish													-	-	-	Jun-Nov*	Jun-Nov*
															-	-	-	-	-
															-	-	-	-	-

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	99.64	0.16
10C	Swamps	10,655.37	16.65
10D	Scrub and Shrub Wetlands	201.47	0.31

ESI SHORELINE HABITAT TYPES



ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10B	Freshwater Marshes	751.09	0.47	1%
10C	Swamps	96,729.08	60.10	94%
10D	Scrub and Shrub Wetlands	233.62	0.15	< 1%
9B	Vegetated Low Banks	1,217.21	0.76	1%
8B	Sheltered, Solid Man-Made Structures	2,784.80	1.73	3%
8C	Sheltered Riprap	817.39	0.51	1%

Total ESI Shoreline: 102,533.20 Total ESI Shoreline: 63.71
Total Shoreline: 101,213.61 Total Shoreline: 62.89

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

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



Map 4
South Carolina

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	BOAT RAMP	PORT HARRELSON	HORRY COUNTY	
2	BOAT RAMP	SAMWORTH WMA BOAT RAMP	SCDNR	
3	BOAT RAMP	SANDY ISLAND BOAT RAMP	GEORGETOWN COUNTY	
4	BOAT RAMP	YAUHANNAH	SCDOT	
5	EPA FACILITY	PAWLEYS ISLAND WASTEWATER TREATMENT PLANT	WASTEWATER OPERATIONS SUPERVISOR	
6	MARINA	MARINA		
7	WATER INTAKE	GEORGETOWN CO WSD		
8	WATER INTAKE	GRAND STRAND W&SA		

DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
9	MANAGEMENT AREA	SAMWORTH WILDLIFE MANAGEMENT AREA	SOUTH CAROLINA DEPARTMENT OF NATURAL RESOL	
10	NATURE CONSERVANCY	SANDY ISLAND	THE NATURE CONSERVANCY	
11	WILDLIFE REFUGE	WACCAMAW NATIONAL WILDLIFE REFUGE	WACCAMAW NATIONAL WILDLIFE REFUGE	843-527-8069

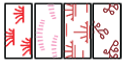
JURISDICTIONS

COUNTY: GEORGETOWN COUNTY, HORRY COUNTY
COAST GUARD: DISTRICT 7, SECTOR CHARLESTON
USACE: SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT

FEMA: REGION IV
EPA: REGION 4

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	115.06	0.18
10B	Freshwater Marshes	4,782.31	7.47
10C	Swamps	22,972.84	35.90
10D	Scrub and Shrub Wetlands	2,533.80	3.96



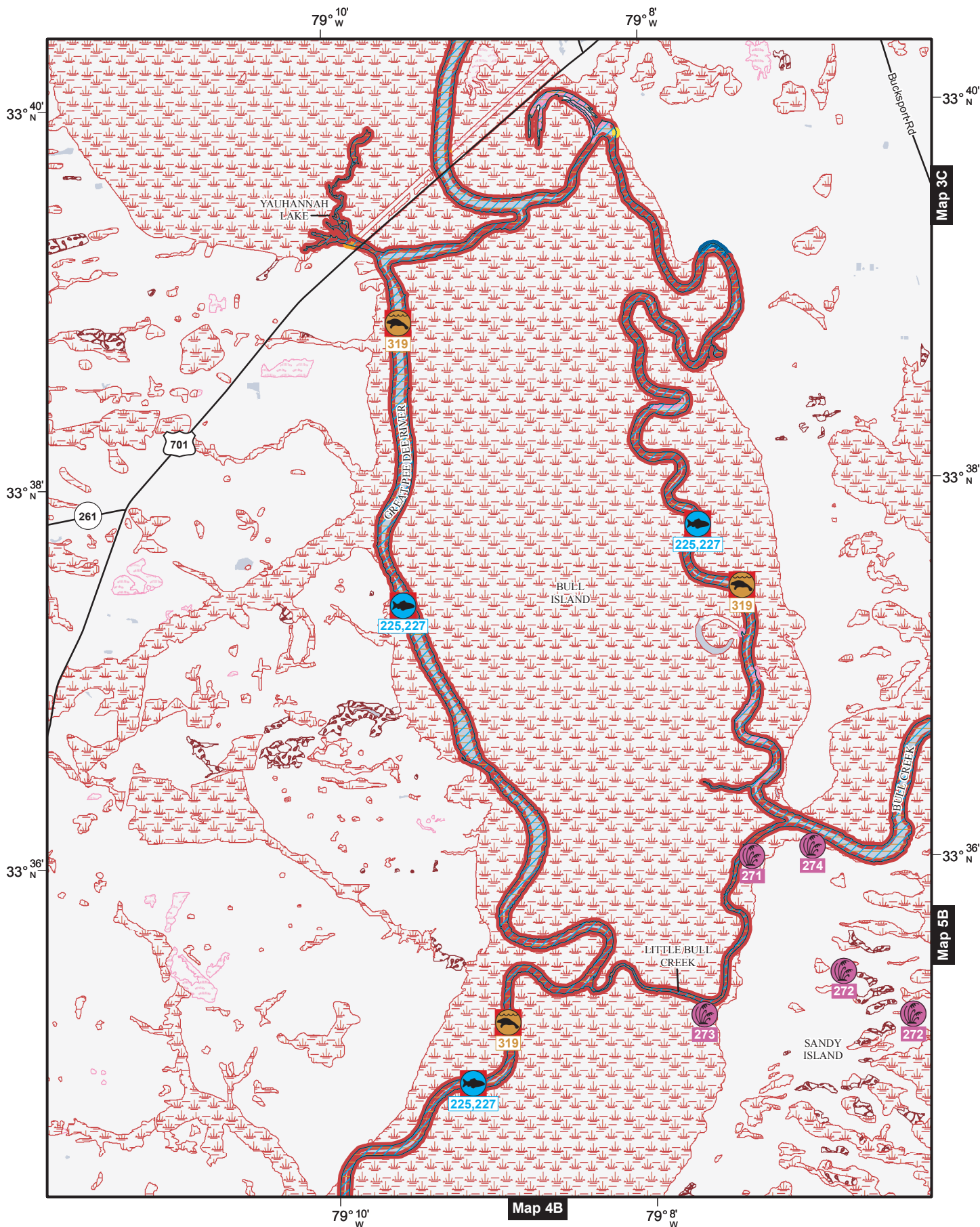
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	4,881.68	3.03	1%
10B	Freshwater Marshes	107,106.71	66.55	31%
10C	Swamps	218,232.18	135.60	62%
10D	Scrub and Shrub Wetlands	14,209.35	8.83	4%
9B	Vegetated Low Banks	897.18	0.56	< 1%
8B	Sheltered, Solid Man-Made Structures	3,773.68	2.34	1%
8C	Sheltered Riprap	627.65	0.39	< 1%
3A	Fine to Medium Grained Sand Beaches	108.09	0.07	< 1%
3B	Scarps and Steep Slopes (Sand)	360.79	0.22	< 1%
Total ESI Shoreline:		350,197.30	217.60	
Total Shoreline:		282,394.00	175.47	

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 Carolina

BIOLOGICAL RESOURCES

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

DISPLAYED ON MAP

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Eggs	Larvae	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
225	Diadromous	American shad	Migration			High													-	-	-	Jan-May
	Diadromous	Blueback herring	Migration			High													-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	Jan-May
227	Diadromous	Atlantic sturgeon	General Distribution	E	E	Present													-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	Jan-Dec	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				
271	Plant	Long sedge	Vulnerable Occurrence			-													-	-	-	-
272	Plant	Robbins' spikerush	Vulnerable Occurrence			-													-	-	-	-
273	Plant	Smooth hedgenettle	Vulnerable Occurrence			-													-	-	-	-
274	Plant	Viviparous spikerush	Vulnerable Occurrence			-													-	-	-	-

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				
319	Manatee	West Indian manatee	General Distribution	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				
	Wading	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-
		Wood stork	Nesting	E	T	1 Rookery													Mar-Sep	-	-	-

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					
	Snake	Diamondback rattlesnake	General Distribution	S	C	Possible													-	-	-	-	-

FISH

	Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous	American eel													-	-	-	Jan-May	Jan-Dec
		American shad													-	-	-	Jan-Dec	-
		Blueback herring													-	-	-	Jan-Dec	-
		Hickory shad													-	-	-	Jan-Dec	-
		Striped bass													-	-	-	Jan-Dec	-
	Estuarine Nursery	Atlantic croaker													-	-	-	Jan-Sep	Jan-Sep
		Atlantic menhaden													-	-	-	Feb-Oct*	Feb-Oct*
		Red drum													-	-	-	Jan-Dec	Jan-Dec
		Southern flounder													-	-	-	Jan-Dec	Jan-Dec
		Spot													-	-	-	Feb-Dec	Feb-Dec
	Freshwater	Striped mullet													-	-	-	-	-
		Blue catfish													-	-	-	Feb-Dec	Feb-Dec
		Flathead catfish													-	-	-	Jun-Nov*	Jun-Nov*

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	132.43	0.21
10C	Swamps	11,883.08	18.57
10D	Scrub and Shrub Wetlands	186.51	0.29

ESI SHORELINE HABITAT TYPES

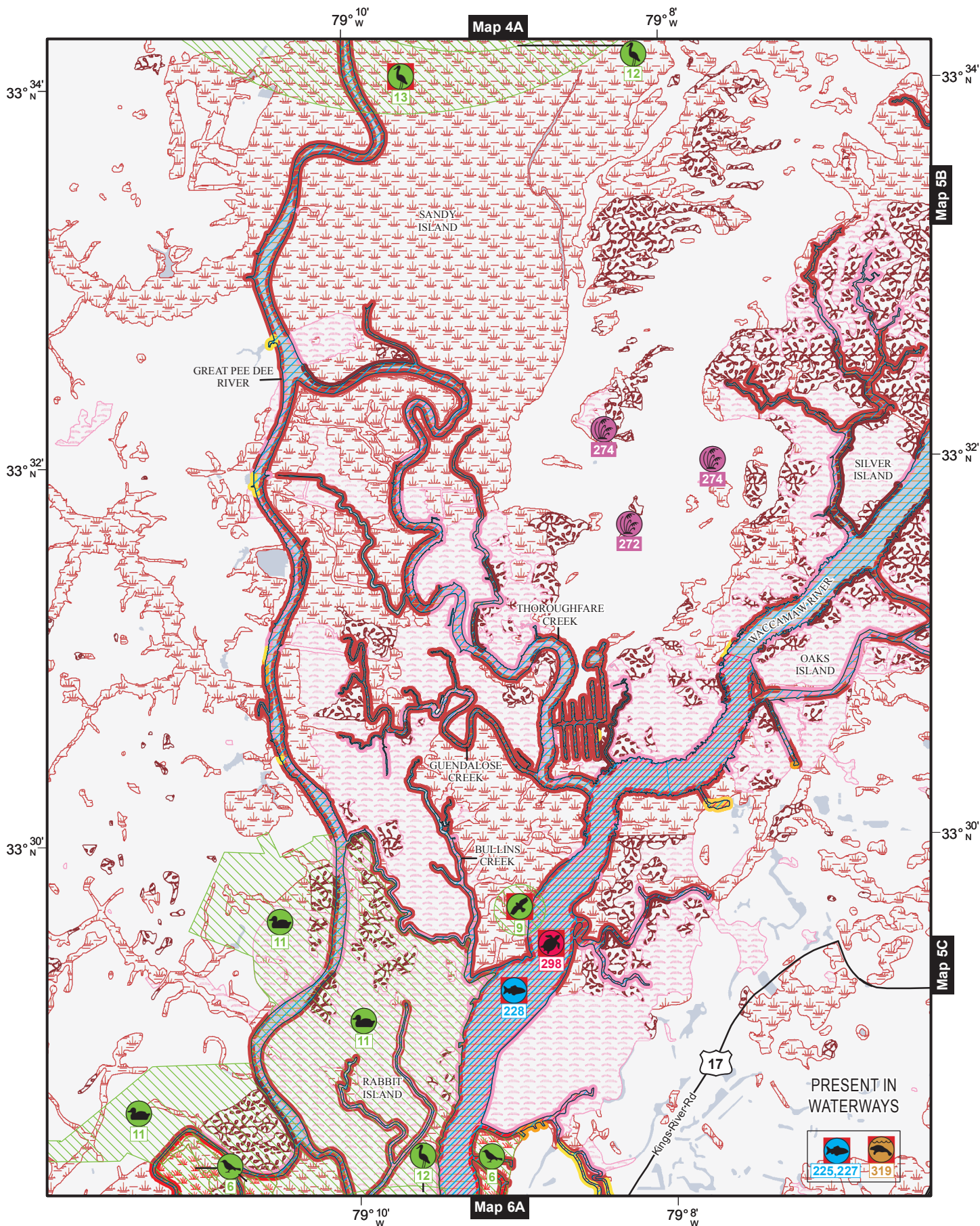
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10B	Freshwater Marshes	6,029.89	3.75	7%
10C	Swamps	84,831.93	52.71	93%
9B	Vegetated Low Banks	174.54	0.11	< 1%
8B	Sheltered, Solid Man-Made Structures	35.81	0.02	< 1%
3B	Scarps and Steep Slopes (Sand)	360.79	0.22	< 1%

Total ESI Shoreline: 91,432.97 Total ESI Shoreline: 56.81
 Total Shoreline: 85,638.35 Total Shoreline: 53.21

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 Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 4B
South Carolina

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				
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
9	Raptor	Bald eagle	Nesting	T		Possible													Oct-May	-	-	-
11	Waterfowl	American black duck	Wintering			100S													-	-	-	-
	Waterfowl	American coot	Wintering			1,000S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Waterfowl	Hooded merganser	Wintering			100S													-	-	-	-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Northern pintail	Wintering			100S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			10S													-	-	-	-
	Waterfowl	Wood duck	Nesting			100S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			10S													-	-	-	-
12	Wading	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-
13	Wading	Wood stork	Nesting	E	T	1 Rookery													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					
225	Diadromous	American shad	Migration			High													-	-	-	-	Jan-May
	Diadromous	Blueback herring	Migration			High													-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May
227	Diadromous	Atlantic sturgeon	General Distribution	E		Present													-	-	-	-	Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	-	Jan-Dec
228	Diadromous	Atlantic sturgeon	Concentration Area	E		High													-	-	-	-	Jan-Dec
	Diadromous	Shortnose sturgeon	Concentration Area	E	E	High													-	-	-	-	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			
272	Plant	Robbins' spikerush	Vulnerable Occurrence			-													-	-	-
274	Plant	Viviparous spikerush	Vulnerable Occurrence			-													-	-	-

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					
298	Turtle	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
	Turtle	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-

MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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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					
Snake	Diamondback rattlesnake	General Distribution	C		Possible													-	-	-	-	-

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				
Passerine	Seaside sparrow																	-	-	-	-
Wading	Clapper rail																	Mar-Sep	-	-	-
	King rail																	Feb-Aug	-	-	-
	Least bittern																	May-Aug	-	-	-
Waterfowl	Mallard																	-	-	-	-

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	American eel																	-	-	-	Jan-Dec	-
	American shad																	-	-	-	Jan-Dec	-
	Blueback herring																	-	-	-	Jan-Dec	-
	Hickory shad																	-	-	-	Jan-Dec	-
	Striped bass																	-	-	-	Jan-Dec	-
Estuarine Nursery	Atlantic croaker																	-	-	-	Jan-Sep	Jan-Sep
	Atlantic menhaden																	-	-	-	Feb-Oct*	Feb-Oct*
	Red drum																	-	-	-	Jan-Dec	Jan-Dec
	Southern flounder																	-	-	-	Jan-Dec	Jan-Dec
	Spot																	-	-	-	Feb-Dec	Feb-Dec
	Striped mullet																	-	-	-	-	-
Freshwater	Blue catfish																	-	-	-	Feb-Dec	Feb-Dec
	Flathead catfish																	-	-	-	Jun-Nov*	Jun-Nov*

REPTILES & AMPHIBIANS

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
Turtle	C. diamondback terrapin												

MARINE MAMMALS

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

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	114.49
10B	Freshwater Marshes	4,096.61
10C	Swamps	6,707.28
10D	Scrub and Shrub Wetlands	1,703.63

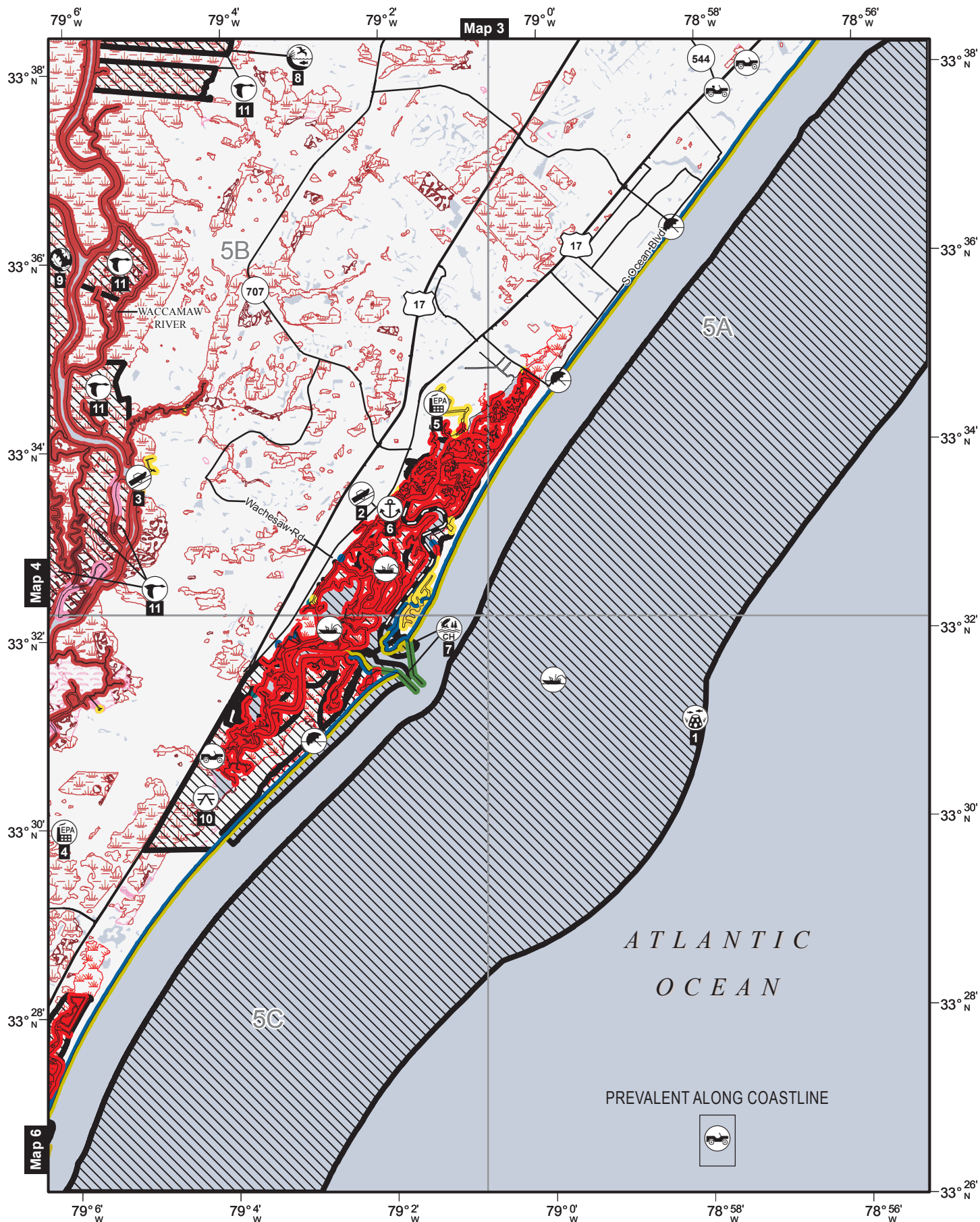
ESI SHORELINE HABITAT TYPES		
ESI Rank	Shoreline Habitat Classification	Length (Meters)
10A	Salt and Brackish Water Marshes	4,868.85
10B	Freshwater Marshes	89,157.20
10C	Swamps	120,708.22
10D	Scrub and Shrub Wetlands	14,208.84
9B	Vegetated Low Banks	722.64
8B	Sheltered, Solid Man-Made Structures	1,946.83
8C	Sheltered Riprap	627.65
3A	Fine to Medium Grained Sand Beaches	108.09

Total ESI Shoreline: 232,348.33
Total ESI Shoreline: 144.37

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 5
South Carolina



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: August 2015

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 5
South Carolina

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	ARTIFICIAL REEF	MURRELLS INLET REEF-A	SCDNR
2	BOAT RAMP	MURRELLS INLET	
3	BOAT RAMP	WACCA WACHE	
4	EPA FACILITY	WACCAMAW NECK WATER PLANT	GEORGETOWN COUNTY WATER OPERATIONS SUPERVISOR
5	EPA FACILITY	MURRELLS INLET WASTEWATER TREATMENT PLANT	WASTEWATER OPERATIONS SUPERVISOR
6	MARINA	MARINA	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
7	CRITICAL HABITAT	PIPING PLOVER CRITICAL HABITAT	US FISH AND WILDLIFE SERVICE
8	MANAGEMENT AREA	BUCKSPORT & OLIVER MITIGATION SITE	SOUTH CAROLINA DEPARTMENT OF NATURAL RESOL
9	NATURE CONSERVANCY	SANDY ISLAND	THE NATURE CONSERVANCY
10	PARK	HUNTINGTON BEACH STATE PARK	843-527-8069
11	WILDLIFE REFUGE	WACCAMAW NATIONAL WILDLIFE REFUGE	

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	COASTAL MIGRATORY PELAGIC HAPC	SOUTH ATLANTIC FMC	866-723-6210
ESSENTIAL HABITAT	CORAL, CORAL REEF, AND LIVE/HARDBTM HABITAT HAPC	SOUTH ATLANTIC FMC	866-723-6210
ESSENTIAL HABITAT	SHRIMP HAPC	SOUTH ATLANTIC FMC	866-723-6210
ESSENTIAL HABITAT	SNAPPER/GROUPER HAPC	SOUTH ATLANTIC FMC	866-723-6210

JURISDICTIONS

COUNTY:	GEORGETOWN COUNTY, HORRY COUNTY	FEMA:	REGION IV
COAST GUARD:	DISTRICT 7, SECTOR CHARLESTON	EPA:	REGION 4
USACE:	SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT		

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,931.18	3.02
10B	Freshwater Marshes	490.89	0.77
10C	Swamps	8,408.88	13.14
10D	Scrub and Shrub Wetlands	918.78	1.44
9A	Sheltered Tidal Flats	0.70	0.00
7	Exposed Tidal Flats	30.22	0.05



ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	158,777.05	98.66	46%
10B	Freshwater Marshes	6,246.19	3.88	2%
10C	Swamps	83,782.43	52.06	24%
10D	Scrub and Shrub Wetlands	4,071.76	2.53	1%
9A	Sheltered Tidal Flats	130.19	0.08	< 1%
9B	Vegetated Low Banks	5,474.26	3.40	2%
8B	Sheltered, Solid Man-Made Structures	23,376.66	14.53	7%
8C	Sheltered Riprap	946.93	0.59	< 1%
7	Exposed Tidal Flats	28,119.86	17.47	8%
6A	Gravel Beaches	551.39	0.34	< 1%
6B	Riprap	3,500.93	2.18	1%
3A	Fine to Medium Grained Sand Beaches	30,215.45	18.78	9%
Total ESI Shoreline:		345,193.11	214.49	
Total Shoreline:		294,249.29	182.84	

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

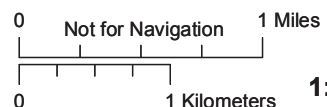




Map 5A
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



Map 5A
South Carolina

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	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
14	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Waterfowl	American black duck	Wintering			10S													-	-	-	-
	Waterfowl	American coot	Wintering			1,000S													-	-	-	-
	Waterfowl	American wigeon	Wintering			1,000S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Canada goose	Wintering			100S													-	-	-	-
	Waterfowl	Common gallinule	Wintering			100S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
15	Waterfowl	Hooded merganser	Wintering			100S													-	-	-	-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Mute swan	Wintering			10S													-	-	-	-
	Waterfowl	Northern pintail	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			10S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			1,000S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
	Waterfowl	Scaup	Wintering			1,000S													-	-	-	-
	Waterfowl	Scoters	Wintering			10S													-	-	-	-
	Waterfowl	Waterfowl	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Nesting			1,000S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			100S													-	-	-	-
	Waterfowl	American black duck	Wintering			10S													-	-	-	-
	Waterfowl	American coot	Wintering			1,000S													-	-	-	-
	Waterfowl	American wigeon	Wintering			1,000S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Canada goose	Wintering			100S													-	-	-	-
	Waterfowl	Common gallinule	Wintering			100S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-

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				
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Waterfowl	Hooded merganser	Wintering			100S													-	-	-	-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Mute swan	Wintering			10S													-	-	-	-
	Waterfowl	Northern pintail	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			10S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			1,000S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
	Waterfowl	Scaup	Wintering			1,000S													-	-	-	-
	Waterfowl	Scoters	Wintering			10S													-	-	-	-
	Waterfowl	Waterfowl	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Nesting			1,000S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			100S													-	-	-	-

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					
296	Turtle	Green sea turtle	Nesting			Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting			Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting			Low													-	-	-	-	-

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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec

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	Scaup	Rafting			1,000S													-	-	-	-
		Scoters	Migration			1,000S													-	Apr-Jun	-	-
		Scoters	Rafting			10,000S													-	-	-	-



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	American eel			-													-	-	Jan-May	Sep-Jan
		American shad			-													-	-	Aug-Dec	Jan-May
	Atlantic sturgeon	General Distribution		E	Present													-	-	Jan-Dec	Jan-Dec
	Blueback herring	Migration			-													-	-	Aug-Dec	Jan-May
	Hickory shad	Migration			-													-	-	Aug-Dec	Jan-May
	Shortnose sturgeon	General Distribution	E	E	Low													-	-	-	Jan-Dec

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				
 	Snake	Diamondback rattlesnake		C	Possible													-	-	-	-
	Turtle	Green sea turtle		T	-													-	-	-	-
	K. ridley sea turtle	General Distribution		E	-													-	-	-	-
	Leatherback sea turtle	General Distribution		E	-													-	-	-	-
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-

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			
 	Manatee	West Indian manatee		E	-													-	-	-
	Whale	Humpback whale		E	Common													-	-	-
	Humpback whale	General Distribution		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													-	-	-	-
	Brown pelican													-	-	Jul-Oct	-
	D. crested cormorant													-	-	-	-
	Diving birds													-	-	-	-
	Loons													-	-	-	-
	Gulls													-	-	-	-
 	Terns													-	-	-	-
	Seaside sparrow													-	-	-	-
	Black-capped petrel													-	-	-	-
	Jaegers													-	-	-	-
	Northern gannet													-	-	-	-
	Shearwaters													-	-	-	-
 	Storm-petrels													-	-	-	-
	Phalaropes													-	-	-	-
	Clapper rail													Mar-Sep	-	-	-
	Mallard													-	-	-	-

FISH

Monthly Presence

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atl. sharpnose shark													-	-	-	Feb-Dec	
	Atlantic croaker													-	-	Nov-Apr	Mar-Nov	
	Atlantic croaker													-	-	Nov-Apr	May-Sep	Mar-Nov
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Black sea bass													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													-	-	-	-	-
	Red drum													Aug-Sep	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	May-Nov	May-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern flounder													-	-	-	-	-
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	-	-
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
	Atlantic spadefish													-	-	-	-	-
	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	-	Dec-Apr
	Spotted hake													-	-	-	-	-
	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov





FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Sandbar shark													-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-
	Spinner shark													-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	Dec-Apr
	Tiger shark													-	-	Apr-Nov	Apr-Nov
	White shark													-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Atlantic brief squid													-	-	-	-
	Blue crab													Apr-Sep	May-Nov	-	Apr-Sep
	Blue crab													-	May-Nov	Jan-Dec	Jan-Dec
	Cannonball jellyfish													-	-	-	-
	Brown shrimp													-	Jan-Mar	-	Jun-Nov
	Brown shrimp													-	Mar-Jun	Mar-Aug	Jun-Nov
	White shrimp													-	Jun-Sep	Jan-Dec	May-Nov
	White shrimp													May-Sep	May-Sep	-	Mar-Nov

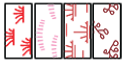
MARINE MAMMALS

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

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	182.65	0.29
10B	Freshwater Marshes	1.41	0.00
10C	Swamps	580.58	0.91
10D	Scrub and Shrub Wetlands	3.51	0.01



ESI SHORELINE HABITAT TYPES

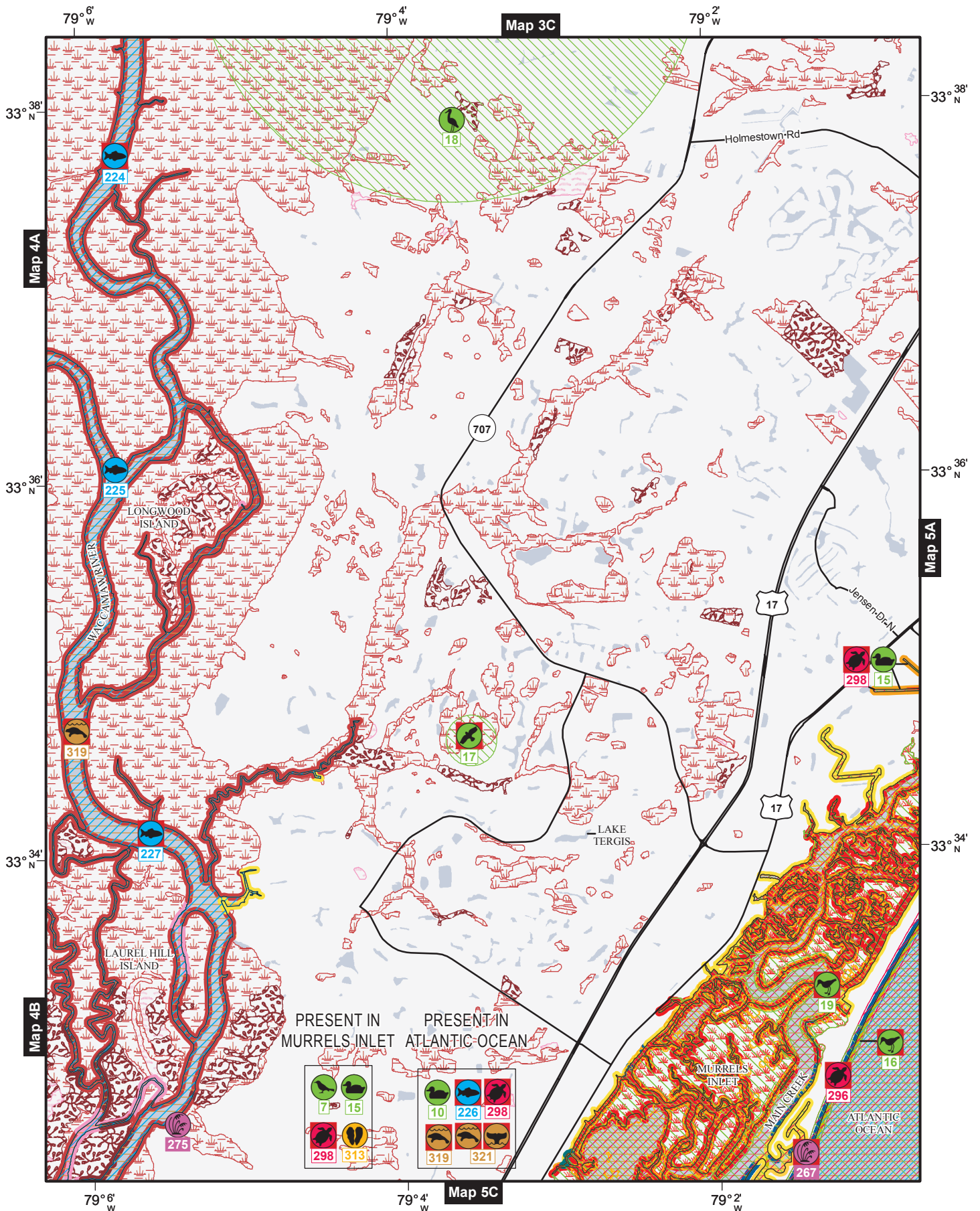
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	17,809.84	11.07	40%
9B	Vegetated Low Banks	2,136.07	1.33	5%
8B	Sheltered, Solid Man-Made Structures	3,257.87	2.02	7%
7	Exposed Tidal Flats	10,891.78	6.77	24%
3A	Fine to Medium Grained Sand Beaches	10,891.78	6.77	24%

Total ESI Shoreline: 44,987.34 Total ESI Shoreline: 27.95
 Total Shoreline: 28,778.51 Total Shoreline: 17.88

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 Carolina

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	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
10	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Waterfowl	Scaup	Rafting			1,000S													-	-	-	-
	Waterfowl	Scoters	Migration			1,000S													-	Apr-Jun	-	-
15	Waterfowl	Scoters	Rafting			10,000S													-	-	-	-
	Waterfowl	American black duck	Wintering			10S													-	-	-	-
	Waterfowl	American coot	Wintering			1,000S													-	-	-	-
	Waterfowl	American wigeon	Wintering			1,000S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Canada goose	Wintering			100S													-	-	-	-
	Waterfowl	Common gallinule	Wintering			100S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Waterfowl	Hooded merganser	Wintering			100S													-	-	-	-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Mute swan	Wintering			10S													-	-	-	-
	Waterfowl	Northern pintail	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			10S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			1,000S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
	Waterfowl	Scaup	Wintering			1,000S													-	-	-	-
	Waterfowl	Scoters	Wintering			10S													-	-	-	-
	Waterfowl	Waterfowl	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Nesting			1,000S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			100S													-	-	-	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Eggs	Larvae	Juveniles	Molt
							J	F	M	A	M	J	J	A	S	O	N	D					
16	Shorebird	American oystercatcher	Wintering	C		-													-	-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-	-
	Shorebird	Wilson's plover	Wintering	T		1,000S													-	-	-	-	-
17	Raptor	Bald eagle	Nesting	T		Present													Oct-May	-	-	-	-
18	Wading	Wading birds	Nesting			2 Rookeries													Feb-Sep	-	-	-	-
19	Shorebird	American oystercatcher	Nesting	C		16 Pairs													Apr-Aug	-	-	-	-
	Shorebird	American oystercatcher	Wintering	C		40 Birds													-	-	-	-	-

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					
224	Diadromous	Atlantic sturgeon	General Distribution	E	E	Rare													-	-	-	-	Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Rare													-	-	-	-	Jan-Dec
225	Diadromous	American shad	Migration			High													-	-	-	-	Jan-May
	Diadromous	Blueback herring	Migration			High													-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May
226	Diadromous	American eel	Migration			-													-	-	-	-	Jan-May
	Diadromous	American shad	Migration			-													-	-	-	-	Sep-Jan
	Diadromous	Atlantic sturgeon	General Distribution	E		Present													-	-	-	-	Jan-May
	Diadromous	Blueback herring	Migration			-													-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May
227	Diadromous	Shortnose sturgeon	General Distribution	E	E	Low													-	-	-	-	Jan-Dec
	Diadromous	Atlantic sturgeon	General Distribution	E		Present													-	-	-	-	Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	-	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Eggs	Larvae	Juveniles	Molt
							J	F	M	A	M	J	J	A	S	O	N	D					
267	Wetland	Seabeach amaranth	Vulnerable Occurrence		T	-													-	-	-	-	-
275	Plant	Georgia frostweed	Vulnerable Occurrence			-													-	-	-	-	-

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					
296	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Low													-	-	-	-	-
298	Turtle	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
	Turtle	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-

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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	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				
319	Manatee	West Indian manatee	General Distribution	E	E	-													-	-	-	-
321	Whale	West Indian manatee	General Distribution	E	E	-													-	-	-	-
		Humpback whale	General Distribution	E	E	-													-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


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					
 Snake	Diamondback rattlesnake	General Distribution	C		Possible													-	-	-	-	-

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Alcid	Alcids													-	-	-	-
	Brown pelican													-	-	Jul-Oct	-
	D. crested cormorant													-	-	-	-
	Diving birds													-	-	-	-
	Loons													-	-	-	-
 Gull/Tern	Gulls													-	-	-	-
	Terns													-	-	-	-
 Passerine	Seaside sparrow													-	-	-	-
	Black-capped petrel													-	-	-	-
	Jaegers													-	-	-	-
	Northern gannet													-	-	-	-
 Shorebird	Shearwaters													-	-	-	-
	Storm-petrels													-	-	-	-
	Phalaropes													-	-	-	-
	Clapper rail													Mar-Sep	-	-	-
 Wading	King rail													Feb-Aug	-	-	-
	Least bittern													May-Aug	-	-	-
	Mallard													-	-	-	-
 Waterfowl														-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Diadromous	American eel													-	-	-	Jan-May	Jan-Dec
	American shad													-	-	-	Jan-Dec	-
	Blueback herring													-	-	-	Jan-Dec	-
	Hickory shad													-	-	-	Jan-Dec	-
Estuarine Nursery	Striped bass													-	-	-	Jan-Dec	Jan-Dec
	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atlantic menhaden													-	-	-	Feb-Oct*	Feb-Oct*
	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Atlantic menhaden													-	-	-	Sep-Nov	Mar-Nov
	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Black sea bass													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													-	-	-	Jan-Dec	Jan-Dec
	Red drum													Aug-Sep	-	-	-	Aug-Nov
	Red drum													-	-	-	Aug-Nov	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					
	Sheepshead													-	-	-	May-Nov	May-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern flounder													-	-	-	Jan-Dec	Jan-Dec
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	Feb-Dec	Feb-Dec
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spot													-	-	-	-	-
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
Fish	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
Freshwater	Blue catfish													-	-	-	Feb-Dec	Feb-Dec
	Flathead catfish													-	-	-	Jun-Nov*	Jun-Nov*
Marine Benthic	Atlantic spadefish													-	-	-	-	-
	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	-	Dec-Apr
	Spotted hake													-	-	-	-	-
Marine Pelagic	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	Dec-Apr
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

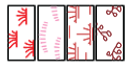
Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Cephalopod	Atlantic brief squid													-	-	-	-	-
 Crab	Blue crab													-	-	May-Nov	Jan-Dec	Jan-Dec
	Blue crab													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
 Invertebrate	Cannonball jellyfish													-	-	-	-	-
	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
 Shrimp	Brown shrimp													-	-	Mar-Jun	Mar-Aug	Jun-Nov
	White shrimp													-	-	Jun-Sep	Jan-Dec	May-Nov
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov

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													-	-	-	-

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

ESI POLYGON HABITAT TYPES



<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10A	Salt and Brackish Water Marshes	712.52	1.11
10B	Freshwater Marshes	137.56	0.21
10C	Swamps	6,614.99	10.34
10D	Scrub and Shrub Wetlands	698.02	1.09

ESI SHORELINE HABITAT TYPES



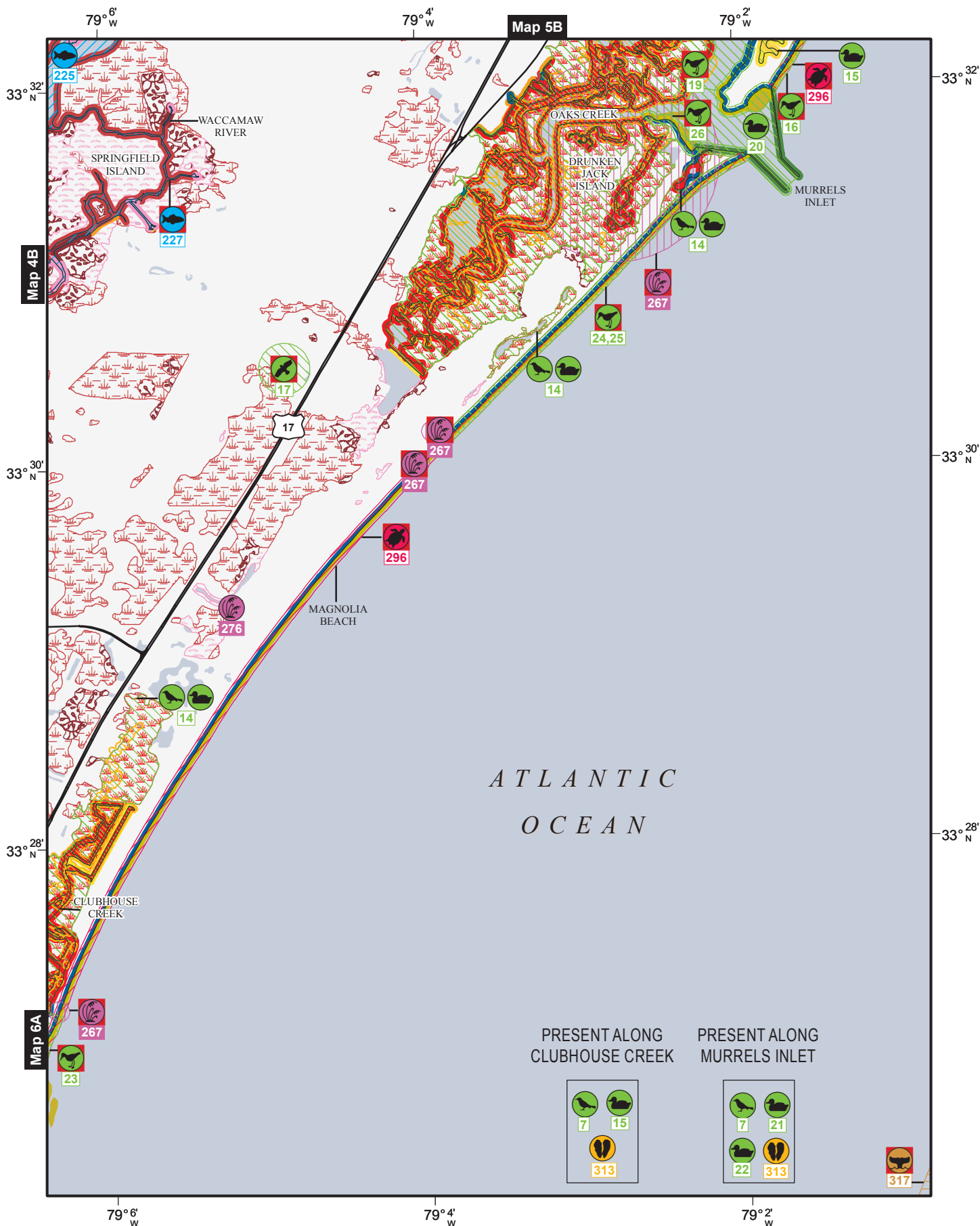
<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
10A	Salt and Brackish Water Marshes	80,160.10	49.81	43%
10B	Freshwater Marshes	4,143.01	2.57	2%
10C	Swamps	73,240.31	45.51	39%
10D	Scrub and Shrub Wetlands	3,066.74	1.91	2%
9B	Vegetated Low Banks	1,775.34	1.10	1%
8B	Sheltered, Solid Man-Made Structures	16,616.86	10.33	9%
8C	Sheltered Riprap	666.20	0.41	< 1%
7	Exposed Tidal Flats	3,625.48	2.25	2%
6A	Gravel Beaches	297.43	0.18	< 1%
3A	Fine to Medium Grained Sand Beaches	4,698.38	2.92	2%

Total ESI Shoreline: 188,289.83 Total ESI Shoreline: 117.00
 Total Shoreline: 172,547.15 Total Shoreline: 107.22

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

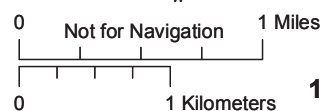




Map 5C
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



Map 5C
South Carolina

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	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
14	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Waterfowl	American black duck	Wintering			10S													-	-	-	-
	Waterfowl	American coot	Wintering			1,000S													-	-	-	-
	Waterfowl	American wigeon	Wintering			1,000S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Canada goose	Wintering			100S													-	-	-	-
	Waterfowl	Common gallinule	Wintering			100S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
15	Waterfowl	Hooded merganser	Wintering			100S													-	-	-	-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Mute swan	Wintering			10S													-	-	-	-
	Waterfowl	Northern pintail	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			10S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			1,000S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
	Waterfowl	Scaup	Wintering			1,000S													-	-	-	-
	Waterfowl	Scoters	Wintering			10S													-	-	-	-
	Waterfowl	Waterfowl	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Nesting			1,000S													Feb-Jun	-	-	-
15	Waterfowl	Wood duck	Wintering			100S													-	-	-	-
	Waterfowl	American black duck	Wintering			10S													-	-	-	-
	Waterfowl	American coot	Wintering			1,000S													-	-	-	-
	Waterfowl	American wigeon	Wintering			1,000S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Canada goose	Wintering			100S													-	-	-	-
	Waterfowl	Common gallinule	Wintering			100S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-
	Waterfowl																		-	-	-	-
	Waterfowl																		-	-	-	-
	Waterfowl																		-	-	-	-
	Waterfowl																		-	-	-	-
	Waterfowl																		-	-	-	-

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				
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Mute swan	Wintering			10S													-	-	-	-
	Waterfowl	Northern pintail	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			10S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			1,000S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
	Waterfowl	Scaup	Wintering			1,000S													-	-	-	-
	Waterfowl	Scoters	Wintering			10S													-	-	-	-
	Waterfowl	Waterfowl	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Nesting			1,000S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			100S													-	-	-	-
16	Shorebird	American oystercatcher	Wintering	C		-													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Shorebird	Wilson's plover	Wintering	T		-													-	-	-	-
17	Raptor	Bald eagle	Nesting	T		Present													Oct-May	-	-	-
19	Shorebird	American oystercatcher	Nesting	C		16 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		40 Birds													-	-	-	-
20	Waterfowl	Red-breasted merganser	Wintering			10S													-	-	-	-
	Waterfowl	Scaup	Rafting			100S													-	-	-	-
	Waterfowl	Scoters	Migration			100S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			1,000S													-	-	-	-
21	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
22	Waterfowl	American black duck	Wintering			10S													-	-	-	-
	Waterfowl	American coot	Wintering			1,000S													-	-	-	-
	Waterfowl	American wigeon	Wintering			1,000S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Canada goose	Wintering			100S													-	-	-	-
	Waterfowl	Common gallinule	Wintering			100S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Waterfowl	Hooded merganser	Wintering			100S													-	-	-	-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Mute swan	Wintering			10S													-	-	-	-
	Waterfowl	Northern pintail	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			10S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			1,000S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-

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	
	Waterfowl	Scoters	Wintering			10S													-
	Waterfowl	Waterfowl	Wintering			100S													-
	Waterfowl	Wood duck	Nesting			1,000S												Feb-Jun	-
	Waterfowl	Wood duck	Wintering			100S													-
23	Shorebird	Piping plover	Wintering	E	T	10S													-
	Shorebird	Red knot	Migration	T		1,000S												Mar-May	-
	Shorebird	Red knot	Wintering	T		100S													-
	Shorebird	Shorebirds	Migration			1,000S												Mar-Jun	-
	Shorebird	Shorebirds	Wintering			1,000S													-
	Shorebird	Wilson's plover	Nesting	T		2 Pairs												Mar-Jul	-
24	Shorebird	Piping plover	Wintering	E	T	10S													-
	Shorebird	Wilson's plover	Wintering	T		10S													-
	Shorebird	American oystercatcher	Wintering	C		10S													-
25	Shorebird	Shorebirds	Migration			1,000S												Mar-Jun	-
	Shorebird	Shorebirds	Wintering			1,000S													-
	Shorebird	American oystercatcher	Nesting	C		16 Pairs												Apr-Aug	-
26	Shorebird	American oystercatcher	Wintering	C		40 Birds													-
	Shorebird	Wilson's plover	Nesting	T		5 Pairs												Mar-Jul	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
							J	F	M	A	M	J	J	A	S	O	N	D	
225	Diadromous	American shad	Migration			High													Jan-May
	Diadromous	Blueback herring	Migration			High													Jan-May
	Diadromous	Hickory shad	Migration			-													Jan-May
227	Diadromous	Atlantic sturgeon	General Distribution	E		Present													Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution	E		Present													Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
							J	F	M	A	M	J	J	A	S	O	N	D	
267	Wetland	Seabeach amaranth	Vulnerable Occurrence			-													-
276	Wetland	Carolinian lilaepsis	Vulnerable Occurrence			-													-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
							J	F	M	A	M	J	J	A	S	O	N	D	
296	Turtle	Green sea turtle	Nesting	T		Low													-
	Turtle	Leatherback sea turtle	Nesting	E		Low													-
	Turtle	Loggerhead sea turtle	Nesting	T		Low													-

INVERTEBRATES


Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
							J	F	M	A	M	J	J	A	S	O	N	D	
313	Bivalve	Eastern oyster	Concentration Area			Reef													Jan-Dec

MARINE MAMMALS


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

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					
	Waterfowl																					
	Scaup	Rafting			1,000S																	
	Scoters	Migration			1,000S																	
	Scoters	Rafting			10,000S																	



FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Internest	Juveniles	Adults																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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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				
	Manatee	West Indian manatee	General Distribution	E	E	-													-	-	-	-
	Whale	Humpback whale	General Distribution	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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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BIRDS (continued)

	Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
			J	F	M	A	M	J	J	A	S	O	N	D					
		Terns													-	-	-	-	-
	Passerine	Seaside sparrow													-	-	-	-	-
	Pelagic	Black-capped petrel													-	-	-	-	-
		Jaegers													-	-	-	-	-
		Northern gannet													-	-	-	-	-
		Shearwaters													-	-	-	-	-
		Storm-petrels													-	-	-	-	-
	Shorebird	Phalaropes													-	-	-	-	-
	Wading	Clapper rail													Mar-Sep	-	-	-	-
		King rail													Feb-Aug	-	-	-	-
		Least bittern													May-Aug	-	-	-	-
	Waterfowl	Mallard													-	-	-	-	-

FISH

	Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous	American eel													-	-	-	Jan-May	Jan-Dec
		American shad													-	-	-	Jan-Dec	-
		Blueback herring													-	-	-	Jan-Dec	-
		Hickory shad													-	-	-	Jan-Dec	-
		Striped bass													-	-	-	Jan-Dec	Jan-Dec
	Estuarine Nursery	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
		Atlantic croaker													-	-	Nov-Apr	Mar-Nov	Mar-Nov
		Atlantic croaker													-	-	-	Jan-Sep	Jan-Sep
		Atlantic croaker													-	-	Nov-Apr	May-Sep	May-Sep
		Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
		Atlantic menhaden													-	-	-	Feb-Oct*	Feb-Oct*
		Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
		Black drum													-	-	-	Apr-Jan*	Apr-Jan*
		Black sea bass													-	-	-	-	-
		Bluefish													-	-	-	-	-
		Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
		Bull shark													-	-	-	Apr-Oct	Apr-Oct
		Ladyfish													-	-	-	-	-
		Porgies													-	-	-	-	-
		Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
		Silver seatrout													-	-	-	-	-
		Southern flounder													-	-	-	-	-
		Southern flounder													-	-	-	Jan-Dec	Jan-Dec
		Southern flounder													-	-	-	Mar-Nov	Mar-Nov
		Southern kingfish													-	-	-	-	-
		Spot													-	-	-	Feb-Dec	Feb-Dec
		Spot													-	-	-	-	-
		Spot													-	-	-	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					
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
Fish	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
Freshwater	Blue catfish													-	-	-	Feb-Dec	Feb-Dec
	Flathead catfish													-	-	-	Jun-Nov*	Jun-Nov*
Marine Benthic	Atlantic spadefish													-	-	-	-	-
	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	-	Dec-Apr
	Spotted hake													-	-	-	-	-
Marine Pelagic	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	Dec-Apr
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr


REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
Cephalopod	Atlantic brief squid	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
Crab	Blue crab													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
	Blue crab													-	-	May-Nov	Jan-Dec	Jan-Dec
Invertebrate	Cannonball jellyfish													-	-	-	-	-
Shrimp	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
	Brown shrimp													-	-	Mar-Jun	Mar-Aug	Jun-Nov
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov
	White shrimp													-	-	Jun-Sep	Jan-Dec	May-Nov

MARINE MAMMALS

Subelement	Species	Monthly Presence												Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D			
	Atl. spotted dolphin													-	-	-
	Bottlenose dolphin													-	-	-
	Pygmy sperm whale													-	-	-
	S.finned pilot whale													-	-	-

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	1,036.04	1.62
10B	Freshwater Marshes	352.02	0.55
10C	Swamps	1,214.81	1.90
10D	Scrub and Shrub Wetlands	217.61	0.34
9A	Sheltered Tidal Flats	0.70	0.00
7	Exposed Tidal Flats	30.23	0.05

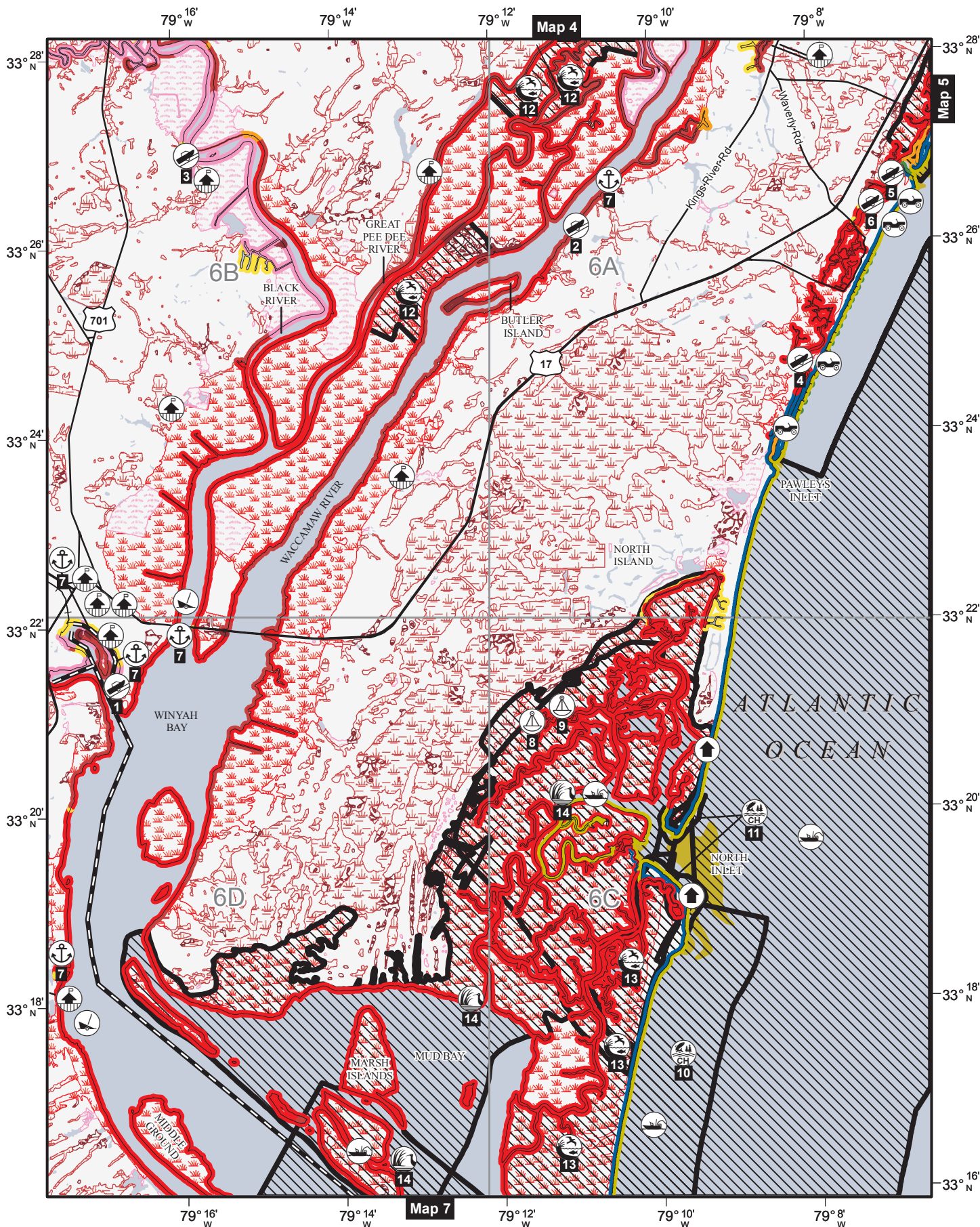
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	60,808.66	37.78	54%
10B	Freshwater Marshes	2,104.33	1.31	2%
10C	Swamps	10,549.55	6.56	9%
10D	Scrub and Shrub Wetlands	1,005.79	0.62	1%
9A	Sheltered Tidal Flats	130.28	0.08	< 1%
9B	Vegetated Low Banks	1,562.86	0.97	1%
8B	Sheltered, Solid Man-Made Structures	3,501.93	2.18	3%
8C	Sheltered Riprap	280.73	0.17	< 1%
7	Exposed Tidal Flats	13,604.10	8.45	12%
6A	Gravel Beaches	253.96	0.16	< 1%
6B	Riprap	3,500.93	2.18	3%
3A	Fine to Medium Grained Sand Beaches	14,626.89	9.09	13%
Total ESI Shoreline:		111,930.01	Total ESI Shoreline:	69.55
		92,936.02	Total Shoreline:	57.75

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

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





Map 6
South Carolina



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: August 2015

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 6
South Carolina

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	BOAT RAMP	EAST BAY STREET	TOWN OF GEORGETOWN
2	BOAT RAMP	HAGLEY BOAT RAMP	SCDOT
3	BOAT RAMP	PRINGLES FERRY	GEORGETOWN COUNTY
4	BOAT RAMP	PRITCHARD STREET	GEORGETOWN COUNTY
5	BOAT RAMP	SHELL ROAD	GEORGETOWN COUNTY
6	BOAT RAMP	TOM CROCKER BOAT RAMP	GEORGETOWN COUNTY
7	MARINA	MARINA	
8	REPEATED MEASUREMENT SITE	DB - OYSTER LNDG, N. INLET, WINYAH BAY	
9	REPEATED MEASUREMENT SITE	TG - OYSTER LANDING	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
10	CRITICAL HABITAT	LOGGERHEAD SEA TURTLE CRITICAL HABITAT	
11	CRITICAL HABITAT	PIPING PLOVER CRITICAL HABITAT	US FISH AND WILDLIFE SERVICE
12	MANAGEMENT AREA	SAMWORTH WILDLIFE MANAGEMENT AREA	SOUTH CAROLINA DEPARTMENT OF NATURAL RESOL
13	MANAGEMENT AREA	TOM YAWKEY WILDLIFE CENTER PRESERVE	
14	NATIONAL ESTUARINE RESEARCH RESERVE	N INLET-WINYAH BAY NTL ESTU RSRCH RSV	843-546-3623

ALSO PRESENT IN MAPPED AREA (POINTS)			
Type	Name	Contact	Phone
COAST GUARD	ANT GEORGETOWN		803-527-4416
COAST GUARD	STA GEORGETOWN		803-546-2052

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SHRIMP HAPC	SOUTH ATLANTIC FMC	866-723-6210
ESSENTIAL HABITAT	SNAPPER/GROUPER HAPC	SOUTH ATLANTIC FMC	866-723-6210

JURISDICTIONS			
COUNTY:	GEORGETOWN COUNTY	FEMA:	REGION IV
COAST GUARD:	DISTRICT 7, SECTOR CHARLESTON	EPA:	REGION 4
USACE:	SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT		

ESI POLYGON HABITAT TYPES

<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10A	Salt and Brackish Water Marshes	19,616.37	30.65
10B	Freshwater Marshes	2,440.37	3.81
10C	Swamps	11,222.76	17.54
10D	Scrub and Shrub Wetlands	1,230.70	1.92
9A	Sheltered Tidal Flats	24.33	0.04
7	Exposed Tidal Flats	413.55	0.65

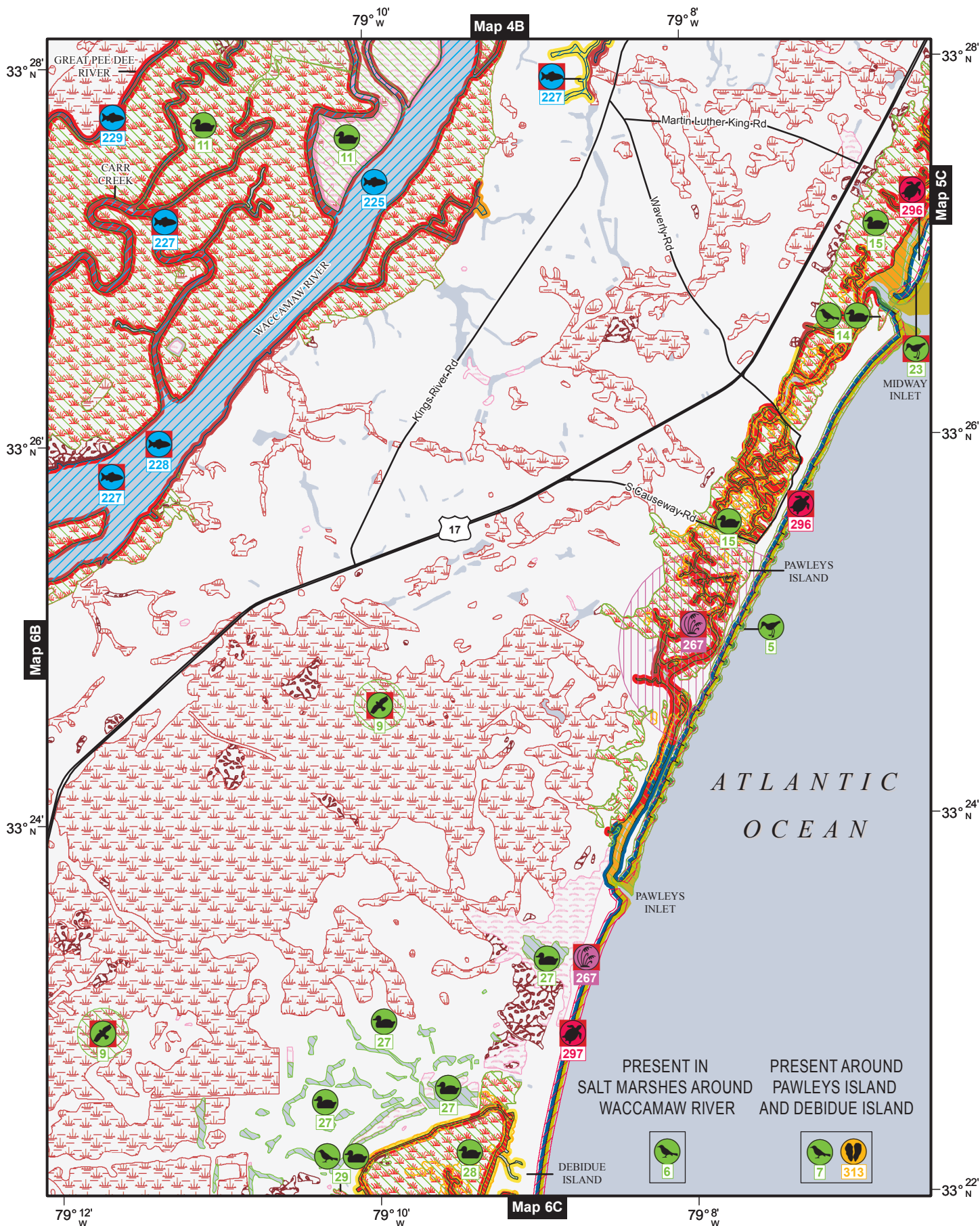
ESI SHORELINE HABITAT TYPES

<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
10A	Salt and Brackish Water Marshes	370,696.69	230.34	60%
10B	Freshwater Marshes	45,083.88	28.01	7%
10C	Swamps	114,008.61	70.84	18%
10D	Scrub and Shrub Wetlands	4,550.41	2.83	1%
9A	Sheltered Tidal Flats	3,073.23	1.91	< 1%
9B	Vegetated Low Banks	1,198.02	0.74	< 1%
8B	Sheltered, Solid Man-Made Structures	13,268.94	8.24	2%
8C	Sheltered Riprap	417.40	0.26	< 1%
7	Exposed Tidal Flats	34,551.62	21.47	6%
6B	Riprap	1,699.17	1.06	< 1%
5	Mixed Sand and Gravel Beaches	109.79	0.07	< 1%
3A	Fine to Medium Grained Sand Beaches	29,811.82	18.52	5%
Total ESI Shoreline:		618,469.58	384.30	
Total Shoreline:		458,382.57	284.83	

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 Carolina

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) Mar-Jun	Mig.(F) Jul-Oct	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
5	Shorebird	Shorebirds	Migration			1,000S													-			-
	Shorebird	Shorebirds	Wintering			1,000S													-			-
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug			-
7	Passerine	Nelson's sparrow	Wintering			-													-			-
	Passerine	Saltmarsh sparrow	Wintering			-													-			-
9	Raptor	Bald eagle	Nesting	T		Possible													Oct-May			-
11	Waterfowl	American black duck	Wintering			100S													-			-
	Waterfowl	American coot	Wintering			1,000S													-			-
	Waterfowl	Blue-winged teal	Wintering			10S													-			-
	Waterfowl	Gadwall	Wintering			100S													-			-
	Waterfowl	Green-winged teal	Wintering			1,000S													-			-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun			-
	Waterfowl	Hooded merganser	Wintering			100S													-			-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May			-
	Waterfowl	Northern pintail	Wintering			100S													-			-
	Waterfowl	Northern shoveler	Wintering			100S													-			-
	Waterfowl	Ring-necked duck	Wintering			100S													-			-
	Waterfowl	Ruddy duck	Wintering			10S													-			-
	Waterfowl	Wood duck	Nesting			100S													Feb-Jun			-
	Waterfowl	Wood duck	Wintering			10S													-			-
14	Passerine	Nelson's sparrow	Wintering			-													-			-
	Passerine	Saltmarsh sparrow	Wintering			-													-			-
	Waterfowl	American black duck	Wintering			10S													-			-
	Waterfowl	American coot	Wintering			1,000S													-			-
	Waterfowl	American wigeon	Wintering			1,000S													-			-
	Waterfowl	Blue-winged teal	Wintering			10S													-			-
	Waterfowl	Bufflehead	Wintering			100S													-			-
	Waterfowl	Canada goose	Wintering			100S													-			-
	Waterfowl	Common gallinule	Wintering			100S													-			-
	Waterfowl	Gadwall	Wintering			100S													-			-
	Waterfowl	Green-winged teal	Wintering			100S													-			-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun			-
	Waterfowl	Hooded merganser	Wintering			100S													-			-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May			-
	Waterfowl	Mottled duck	Wintering			10S													-			-
	Waterfowl	Mute swan	Wintering			10S													-			-
	Waterfowl	Northern pintail	Wintering			10S													-			-

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				
	Waterfowl	Northern shoveler	Wintering			10S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			1,000S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
	Waterfowl	Scaup	Wintering			1,000S													-	-	-	-
	Waterfowl	Scoters	Wintering			10S													-	-	-	-
	Waterfowl	Waterfowl	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Nesting			1,000S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			100S													-	-	-	-
15	Waterfowl	American black duck	Wintering			10S													-	-	-	-
	Waterfowl	American coot	Wintering			1,000S													-	-	-	-
	Waterfowl	American wigeon	Wintering			1,000S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Canada goose	Wintering			100S													-	-	-	-
	Waterfowl	Common gallinule	Wintering			100S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Waterfowl	Hooded merganser	Wintering			100S													-	-	-	-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Mute swan	Wintering			10S													-	-	-	-
	Waterfowl	Northern pintail	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			10S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			1,000S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
	Waterfowl	Scaup	Wintering			1,000S													-	-	-	-
	Waterfowl	Scoters	Wintering			10S													-	-	-	-
	Waterfowl	Waterfowl	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Nesting			1,000S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			100S													-	-	-	-
23	Shorebird	Piping plover	Wintering			10S													-	-	-	-
	Shorebird	Red knot	Migration	E	T	1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering	T		100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		2 Pairs													Mar-Jul	-	-	-
27	Waterfowl	American coot	Wintering			10S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			10S													-	-	-	-
	Waterfowl	Canvasback	Wintering			100S													-	-	-	-

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	
	Waterfowl	Gadwall	Wintering			1,000S													-
	Waterfowl	Green-winged teal	Wintering			100S													-
	Waterfowl	Hooded merganser	Nesting			Possible												Feb-Jun	-
	Waterfowl	Hooded merganser	Wintering			10S													-
	Waterfowl	Mergansers	Wintering			10S													-
	Waterfowl	Northern shoveler	Wintering			100S													-
	Waterfowl	Redhead	Wintering			100S													-
	Waterfowl	Ring-necked duck	Wintering			1,000S													-
	Waterfowl	Wood duck	Nesting			Possible												Feb-Jun	-
28	Waterfowl	Bufflehead	Wintering			10S													-
	Waterfowl	Canvasback	Wintering			10S													-
	Waterfowl	Green-winged teal	Wintering			10S													-
	Waterfowl	Mergansers	Wintering			10S													-
29	Passerine	Seaside sparrow	Nesting			-												Apr-Aug	-
	Waterfowl	Bufflehead	Wintering			10S													-
	Waterfowl	Canvasback	Wintering			10S													-
	Waterfowl	Green-winged teal	Wintering			10S													-
	Waterfowl	Mergansers	Wintering			10S													-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
							J	F	M	A	M	J	J	A	S	O	N	D	
225	Diadromous	American shad	Migration			High													Jan-May
	Diadromous	Blueback herring	Migration			High													Jan-May
	Diadromous	Hickory shad	Migration			-													Jan-May
227	Diadromous	Atlantic sturgeon	General Distribution		E	Present													Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution		E	Present													Jan-Dec
	Diadromous	Atlantic sturgeon	Concentration Area		E	High													Jan-Dec
228	Diadromous	Shortnose sturgeon	Concentration Area		E	High													Jan-Dec
	Diadromous	American shad	Migration			High													Jan-May
	Diadromous	Atlantic sturgeon	General Distribution		E	Present													Jan-Dec
229	Diadromous	Blueback herring	Migration			High													Jan-May
	Diadromous	Hickory shad	Migration			-													Jan-May
	Diadromous	Shortnose sturgeon	General Distribution		E	Present													Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
							J	F	M	A	M	J	J	A	S	O	N	D	
267	Wetland	Seabeach amaranth	Vulnerable Occurrence		T	-													-

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
							J	F	M	A	M	J	J	A	S	O	N	D	
296	Turtle	Green sea turtle	Nesting		T	Low													-
	Turtle	Leatherback sea turtle	Nesting		E	Low													-

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					
297	Turtle	Loggerhead sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Medium													-	-	-	-	-

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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec

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				
	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-
	Waterfowl	Rafting			1,000S													-	-	-	-
	Scoters	Migration			1,000S													-	Apr-Jun	-	-
	Scoters	Rafting			10,000S													-	-	-	-

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					
	American eel	Migration			-												-		-	Jan-May	Sep-Jan	
	American shad	Migration			-												-		-	Aug-Dec	Jan-May	
	Atlantic sturgeon	General Distribution		E	Present												-		-	Jan-Dec	Jan-May	
	Blueback herring	Migration			-												-		-	Aug-Dec	Jan-May	
	Hickory shad	Migration			-												-		-	Aug-Dec	Jan-May	
	Shortnose sturgeon	General Distribution	E	E	Low												-		-	Jan-May	Jan-Dec	










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					
	Diamondback rattlesnake	General Distribution	C		Possible												-	-	-	-		
	Green sea turtle	General Distribution	T	T	-												-	-	-	-		
	K. ridley sea turtle	General Distribution	E	E	-												-	-	-	-		
	Leatherback sea turtle	General Distribution	E	E	-												-	-	-	-		
	Loggerhead sea turtle	General Distribution	T	T	-												-	-	-	-		











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				
	West Indian manatee	General Distribution	E	E	-													-	-	-	
	Humpback whale	General Distribution	E	E	-													-	-	-	

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Alcids													-		-	-
	Brown pelican													-		Jul-Oct	-
	D. crested cormorant													-		-	-
	Diving birds													-		-	-
	Loons													-		-	-
	Gulls													-		-	-
	Terns													-		-	-
	Seaside sparrow													-		-	-
	Black-capped petrel													-		-	-
	Jaegers													-		-	-
	Northern gannet													-		-	-
	Shearwaters													-		-	-
	Storm-petrels													-		-	-
	Phalaropes													-		-	-
	Clapper rail													Mar-Sep		-	-
	King rail													Feb-Aug		-	-
	Least bittern													May-Aug		-	-
	Mallard													-		-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	American eel													-		-	Jan-May	Jan-Dec
	American shad													-		-	Jan-Dec	-
	Blueback herring													-		-	Jan-Dec	-
	Hickory shad													-		-	Jan-Dec	-
	Striped bass													-		-	Jan-Dec	Jan-Dec
	Atl. sharpnose shark													-		-	Feb-Dec	Feb-Dec
	Atlantic croaker													-		-	Jan-Sep	Jan-Sep
	Atlantic croaker													-		-	Mar-Nov	Mar-Nov
	Atlantic croaker													-		-	May-Sep	May-Sep
	Atlantic menhaden													-		-	Feb-Oct*	Feb-Oct*
	Atlantic menhaden													-		-	Sep-Nov	Mar-Nov
	Atlantic menhaden													-		-	Dec-May	Dec-May
	Black drum													-		-	Jul-Oct	Jul-Oct
	Black sea bass													-		-	Apr-Jan*	Apr-Jan*
	Bluefish													-		-	-	-
	Bonnethead shark													-		-	Apr-Nov	Apr-Nov
	Bull shark													-		-	Apr-Oct	Apr-Oct
	Ladyfish													-		-	-	-
	Porgies													-		-	-	-
	Red drum													-		-	Aug-Nov	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					
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Red drum													-	-	-	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	May-Nov	May-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern flounder													-	-	-	Jan-Dec	Jan-Dec
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spot													-	-	-	Feb-Dec	Feb-Dec
	Spot													-	-	-	-	-
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
Fish	Great hammerhead													-	-	-	-	-
Freshwater	Blue catfish													-	-	-	Apr-Oct	Apr-Oct
	Flathead catfish													-	-	-	Feb-Dec	Feb-Dec
Marine Benthic	Atlantic spadefish													-	-	-	Jun-Nov*	Jun-Nov*
	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	-	Dec-Apr
	Spotted hake													-	-	-	-	-
Marine Pelagic	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	Dec-Apr
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
 Cephalopod	Atlantic brief squid													-	-	-	-
	Blue crab													-	May-Nov	Jan-Dec	Jan-Dec
 Invertebrate	Blue crab													-	May-Nov	Jan-Dec	Jan-Dec
	Cannonball jellyfish													Apr-Sep	Apr-Sep	-	Apr-Sep
	Brown shrimp													-	-	-	-
	Shrimp													-	Mar-Jun	Mar-Aug	Jun-Nov
 Shrimp	Brown shrimp													-	Jan-Mar	-	Jun-Nov
	White shrimp													-	Jun-Sep	Jan-Dec	May-Nov
	White shrimp													May-Sep	May-Sep	-	Mar-Nov

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													-	-	-	-

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	3,243.93
10B	Freshwater Marshes	432.93
10C	Swamps	5,155.73
10D	Scrub and Shrub Wetlands	316.33
9A	Sheltered Tidal Flats	24.33
7	Exposed Tidal Flats	45.52

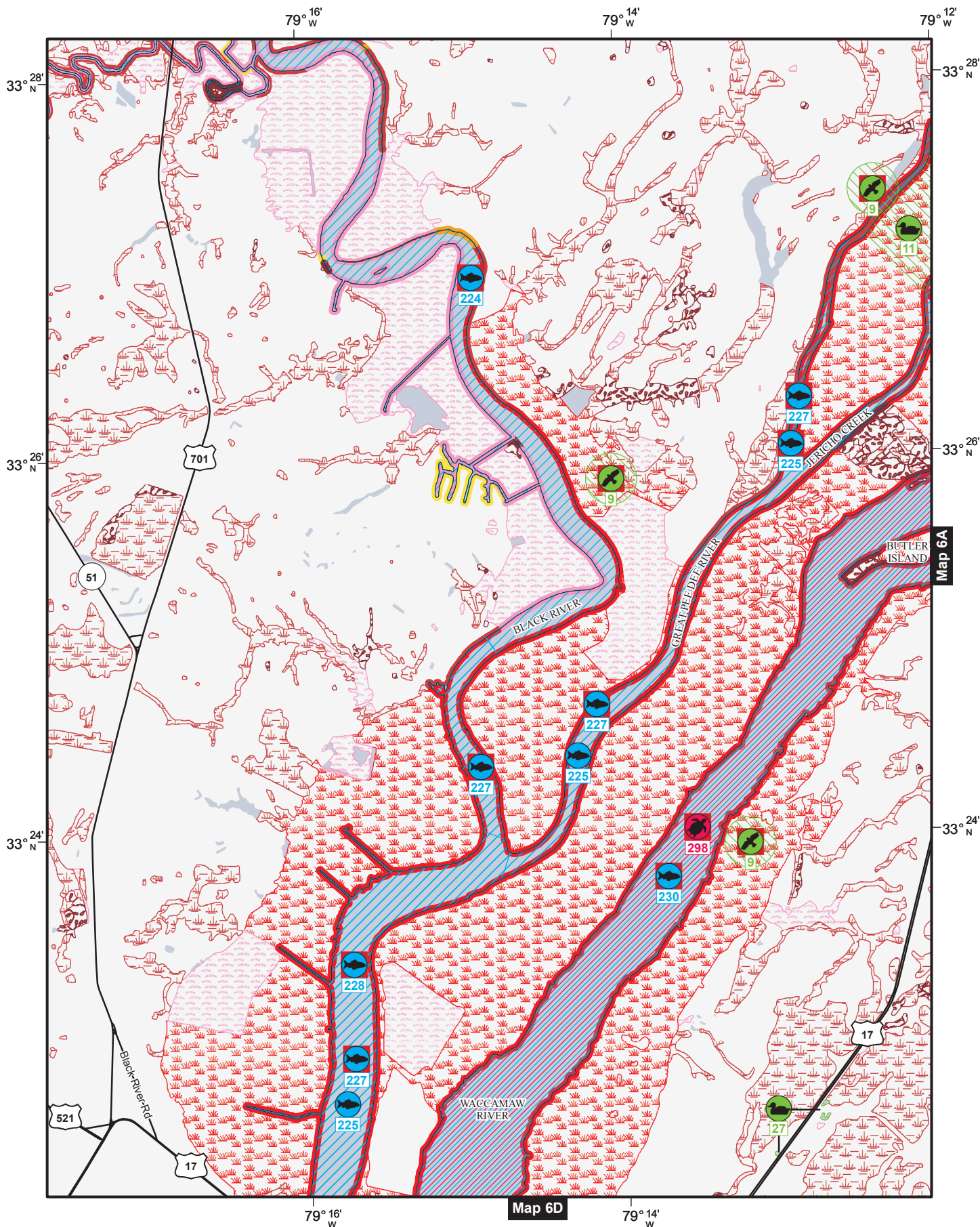
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	91,487.10	56.85	48%
10B	Freshwater Marshes	6,915.19	4.30	4%
10C	Swamps	53,116.48	33.01	28%
10D	Scrub and Shrub Wetlands	1,185.81	0.74	1%
9A	Sheltered Tidal Flats	3,073.15	1.91	2%
9B	Vegetated Low Banks	721.96	0.45	< 1%
8B	Sheltered, Solid Man-Made Structures	6,210.48	3.86	3%
7	Exposed Tidal Flats	10,350.53	6.43	5%
6B	Riprap	1,699.17	1.06	1%
3A	Fine to Medium Grained Sand Beaches	14,367.89	8.93	8%
Total ESI Shoreline:		189,127.76	Total ESI Shoreline:	117.52
		120,293.04	Total Shoreline:	74.75

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

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





Map 6B
South Carolina

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 T	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
9	Raptor	Bald eagle	Nesting			Possible													Oct-May	-	-	-
11	Waterfowl	American black duck	Wintering			100S													-	-	-	-
	Waterfowl	American coot	Wintering			1,000S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Waterfowl	Hooded merganser	Wintering			100S													-	-	-	-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Northern pintail	Wintering			100S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
27	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			10S													-	-	-	-
	Waterfowl	Wood duck	Nesting			100S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			10S													-	-	-	-
	Waterfowl	American coot	Wintering			10S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			10S													-	-	-	-
	Waterfowl	Canvasback	Wintering			100S													-	-	-	-
	Waterfowl	Gadwall	Wintering			1,000S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Waterfowl	Hooded merganser	Wintering			10S													-	-	-	-
	Waterfowl	Mergansers	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
	Waterfowl	Redhead	Wintering			100S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			1,000S													-	-	-	-
	Waterfowl	Wood duck	Nesting			Possible													Feb-Jun	-	-	-
	Waterfowl																		-	-	-	-



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					
224	Diadromous	Atlantic sturgeon	General Distribution	E	E	Rare													-	-	-	-	Jan-Dec
225	Diadromous	Shortnose sturgeon	General Distribution	E	E	Rare													-	-	-	-	Jan-Dec
	Diadromous	American shad	Migration			High													-	-	-	-	Jan-May
	Diadromous	Blueback herring	Migration			High													-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May
227	Diadromous	Atlantic sturgeon	General Distribution	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
228	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Atlantic sturgeon	Concentration Area	E	E	High													-	-	-	Jan-Dec	-
230	Diadromous	Shortnose sturgeon	Concentration Area	E	E	High													-	-	-	Jan-Dec	-
	Diadromous	American shad	Migration			High													-	-	-	-	Jan-May
	Diadromous	Atlantic sturgeon	Concentration Area	E	E	High													-	-	-	Jan-Dec	-
	Diadromous	Atlantic sturgeon	General Distribution	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Blueback herring	Migration			High													-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May
	Diadromous	Shortnose sturgeon	Concentration Area	E	E	High													-	-	-	Jan-Dec	-
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	Jan-Dec	Jan-Dec

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					
298	Turtle	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
	Turtle	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-

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	Nesting			-													Apr-Aug	-	-	-
 Wading	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-

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					
 Snake	Diamondback rattlesnake	General Distribution		C	Possible													-	-	-	-	-

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				
 Manatee	West Indian manatee	General Distribution		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				
 Passerine	Seaside sparrow																	-	-	-	-
 Wading	Clapper rail																	Mar-Sep	-	-	-
	King rail																	Feb-Aug	-	-	-
	Least bittern																	May-Aug	-	-	-
 Waterfowl	Mallard																	-	-	-	-

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	American eel																	-	-	-	Jan-Dec	Jan-Dec
	American shad																	-	-	-	Jan-Dec	-
	Blueback herring																	-	-	-	Jan-Dec	-
	Hickory shad																	-	-	-	Jan-Dec	-
	Striped bass																	-	-	-	Jan-Dec	Jan-Dec
 Estuarine Nursery	Atlantic croaker																	-	-	-	Jan-Sep	Jan-Sep
	Atlantic croaker																	-	-	Nov-Apr	Jan-Sep	Jan-Sep
	Atlantic menhaden																	-	-	-	Feb-Oct*	Feb-Oct*
	Gray snapper																	-	-	-	Oct	-
	Red drum																	-	-	-	Jan-Dec	Jan-Dec
	Red drum																	-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead																	-	-	-	May-Jun	May-Jun
	Southern flounder																	-	-	-	Jan-Dec	Jan-Dec
	Spot																	-	-	-	Feb-Dec	Feb-Dec
	Spotted seatrout																	May-Aug	-	May-Aug	Apr-Jan*	May-Aug



FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Striped mullet													-	-	-	-
	Summer flounder													-	Dec-May	Jan-Dec	-
	Blue catfish													-	-	Feb-Dec	Feb-Dec
	Flathead catfish													-	-	Jun-Nov*	Jun-Nov*

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Blue crab													-	May-Nov	Mar-Jan*	Mar-Jan*
	Brown shrimp													-	Mar-Jun	Mar-Nov	Jun-Nov
	White shrimp													-	Jun-Sep	Jan-Dec	Jan-Dec

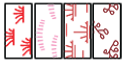
MARINE MAMMALS

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

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	5,375.99	8.40
10B	Freshwater Marshes	1,914.76	2.99
10C	Swamps	2,629.66	4.11
10D	Scrub and Shrub Wetlands	257.96	0.40



ESI SHORELINE HABITAT TYPES

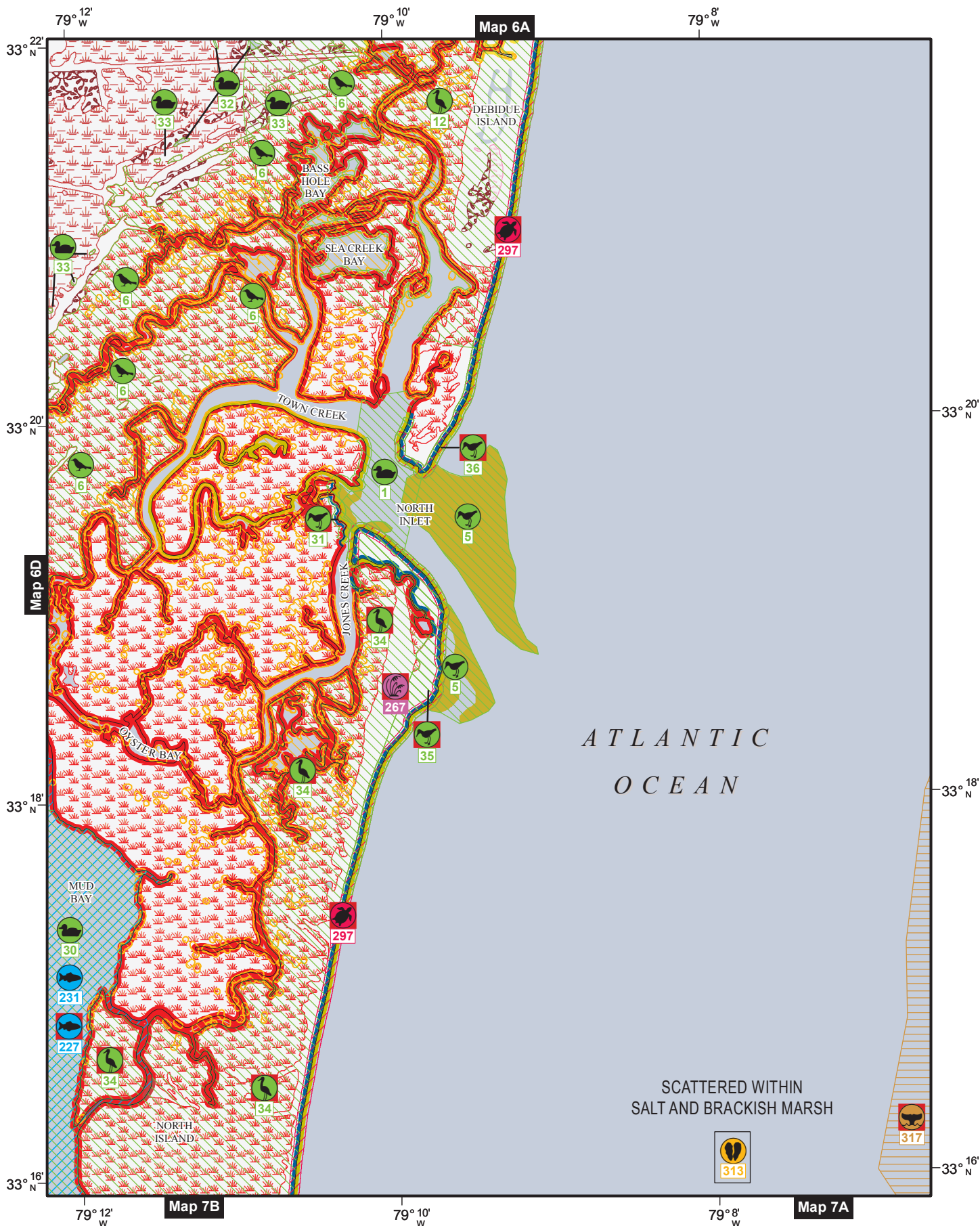
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	62,029.53	38.54	42%
10B	Freshwater Marshes	33,882.40	21.05	23%
10C	Swamps	43,431.65	26.99	30%
10D	Scrub and Shrub Wetlands	3,042.48	1.89	2%
9B	Vegetated Low Banks	476.06	0.30	< 1%
8B	Sheltered, Solid Man-Made Structures	4,268.00	2.65	3%

Total ESI Shoreline: 147,130.12 Total ESI Shoreline: 91.42
 Total Shoreline: 100,737.76 Total Shoreline: 62.60

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 Carolina

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	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			10S													-	-	-	-
	Waterfowl	Scaup	Rafting			100S													-	-	-	-
	Waterfowl	Scoters	Migration			100S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			1,000S													-	-	-	-
5	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
12	Wading	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-
30	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Wintering			1,000S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			10S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-
	Waterfowl	Scaup	Rafting			100S													-	-	-	-
	Waterfowl	Scoters	Migration			100S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			1,000S													-	-	-	-
31	Shorebird	American oystercatcher	Nesting		C	9 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering		C	147 Birds													-	-	-	-
	Shorebird	Wilson's plover	Nesting		T	1 Pair													Mar-Jul	-	-	-
32	Waterfowl	American coot	Wintering			10S													-	-	-	-
	Waterfowl	Canvasback	Wintering			100S													-	-	-	-
	Waterfowl	Gadwall	Wintering			1,000S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Waterfowl	Hooded merganser	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
	Waterfowl	Redhead	Wintering			100S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			1,000S													-	-	-	-
	Waterfowl	Wood duck	Nesting			Possible													Feb-Jun	-	-	-
33	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Wood duck	Nesting			Possible													-	-	-	-
	Waterfowl	Wood duck	Wintering			100S													Feb-Jun	-	-	-
34	Wading	Black rail	Nesting		C	-													May-Aug	-	-	-
	Wading	Black rail	Vulnerable Occurrence		C	-													-	-	-	-
35	Shorebird	American oystercatcher	Nesting		C	8 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering		C	10S													-	-	-	-
	Shorebird	Marbled godwit	Wintering			-													-	-	-	-

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	Wintering	E	T	10S													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		26 Pairs													Mar-Jul	-	-	-
36	Shorebird	American oystercatcher	Wintering	C		10S													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		3 Pairs													Mar-Jul	-	-	-

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					
227	Diadromous	Atlantic sturgeon	General Distribution	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
231	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	American eel	Migration			-													-	-	-	Jan-May	Jan-Dec
	Diadromous	American shad	Migration			High													-	-	-	-	Jan-May
	Diadromous	Blueback herring	Migration			High													-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May

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					
267	Wetland	Seabeach amaranth	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					
297	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Medium													-	-	-	-	-


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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
317	Whale	N.A. right whale	Migration	E	E	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	



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																	-	-	-	-
	Nelson's sparrow	Wintering			-													-	-	-	-
	Waterfowl																	-	-	-	-
	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Bufflehead	Wintering			10S													-	-	-	-
	Canvasback	Wintering			10S													-	-	-	-
	Green-winged teal	Wintering			10S													-	-	-	-
	Mergansers	Wintering			10S													-	-	-	-
	Scaup	Rafting			1,000S													-	-	-	-
	Scoters	Migration			1,000S													-	Apr-Jun	-	-
	Scoters	Rafting			10,000S													-	-	-	-
																		-	-	-	-

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																	-	-	-	Jan-May	Sep-Jan
	American eel	Migration			-													-	-	-	Aug-Dec	Jan-May
	American shad	Migration			-													-	-	-	-	Jan-Dec
	Atlantic sturgeon	General Distribution		E	Present													-	-	-	-	Jan-May
	Blueback herring	Migration			-													-	-	-	Aug-Dec	Jan-May
	Hickory shad	Migration			-													-	-	-	Aug-Dec	Jan-May
	Shortnose sturgeon	General Distribution		E	E													-	-	-	-	Jan-Dec





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					
	Snake																	-	-	-	-	-
	Diamondback rattlesnake	General Distribution		C	Possible													-	-	-	-	-
	Turtle																	-	-	-	-	-
	Green sea turtle	General Distribution		T	-													-	-	-	-	-
	K. ridley sea turtle	General Distribution		E	-													-	-	-	-	-
	Leatherback sea turtle	General Distribution		E	-													-	-	-	-	-
	Loggerhead sea turtle	General Distribution		T	-													-	-	-	-	-




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				
	Manatee																	-	-	-	-
	West Indian manatee	General Distribution		E	-													-	-	-	-
	Whale																	-	-	-	-
	Humpback whale	General Distribution		E	-													-	-	-	-

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Alcid	Alcids													-	-	-	-	-
	Brown pelican													-	-	Jul-Oct	-	-
	D. crested cormorant													-	-	-	-	-
	Diving birds													-	-	-	-	-
	Loons													-	-	-	-	-
 Gull/Tern	Gulls													-	-	-	-	-
	Terns													-	-	-	-	-
	Seaside sparrow													-	-	-	-	-
 Passerine	Black-capped petrel													-	-	-	-	-
	Jaegers													-	-	-	-	-
	Northern gannet													-	-	-	-	-
	Shearwaters													-	-	-	-	-
 Shorebird	Storm-petrels													-	-	-	-	-
	Phalaropes													-	-	-	-	-
	Clapper rail													Mar-Sep	-	-	-	-
	Mallard													-	-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Diadromous	American shad													-	-	-	Jan-Dec	-
	Blueback herring													-	-	-	Jan-Dec	-
	Hickory shad													-	-	-	Jan-Dec	-
 Estuarine Nursery	Atl. sharpnose shark													-	-	-	-	-
	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atlantic croaker													-	-	Nov-Apr	May-Sep	May-Sep
	Atlantic croaker													-	-	Nov-Apr	Apr-Sep	Apr-Sep
	Atlantic croaker													-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	May-Nov	May-Nov
	Black drum													-	-	-	Apr-Nov	Apr-Nov
	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Black sea bass													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
 Red drum	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Red drum													-	-	-	-	Aug-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					
<div><div></div><div></div></div>	Sheepshead													-	-	-	May-Nov	May-Nov
	Sheepshead													-	-	-	Mar-Nov	Mar-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	Feb-Dec	Feb-Dec
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern flounder													-	-	-	-	-
	Southern kingfish													-	-	-	Feb-Dec	Feb-Dec
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spot													-	-	-	-	-
	Spot													-	-	-	May-Aug	Jan-Dec
<div><div></div><div></div></div>	Spotted seatrout													-	-	-	-	-
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Summer flounder													-	-	-	Dec-May	Jan-Dec
	Weakfish													-	-	-	-	-
	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
	Atlantic spadefish													-	-	-	-	-
	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
<div><div></div><div></div></div>	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	-	-
	Spotted hake													-	-	-	-	-
	Spotted hake													-	-	-	-	-
	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	-
<div><div></div><div></div></div>	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Sandbar shark													-	-	-	Apr-Nov	-
	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	-
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
<div><div></div><div></div></div>	White shark													-	-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
Cephalopod	Atlantic brief squid	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
Crab	Blue crab													-	-	May-Nov	Mar-Jan*	Mar-Jan*
	Blue crab													-	-	May-Nov	-	-
	Blue crab													-	-	May-Nov	Jan-Dec	Jan-Dec
	Blue crab													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
Invertebrate	Cannonball jellyfish													-	-	-	-	-
Shrimp	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
	Brown shrimp													-	-	Mar-Jun	Mar-Aug	Jun-Nov
	Brown shrimp													-	-	Mar-Jun	Mar-Nov	Jun-Nov
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov
	White shrimp													-	-	Jun-Sep	Jan-Dec	Jan-Dec
	White shrimp													-	-	Jun-Sep	Jan-Dec	May-Nov

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
Dolphin	Atl. spotted dolphin	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
	Bottlenose dolphin													-	-	-	-
Whale	Pygmy sperm whale													-	-	-	-
	S.finned pilot whale													-	-	-	-

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	6,199.91	9.69
10B	Freshwater Marshes	18.50	0.03
10C	Swamps	647.10	1.01
10D	Scrub and Shrub Wetlands	144.05	0.23
7	Exposed Tidal Flats	368.01	0.58

ESI SHORELINE HABITAT TYPES

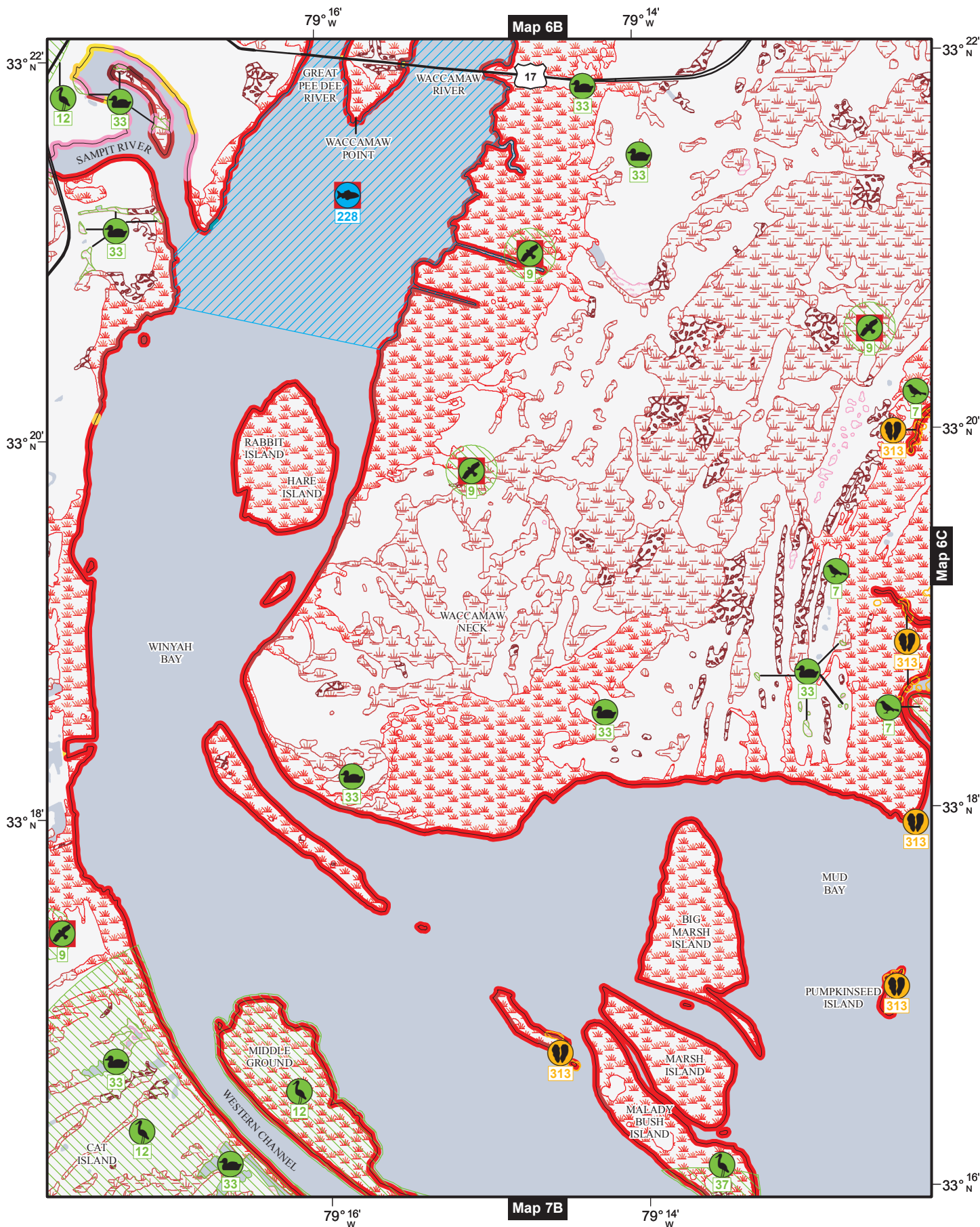
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	138,077.36	85.80	77%
10C	Swamps	152.68	0.09	< 1%
8B	Sheltered, Solid Man-Made Structures	1,182.66	0.73	1%
7	Exposed Tidal Flats	24,197.99	15.04	14%
3A	Fine to Medium Grained Sand Beaches	15,440.73	9.59	9%

Total ESI Shoreline: 179,051.42 Total ESI Shoreline: 111.26
 Total Shoreline: 151,430.89 Total Shoreline: 94.09

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 6D
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 6D
South Carolina

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	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
9	Raptor	Bald eagle	Nesting	T		Possible													Oct-May			-
12	Wading	Wading birds	Nesting			1 Rookery													Feb-Sep			-
33	Waterfowl	Mottled duck	Nesting			Possible													Feb-May			-
	Waterfowl	Wood duck	Nesting			Possible													-	-	-	-
	Waterfowl	Wood duck	Wintering			100S													Feb-Jun	-	-	-
37	Wading	Wading birds	Nesting			3 Rookeries													Feb-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					
228	Diadromous	Atlantic sturgeon	Concentration Area		E	High													-	-	-	Jan-Dec	-
	Diadromous	Shortnose sturgeon	Concentration Area	E	E	High													-	-	-	Jan-Dec	-

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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec

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				
	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
	Waterfowl	Bufflehead	Wintering			10S													-	-	-	-
		Bufflehead	Wintering			100S													-	-	-	-
		Canvasback	Wintering			10S													-	-	-	-
		Green-winged teal	Wintering			10S													-	-	-	-
		Hooded merganser	Wintering			1,000S													-	-	-	-
		Mergansers	Wintering			10S													-	-	-	-
		Red-breasted merganser	Wintering			10S													-	-	-	-
		Redhead	Wintering			10S													-	-	-	-
		Scaup	Rafting			100S													-	-	-	-
		Scoters	Migration			100S													Apr-Jun	-	-	-
		Scoters	Rafting			1,000S													-	-	-	-

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	American eel			-													-	-	-	Jan-Dec
		American shad			High													-	-	-	Jan-May
		Atlantic sturgeon			Present													-	-	-	Jan-Dec
		Blueback herring			High													-	-	-	Jan-May
		Hickory shad			-													-	-	-	Jan-May
	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	Jan-Dec

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				
 	Snake	Diamondback rattlesnake	C		Possible													-	-	-	-
	Turtle	Green sea turtle	T	T	-													-	-	-	-
	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-
	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-

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				
	Manatee	West Indian manatee	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				
	Diving	Brown pelican																-	-	-	-
		D. crested cormorant																-	-	-	-
		Diving birds																-	-	-	-
	Gull/Tern	Loons																-	-	-	-
		Gulls																-	-	-	-
		Terns																-	-	-	-
	Passerine	Seaside sparrow																-	-	-	-
	Pelagic	Northern gannet																-	-	-	-
	Wading	Clapper rail																-	-	-	-

FISH

Monthly Presence



Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Diadromous													-	-	-	Jan-May	Jan-Dec
	American eel													-	-	-	Jan-Dec	-
	American shad													-	-	-	Jan-Dec	-
	Blueback herring													-	-	-	Jan-Dec	-
	Hickory shad													-	-	-	Jan-Dec	-
	Striped bass													-	-	-	Jan-Dec	Jan-Dec
	Atl. sharpnose shark													-	-	-	-	-
	Atlantic croaker													-	-	Nov-Apr	Apr-Sep	Apr-Sep
	Atlantic croaker													-	-	Nov-Apr	Jan-Sep	Jan-Sep
	Atlantic croaker													-	-	Nov-Apr	May-Sep	May-Sep
	Atlantic menhaden													-	-	-	Feb-Oct*	Feb-Oct*
	Atlantic menhaden													-	-	-	May-Nov	May-Nov
	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Black drum													-	-	-	Apr-Nov	Apr-Nov
	Gray snapper													-	-	-	Oct	-
	Ladyfish													-	-	-	-	-
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	May-Jun	May-Jun
	Sheepshead													-	-	-	May-Nov	May-Nov
	Sheepshead													-	-	-	Mar-Nov	Mar-Nov
	Southern flounder													-	-	-	Feb-Dec	Feb-Dec
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern flounder													-	-	-	Jan-Dec	Jan-Dec
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spotted seatrout													May-Aug	-	May-Aug	Jan-Dec	Jan-Dec
	Spotted seatrout													May-Aug	-	May-Aug	Apr-Jan*	May-Aug
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	Dec-May	Jan-Dec	-
	Blue catfish													-	-	-	Feb-Dec	Feb-Dec
	Flathead catfish													-	-	-	Jun-Nov*	Jun-Nov*
	Lemon shark													-	-	-	Apr-Nov	-
	Finetooth shark													-	-	-	May-Oct	-
	Sandbar shark													-	-	-	Apr-Nov	-

REPTILES & AMPHIBIANS

Monthly Presence

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Crab													-	May-Nov	Jan-Dec	Jan-Dec
	Blue crab													-	May-Nov	Mar-Jan*	Mar-Jan*
	Shrimp													-	Mar-Jun	Mar-Nov	Jun-Nov
	Brown shrimp													-	Mar-Jun	Mar-Aug	Jun-Nov
	Brown shrimp													-	Mar-Jun	Mar-Aug	Jun-Nov
	White shrimp													-	Jun-Sep	Jan-Dec	Jan-Dec
	White shrimp													-	Jun-Sep	Jan-Dec	May-Nov

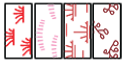
MARINE MAMMALS

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

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	4,795.21	7.49
10B	Freshwater Marshes	74.99	0.12
10C	Swamps	2,792.14	4.36
10D	Scrub and Shrub Wetlands	512.54	0.80



ESI SHORELINE HABITAT TYPES

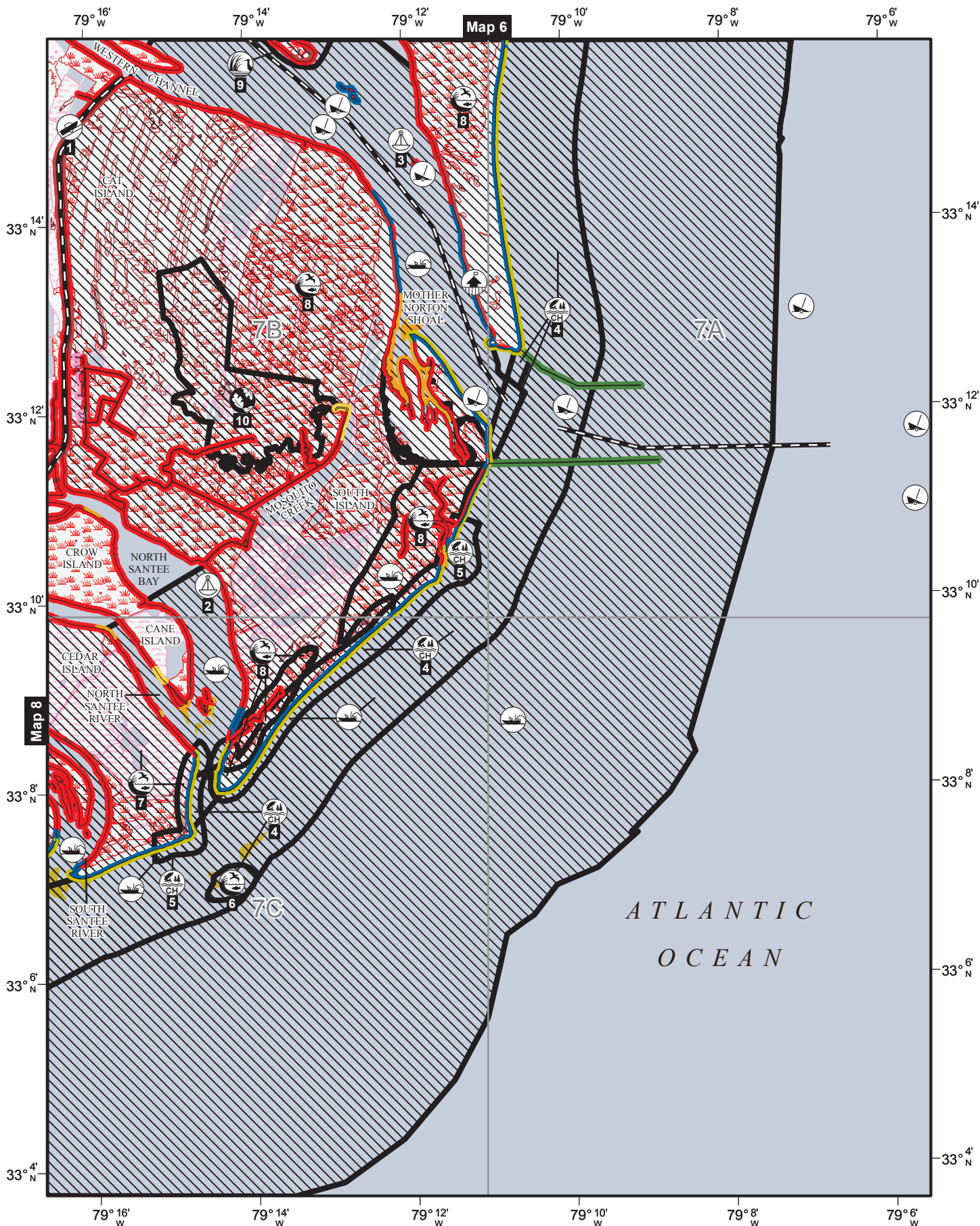
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	79,092.63	49.15	77%
10B	Freshwater Marshes	4,312.78	2.68	4%
10C	Swamps	17,350.86	10.78	17%
10D	Scrub and Shrub Wetlands	322.55	0.20	< 1%
8B	Sheltered, Solid Man-Made Structures	1,611.50	1.00	2%
8C	Sheltered Riprap	417.40	0.26	< 1%
5	Mixed Sand and Gravel Beaches	109.79	0.07	< 1%

Total ESI Shoreline: 103,217.51 Total ESI Shoreline: 64.14
 Total Shoreline: 85,947.11 Total Shoreline: 53.41

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

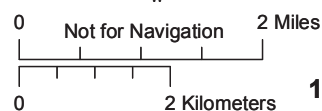




Map 7
South Carolina



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: August 2015



1:100,000



Map 7
South Carolina

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	BOAT RAMP	SOUTH ISLAND FERRY	GEORGE L BUIST	
2	REPEATED MEASUREMENT SITE	MWS - SRNB		
3	REPEATED MEASUREMENT SITE	MWS - WBLB		
DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
4	CRITICAL HABITAT	LOGGERHEAD SEA TURTLE CRITICAL HABITAT	US FISH AND WILDLIFE SERVICE	
5	CRITICAL HABITAT	PIPING PLOVER CRITICAL HABITAT		
6	MANAGEMENT AREA	NORTH SANTEE BAR HERITAGE PRESERVE		
7	MANAGEMENT AREA	SANTEE COASTAL RESERVE	SOUTH CAROLINA DEPARTMENT OF NATURAL RESOL	803-734-3993
8	MANAGEMENT AREA	TOM YAWKEY WILDLIFE CENTER PRESERVE	WENDY ALLEN THE NATURE CONSERVANCY	843-546-3623
9	NATIONAL ESTUARINE RESEARCH RESERVE	N INLET-WINYAH BAY NTL ESTU RSRCH RSV		
10	NATURE CONSERVANCY	TOM YAWKEY WILDLIFE CENTER		
ALSO PRESENT IN MAPPED AREA (POLYGONS)				
Type	Name	Contact	Phone	
ESSENTIAL HABITAT	SHRIMP HAPC	SOUTH ATLANTIC FMC	866-723-6210	
ESSENTIAL HABITAT	SNAPPER/GROUPER HAPC	SOUTH ATLANTIC FMC	866-723-6210	

JURISDICTIONS

COUNTY: CHARLESTON COUNTY, GEORGETOWN COUNTY
COAST GUARD: DISTRICT 7, SECTOR CHARLESTON
USACE: SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT

FEMA: REGION IV
EPA: REGION 4

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	10,099.12	15.78
10B	Freshwater Marshes	2,684.32	4.19
10C	Swamps	1,458.82	2.28
10D	Scrub and Shrub Wetlands	189.46	0.30
9A	Sheltered Tidal Flats	85.75	0.13
7	Exposed Tidal Flats	172.83	0.27

ESI SHORELINE HABITAT TYPES

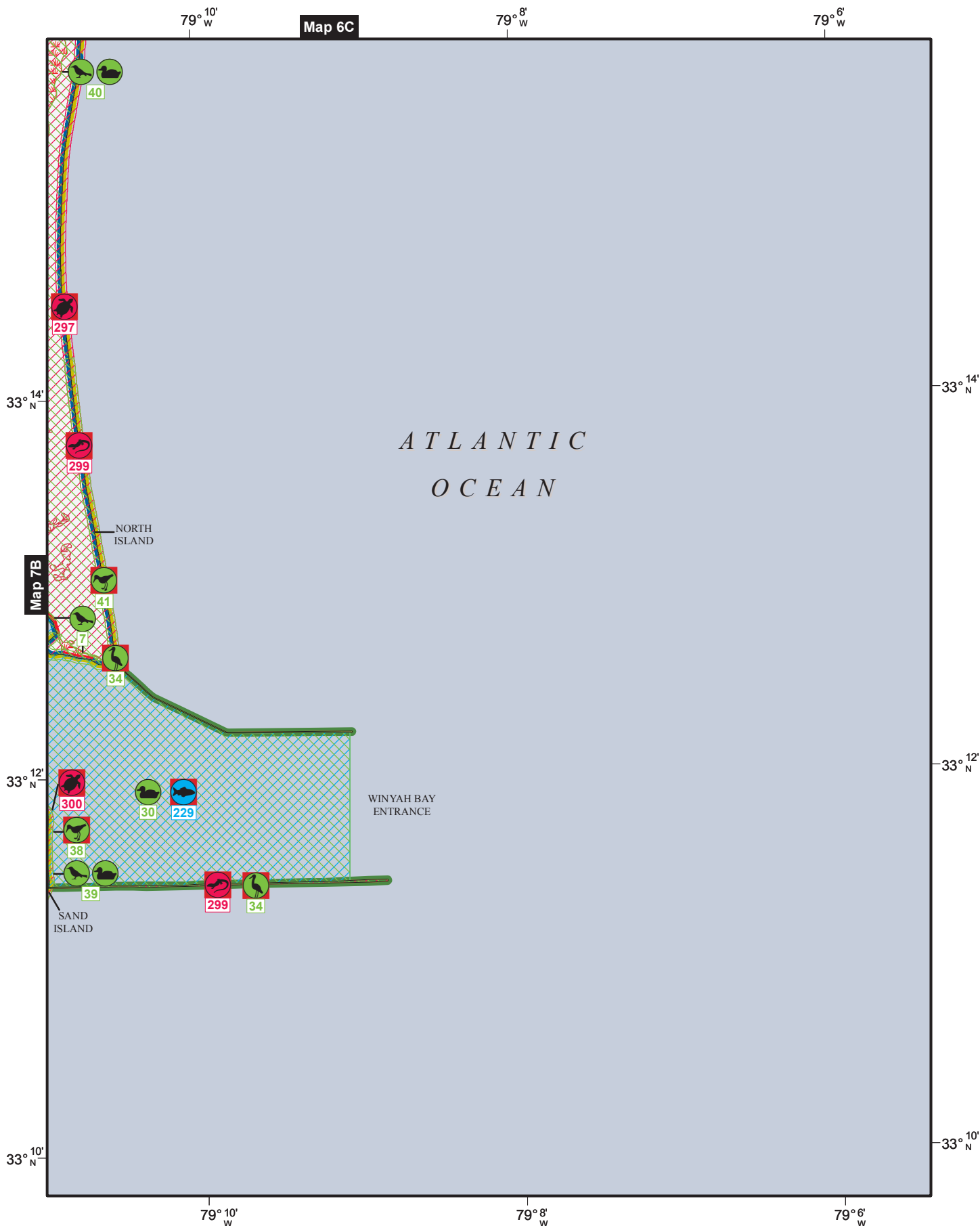
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	135,534.29	84.22	56%
10B	Freshwater Marshes	3,508.19	2.18	1%
10C	Swamps	15,685.49	9.75	7%
10D	Scrub and Shrub Wetlands	642.51	0.40	< 1%
9A	Sheltered Tidal Flats	14,586.68	9.06	6%
9B	Vegetated Low Banks	230.36	0.14	< 1%
8C	Sheltered Riprap	1,201.57	0.75	1%
7	Exposed Tidal Flats	24,766.26	15.39	10%
6B	Riprap	11,858.31	7.37	5%
3A	Fine to Medium Grained Sand Beaches	31,999.60	19.88	13%
3B	Scarps and Steep Slopes (Sand)	158.79	0.10	< 1%

Total ESI Shoreline: 240,172.05 Total ESI Shoreline: 149.24
 Total Shoreline: 181,502.19 Total Shoreline: 112.78

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

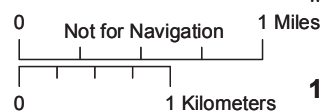




Map 7A
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



Map 7A
South Carolina

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	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
30	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Wintering			1,000S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			10S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-
	Waterfowl	Scaup	Rafting			100S													-	-	-	-
	Waterfowl	Scoters	Migration			100S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			1,000S													-	-	-	-
	Wading	Black rail	Nesting	C		-													May-Aug	-	-	-
	Wading	Black rail	Vulnerable Occurrence	C		-													-	-	-	-
38	Shorebird	American oystercatcher	Nesting	C		2 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		-													-	-	-	-
	Shorebird	Marbled godwit	Wintering			-													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-
	Shorebird	Red knot	Migration	T		1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering	T		100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		6 Pairs													Mar-Jul	-	-	-
	Shorebird	Wilson's plover	Wintering	T		10S													-	-	-	-
39	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Waterfowl	American black duck	Wintering			100S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			10S													-	-	-	-
	Waterfowl	Gadwall	Wintering			1,000S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Waterfowl	Hooded merganser	Wintering			100S													-	-	-	-
	Waterfowl	Mergansers	Wintering			10S													-	-	-	-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Northern pintail	Wintering			1,000S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
	Waterfowl	Redhead	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-

BIRDS (continued)

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					
40	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-	-
	Waterfowl	Bufflehead	Wintering			10S													-	-	-	-	-
	Waterfowl	Canvasback	Wintering			10S													-	-	-	-	-
	Waterfowl	Green-winged teal	Wintering			10S													-	-	-	-	-
	Waterfowl	Mergansers	Wintering			10S													-	-	-	-	-
41	Shorebird	American oystercatcher	Wintering	C		10S													-	-	-	-	-

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					
229	Diadromous	American shad	Migration			High													-	-	-	-	Jan-May
	Diadromous	Atlantic sturgeon	General Distribution	E		Present													-	-	-	-	Jan-Dec
	Diadromous	Blueback herring	Migration			High													-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	-	Jan-Dec

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					
297	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Medium													-	-	-	-	-
299	Snake	Diamondback rattlesnake	General Distribution	C		Possible													-	-	-	-	-
300	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	High													-	-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


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					
	Waterfowl	Scaup	Rafting			1,000S													-	-	-	-	-
	Waterfowl	Scoters	Migration			1,000S													-	-	-	-	-
	Waterfowl	Scoters	Rafting			10,000S													-	-	-	-	-


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	American eel			-													-	-	-	Jan-May
		American shad			-													-	-	-	Jan-May
		Atlantic sturgeon		E	Present													-	-	-	Jan-Dec
		Blueback herring			-													-	-	-	Jan-May
		Hickory shad			-													-	-	-	Jan-May
	Shortnose sturgeon	General Distribution	E	E	Low													-	-	-	Jan-Dec

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	-													-	-	-	-
		K. ridley sea turtle	E	E	-													-	-	-	-
		Leatherback sea turtle	E	E	-													-	-	-	-
		Loggerhead sea turtle	T	T	-													-	-	-	-

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			
	Manatee	West Indian manatee	E	E	-													-	-	-
	Whale	Humpback whale	E	E	-													-	-	-
		N.A. right whale	E	E	-													Oct-Mar	-	-





ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt	
		J	F	M	A	M	J	J	A	S	O	N	D					
	Alcids																	
	Brown pelican																	
	D. crested cormorant																	
	Diving birds																	
	Loons																	
	Gulls																	
	Terns																	
	Seaside sparrow																	
	Black-capped petrel																	
	Jaegers																	
	Northern gannet																	
	Shearwaters																	
	Storm-petrels																	
	Phalaropes																	
	Clapper rail																	
	Mallard																	

FISH

Monthly Presence

Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	American shad													-	-	-	Jan-Dec	-
	Hickory shad													-	-	-	Jan-Dec	-
	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atl. sharpnose shark													-	-	-	-	-
	Atlantic croaker													-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	Nov-Apr	Apr-Sep	Apr-Sep
	Atlantic menhaden													-	-	-	May-Nov	May-Nov
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Black drum													-	-	-	Apr-Nov	Apr-Nov
	Black sea bass													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													-	-	-	-	Aug-Nov
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Sheepshead													-	-	-	Mar-Nov	Mar-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	Feb-Dec	Feb-Dec
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	-	-
	Spot													-	-	-	-	-
	Spotted seatrout													May-Aug	-	May-Aug	Feb-Dec	Feb-Dec
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Summer flounder													-	-	Dec-Apr	Jan-Dec	Mar-Oct
	Weakfish													-	-	-	-	-
	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Lemon shark													-	-	-	Apr-Nov	-
	Smooth dogfish													-	-	-	-	Dec-Apr
	Spotted hake													-	-	-	-	-
	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Finetooth shark													-	-	-	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					
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Sandbar shark													-	-	-	Apr-Nov	-
	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	Dec-Apr
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
	Cephalopod	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Crab													-	-	May-Nov	-	-
	Blue crab													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
	Blue crab													-	-	May-Nov	Mar-Jan*	Mar-Jan*
	Cannonball jellyfish													-	-	-	-	-
	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
	Brown shrimp													-	-	Mar-Jun	Mar-Aug	Jun-Nov
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov
	White shrimp													-	-	Jun-Sep	Jan-Dec	May-Nov

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
	Dolphin	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
	Atl. spotted dolphin													-	-	-	-
	Bottlenose dolphin													-	-	-	-
	Pygmy sperm whale													-	-	-	-
	S-finned pilot whale													-	-	-	-

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	31.24	0.05
10C	Swamps	11.30	0.02



ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	586.56	0.36	2%
7	Exposed Tidal Flats	7,830.44	4.87	28%
6B	Riprap	11,783.00	7.32	42%
3A	Fine to Medium Grained Sand Beaches	7,986.90	4.96	28%

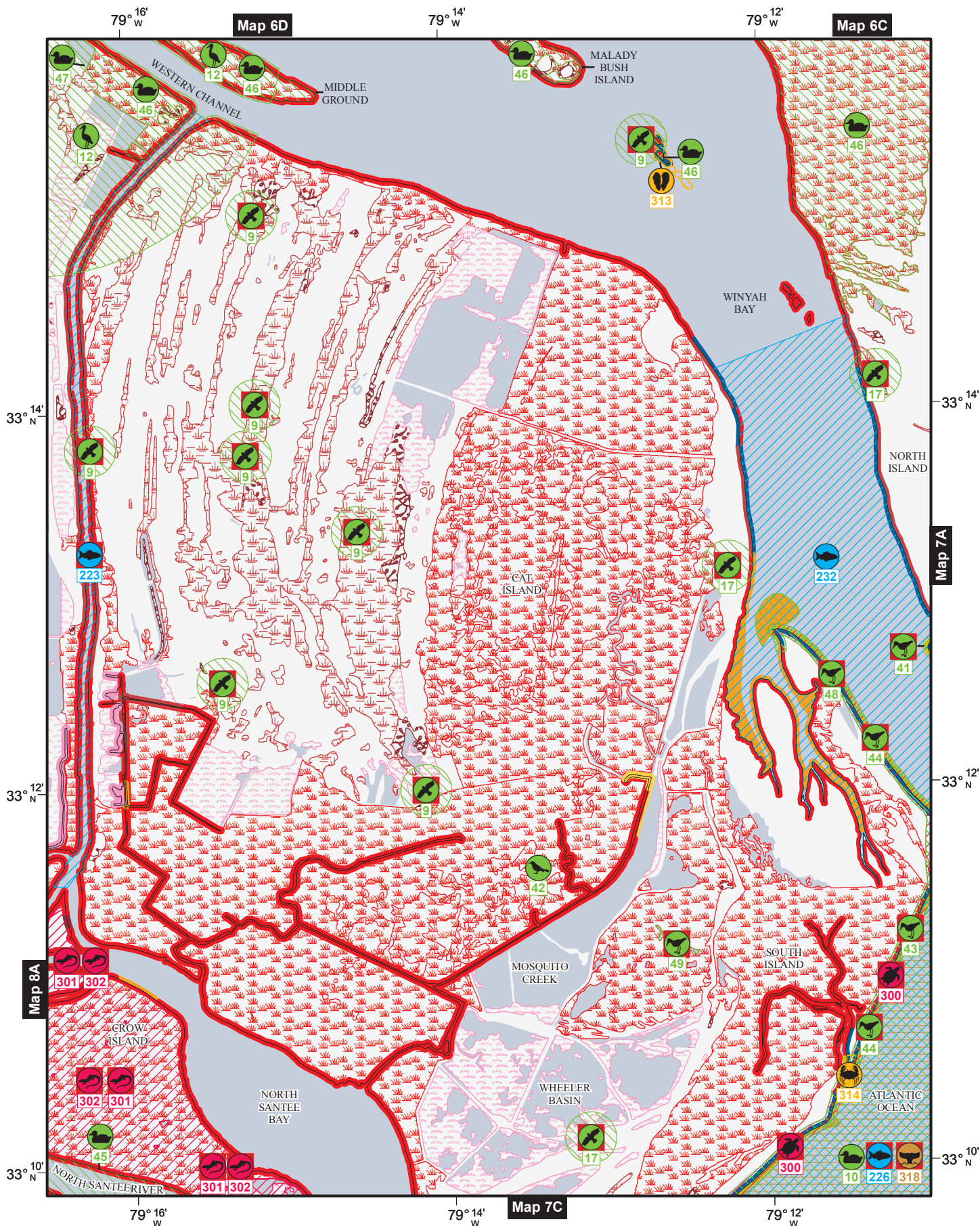


Total ESI Shoreline: 28,186.89 Total ESI Shoreline: 17.51
Total Shoreline: 19,769.89 Total Shoreline: 12.28

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

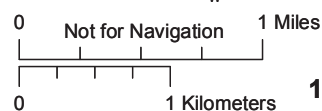




Map 7B
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



Map 7B
South Carolina

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				
9	Raptor	Bald eagle	Nesting	T		Possible													Oct-May	-	-	-
10	Waterfowl	Scaup	Rafting			1,000S													-	-	-	-
	Waterfowl	Scoters	Migration			1,000S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			10,000S													-	-	-	-
12	Wading	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-
17	Raptor	Bald eagle	Nesting	T		Present													Oct-May	-	-	-
41	Shorebird	American oystercatcher	Wintering	C		10S													-	-	-	-
42	Passerine	Seaside sparrow	Nesting			High													Apr-Aug	-	-	-
43	Shorebird	American oystercatcher	Nesting	C		2 Pairs													Apr-Aug	-	-	-
	Shorebird	Wilson's plover	Nesting	T		6 Pairs													Mar-Jul	-	-	-
44	Shorebird	American oystercatcher	Wintering	C		-													-	-	-	-
	Shorebird	Marbled godwit	Wintering			-													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-
	Shorebird	Red knot	Migration	T		1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering		T	100S													-	-	-	-
	Shorebird	Wilson's plover	Wintering	T		10S													-	-	-	-
45	Waterfowl	Blue-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			10,000S													-	-	-	-
	Waterfowl	Mergansers	Wintering			100S													-	-	-	-
	Waterfowl	Mottled duck	Wintering			100S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			1,000S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			1,000S													-	-	-	-
	Waterfowl	Scaup	Wintering			1,000S													-	-	-	-
	Waterfowl	Waterfowl	Wintering			10S													-	-	-	-
	Waterfowl	Wood duck	Wintering			10S													Feb-Jun	-	-	-
46	Waterfowl	Green-winged teal	Wintering			10S													-	-	-	-
47	Waterfowl	Wood duck	Nesting			Possible													-	-	-	-
	Waterfowl	Wood duck	Wintering			100S													Feb-Jun	-	-	-
48	Shorebird	Wilson's plover	Nesting	T		3 Pairs													Mar-Jul	-	-	-
49	Shorebird	Wilson's plover	Nesting	T		2 Pairs													Mar-Jul	-	-	-

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					
223	Diadromous	Atlantic sturgeon	Migration	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
226	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	American eel	Migration			-													-	-	-	Jan-May	Sep-Jan
	Diadromous	American shad	Migration			-													-	-	-	Aug-Dec	Jan-May
	Diadromous	Atlantic sturgeon	General Distribution	E		Present													-	-	-	-	Jan-Dec
	Diadromous	Blueback herring	Migration			-													-	-	-	Aug-Dec	Jan-May
232	Diadromous	Hickory shad	Migration			-													-	-	-	Aug-Dec	Jan-May
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Low													-	-	-	-	Jan-Dec
	Diadromous	American eel	Migration			-													-	-	-	Jan-May	Sep-Jan

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					
300	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
301	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Amphibian	Loggerhead sea turtle	Nesting	T	T	High													-	-	-	-	-
	Amphibian	Flatwoods salamander	General Distribution	E	T	Possible													-	-	-	-	-
	Amphibian	Gopher frog	General Distribution	E		Possible													-	-	-	-	-
302	Snake	Diamondback rattlesnake	General Distribution	C		Rare													-	-	-	-	-

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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec
314	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul	Apr-Jul	May-Aug	-	Apr-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				
318	Whale	Humpback whale	General Distribution	E	E	-													-	-	-	-



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	Nelson's sparrow	Wintering			-													-	-	-	-
	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebirds	Wintering			1,000S													-	-	-	-
Wading	Black rail	Nesting		C	-													May-Aug	-	-	-
	Black rail	Vulnerable Occurrence		C	-													-	-	-	-
	Wading birds	Nesting			3 Rookeries													Feb-Sep	-	-	-
Waterfowl	American black duck	Wintering			100S													-	-	-	-
	American coot	Wintering			1,000S													-	-	-	-
	Blue-winged teal	Wintering			100S													-	-	-	-
	Bufflehead	Wintering			10S													-	-	-	-
	Bufflehead	Wintering			100S													-	-	-	-
	Canvasback	Wintering			10S													-	-	-	-
	Gadwall	Wintering			1,000S													-	-	-	-
	Green-winged teal	Wintering			1,000S													-	-	-	-
	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Hooded merganser	Wintering			100S													-	-	-	-
	Hooded merganser	Wintering			1,000S													-	-	-	-
	Mergansers	Wintering			10S													-	-	-	-
	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Mottled duck	Wintering			10S													-	-	-	-
	Northern pintail	Wintering			1,000S													-	-	-	-
	Northern shoveler	Wintering			100S													-	-	-	-
	Red-breasted merganser	Wintering			10S													-	-	-	-
	Redhead	Wintering			100S													-	-	-	-
	Redhead	Wintering			10S													-	-	-	-
	Ring-necked duck	Wintering			100S													-	-	-	-
	Ruddy duck	Wintering			100S													-	-	-	-
	Scaup	Rafting			100S													-	-	-	-
	Scoters	Migration			100S													-	Apr-Jun	-	-
	Scoters	Rafting			1,000S													-	-	-	-
	Wood duck	Nesting			100S													Feb-Jun	-	-	-
	Wood duck	Wintering			10S													-	-	-	-

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	American eel	Migration			-													-	-	-	Jan-May	Jan-Dec
	American shad	Migration			High													-	-	-	-	Jan-May
	Atlantic sturgeon	General Distribution		E	Present													-	-	-	Jan-Dec	Jan-Dec
	Blueback herring	Migration			High													-	-	-	-	Jan-May
	Hickory shad	Migration			-													-	-	-	-	Jan-May
	Shortnose sturgeon	General Distribution		E	Present													-	-	-	Jan-Dec	Jan-Dec

REPTILES & AMPHIBIANS






Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mating	Calving	Pupping	Internest	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D							
 Snake	Diamondback rattlesnake	General Distribution	C	T	Possible													-	-	-	-	-	-	-
	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-	-	-
 Turtle	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-	-	-
	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-	-	-
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-	-	-

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				
 Manatee	West Indian manatee	General Distribution	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	Alcids														-	-	-
	Brown pelican														-	-	Jul-Oct
	D. crested cormorant														-	-	-
	Diving birds														-	-	-
	Loons														-	-	-
	Gulls														-	-	-
 Terns	Terns														-	-	-
	Seaside sparrow														-	-	-
	Black-capped petrel														-	-	-
 Pelagic	Jaegers														-	-	-
	Northern gannet														-	-	-
	Shearwaters														-	-	-
	Storm-petrels														-	-	-
	Phalaropes														-	-	-
	Clapper rail														-	-	Mar-Sep
 Wading	King rail														-	-	Feb-Aug
	Least bittern														-	-	May-Aug
	Mallard														-	-	-
 Waterfowl															-	-	-


FISH

	Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
			J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous	American eel													-	-	-	Jan-Dec	-
		American shad													-	-	-	Jan-Dec	-
		Blueback herring													-	-	-	Jan-Dec	-
		Hickory shad													-	-	-	Jan-Dec	-
		Striped bass													-	-	-	Jan-Dec	Jan-Dec

FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Atl. sharpnose shark													-	-	-	-
	Atl. sharpnose shark													-	-	Feb-Dec	Feb-Dec
	Atlantic croaker													-	Nov-Apr	Apr-Sep	Mar-Sep
	Atlantic croaker													-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic croaker													-	Nov-Apr	Jan-Jul	Jan-Jul
	Atlantic menhaden													-	-	May-Nov	May-Nov
	Atlantic menhaden													-	-	Feb-Oct	Mar-Oct
	Atlantic menhaden													-	Dec-May	Sep-Nov	Mar-Nov
	Black drum													-	-	Apr-Nov	Apr-Nov
	Black sea bass													-	-	-	-
	Bluefish													-	-	-	-
	Bonnethead shark													-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	Apr-Oct	Apr-Oct
	Gray snapper													-	-	Oct-Nov	-
	Ladyfish													-	-	-	-
	Porgies													-	-	-	-
	Red drum													-	Aug-Nov	Jan-Dec	Jan-Dec
	Red drum													-	-	Jan-Dec	Jan-Dec
	Red drum												Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Sheepshead													-	-	Apr-Nov*	Apr-Nov*
	Sheepshead													-	-	Mar-Nov	Mar-Nov
	Silver seatrout													-	-	-	-
	Southern flounder													-	-	-	-
	Southern flounder													-	-	Feb-Dec	Feb-Dec
	Southern flounder													-	-	Feb-Nov	Feb-Nov
	Southern kingfish													-	-	-	-
	Spot													-	-	Mar-Nov	Mar-Nov
	Spot													-	-	-	-
	Spot													-	-	Feb-Dec	Feb-Dec
	Spotted seatrout													-	-	Mar-Nov	-
	Spotted seatrout												May-Aug	-	May-Aug	-	Jan-Dec
	Star drum													-	-	-	-
	Striped mullet													-	-	-	-
	Summer flounder													-	Dec-May	Jan-Dec	-
	Summer flounder													-	-	-	-
	Summer flounder													-	Jan-Apr	Apr-Sep	Mar-Dec
	Summer flounder													-	Dec-Apr	Jan-Dec	Mar-Oct
	Weakfish													-	-	-	-
	Great hammerhead													-	-	Apr-Oct	Apr-Oct
	Blue catfish													-	-	Jan-Dec	Jan-Dec
	Bluegill													-	-	-	-
	Flathead catfish													-	-	Apr-Nov*	Apr-Nov*
	Redear sunfish													-	-	-	-
	Fringed flounder													-	-	-	-




FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Lemon shark													-	-	Apr-Nov	Apr-Nov
	Lemon shark													-	-	Apr-Nov	-
	Smooth dogfish													-	-	-	Dec-Apr
	Spotted hake													-	-	-	-
	Anchovies													-	-	-	-
	Blacknose shark													-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	May-Oct	-
	Finetooth shark													-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-
	King mackerel													-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	Apr-Nov	-
	Sandbar shark													-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-
	Spinner shark													-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	Dec-Apr
	Tiger shark													-	-	Apr-Nov	Apr-Nov
	White shark													-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic brief squid													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
	Blue crab													-	-	May-Nov	Jan-Dec	Jan-Dec
	Blue crab													-	-	May-Nov	Mar-Jan*	Mar-Jan*
	Cannonball jellyfish													-	-	-	-	-
	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
	Brown shrimp													-	-	Mar-Jun	Mar-Nov	Jun-Nov
	Brown shrimp													-	-	Mar-Jun	Apr-Dec	Jun-Sep
	Brown shrimp													-	-	Mar-Jun	Mar-Aug	Jun-Nov
	White shrimp													-	-	Jun-Sep	Jan-Dec	Jan-Dec
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov
	White shrimp													-	-	Jun-Sep	Jan-Dec	Apr-Dec
	White shrimp													-	-	Jun-Sep	Jan-Dec	May-Nov

MARINE MAMMALS

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	9,109.37	14.23
10B	Freshwater Marshes	1,128.57	1.76
10C	Swamps	1,383.03	2.16
10D	Scrub and Shrub Wetlands	146.20	0.23
9A	Sheltered Tidal Flats	76.52	0.12
7	Exposed Tidal Flats	7.89	0.01

ESI SHORELINE HABITAT TYPES

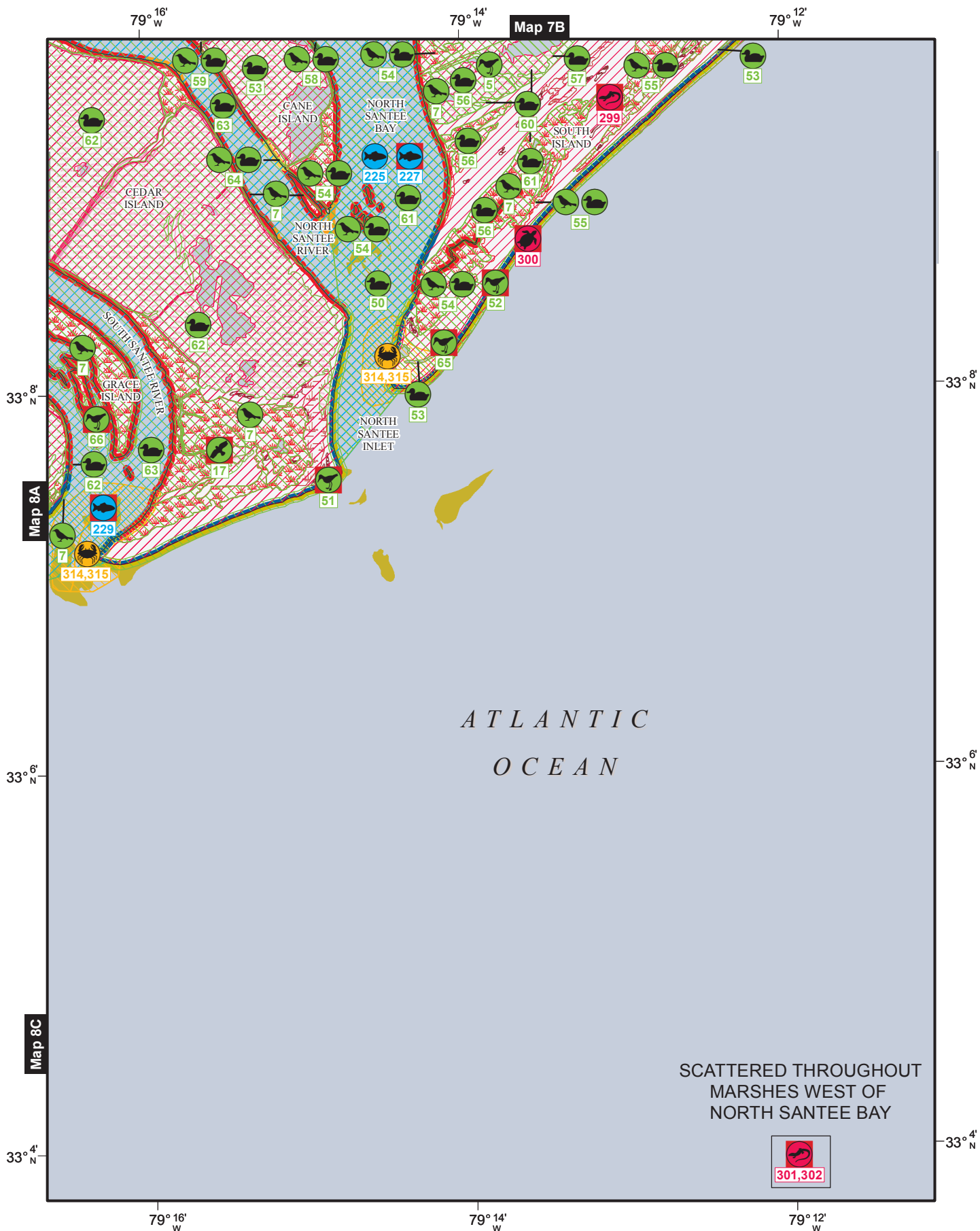
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	107,586.69	66.85	67%
10B	Freshwater Marshes	3,508.52	2.18	2%
10C	Swamps	15,688.02	9.75	10%
10D	Scrub and Shrub Wetlands	515.61	0.32	< 1%
9A	Sheltered Tidal Flats	13,464.31	8.37	8%
9B	Vegetated Low Banks	230.36	0.14	< 1%
8C	Sheltered Riprap	894.95	0.56	1%
7	Exposed Tidal Flats	6,233.72	3.87	4%
6B	Riprap	29.79	0.02	< 1%
3A	Fine to Medium Grained Sand Beaches	12,546.61	7.80	8%

Total ESI Shoreline: 160,698.57 Total ESI Shoreline: 99.85
 Total Shoreline: 122,903.57 Total Shoreline: 76.37

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 7C
South Carolina

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				
5	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
7	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
17	Raptor	Bald eagle	Nesting		T	Present													Oct-May	-	-	-
50	Waterfowl	Scaup	Rafting			100S													-	-	-	-
	Waterfowl	Scoters	Migration			100S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			1,000S													-	-	-	-
51	Shorebird	American oystercatcher	Wintering		C	-													-	-	-	-
	Shorebird	Piping plover	Wintering		E	10S													-	-	-	-
	Shorebird	Red knot	Migration		T	1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering		T	100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
52	Shorebird	Wilson's plover	Nesting		T	16 Pairs													Mar-Jul	-	-	-
	Shorebird	American oystercatcher	Wintering		C	-													-	-	-	-
	Shorebird	Marbled godwit	Wintering			-													-	-	-	-
	Shorebird	Piping plover	Wintering		E	10S													-	-	-	-
	Shorebird	Red knot	Migration		T	1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering		T	100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
53	Waterfowl	Wilson's plover	Wintering		T	10S													-	-	-	-
	Waterfowl	American coot	Wintering			1,000S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Mergansers	Wintering			10S													-	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Nesting			100S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			10S													-	-	-	-
54	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			1,000S													-	-	-	-

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				
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
55	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Mergansers	Wintering			10S													-	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
56	Waterfowl	Blue-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
57	Waterfowl	Blue-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Mergansers	Wintering			10S													-	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
58	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
	Waterfowl	Blue-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
59	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
	Waterfowl	Blue-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Mergansers	Wintering			10S													-	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
60	Waterfowl	American coot	Wintering			1,000S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Nesting			100S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			10S													-	-	-	-
61	Waterfowl	Mergansers	Wintering			10S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
62	Waterfowl	American coot	Wintering			1,000S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			1,000S													-	-	-	-
	Waterfowl	Snow goose	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Nesting			Possible													Feb-Jun	-	-	-
63	Waterfowl	Wood duck	Wintering			100S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			10S													Feb-Jun	-	-	-

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	
64	Passerine	Nelson's sparrow	Wintering			-													-
	Passerine	Saltmarsh sparrow	Wintering			-													-
	Waterfowl	Wood duck	Wintering			10S													-
65	Shorebird	Wilson's plover	Nesting	T		15 Pairs													-
66	Shorebird	American oystercatcher	Wintering	C		10 Birds													-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
							J	F	M	A	M	J	J	A	S	O	N	D	
225	Diadromous	American shad	Migration			High													Jan-May
	Diadromous	Blueback herring	Migration			High													Jan-May
	Diadromous	Hickory shad	Migration			-													Jan-May
227	Diadromous	Atlantic sturgeon	General Distribution	E		Present													Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution	E		Present													Jan-Dec
229	Diadromous	American shad	Migration			High													Jan-May
	Diadromous	Atlantic sturgeon	General Distribution	E		Present													Jan-Dec
	Diadromous	Blueback herring	Migration			High													Jan-May
	Diadromous	Hickory shad	Migration			-													Jan-May
	Diadromous	Shortnose sturgeon	General Distribution	E		Present													Jan-Dec

REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
							J	F	M	A	M	J	J	A	S	O	N	D	
299	Snake	Diamondback rattlesnake	General Distribution	C		Possible													-
300	Turtle	Green sea turtle	Nesting	T		Low													-
	Turtle	Leatherback sea turtle	Nesting	E		Low													-
	Turtle	Loggerhead sea turtle	Nesting	T		High													-
301	Amphibian	Flatwoods salamander	General Distribution	E		Possible													-
	Amphibian	Gopher frog	General Distribution	E		Possible													-
302	Snake	Diamondback rattlesnake	General Distribution	C		Rare													-

INVERTEBRATES


Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
							J	F	M	A	M	J	J	A	S	O	N	D	
314	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul
315	Crab	Horseshoe crab	Nursery Area			-													Jan-Dec

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)


BIRDS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Molt
							J	F	M	A	M	J	J	A	S	O	N	D	
	Wading	Black rail	Nesting	C		-													-
		Black rail	Vulnerable Occurrence	C		-													-


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	
	Waterfowl	American black duck	Wintering			100S													-
		Blue-winged teal	Wintering			1,000S													-
		Bufflehead	Wintering			10S													-
		Canvasback	Wintering			10S													-
		Gadwall	Wintering			1,000S													-
		Green-winged teal	Wintering			10,000S													-
		Hooded merganser	Nesting			Possible													-
		Hooded merganser	Wintering			100S													-
		Mergansers	Wintering			100S													-
		Mottled duck	Nesting			Possible													-
		Mottled duck	Wintering			100S													-
		Northern pintail	Wintering			1,000S													-
		Northern shoveler	Wintering			1,000S													-
		Redhead	Wintering			100S													-
		Ruddy duck	Wintering			1,000S													-
		Scaup	Rafting			1,000S													-
		Scaup	Wintering			1,000S													-
		Scoters	Migration			1,000S													-
		Scoters	Rafting			10,000S													-
		Waterfowl	Wintering			10S													-



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	American eel	Migration			-												-	-	Jan-May	Sep-Jan
		American shad	Migration			-												-	-	Aug-Dec	Jan-May
		Atlantic sturgeon	General Distribution			Present												-	-	Jan-Dec	Jan-Dec
		Blueback herring	Migration			-												-	-	Aug-Dec	Jan-May
		Hickory shad	Migration			-												-	-	Aug-Dec	Jan-May
		Shortnose sturgeon	General Distribution			Low												-	-	Jan-May	Jan-Dec

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			-												-	-	-	-
		K. ridley sea turtle	General Distribution			-												-	-	-	-
		Leatherback sea turtle	General Distribution			-												-	-	-	-
		Loggerhead sea turtle	General Distribution			-												-	-	-	-

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				
	Manatee	West Indian manatee	General Distribution			-												-	-	-	-
	Whale	Humpback whale	General Distribution			-												-	-	-	-

South Carolina: Map 7C

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Alcid													-	-	-	-
	Brown pelican													-	-	Jul-Oct	-
	D. crested cormorant													-	-	-	-
	Diving birds													-	-	-	-
	Loons													-	-	-	-
	Gulls													-	-	-	-
	Terns													-	-	-	-
	Seaside sparrow													-	-	-	-
	Black-capped petrel													-	-	-	-
	Jaegers													-	-	-	-
	Northern gannet													-	-	-	-
	Shearwaters													-	-	-	-
	Storm-petrels													-	-	-	-
	Phalaropes													-	-	-	-
	Clapper rail													Mar-Sep	-	-	-
	King rail													Feb-Aug	-	-	-
	Least bittern													May-Aug	-	-	-
	Mallard													-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	American eel													-	-	-	Jan-May	Jan-Dec
	American shad													-	-	-	Jan-Dec	-
	Blueback herring													-	-	-	Jan-Dec	-
	Hickory shad													-	-	-	Jan-Dec	-
	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atlantic croaker													-	-	Nov-Apr	Jan-Jul	Jan-Jul
	Atlantic croaker													-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	Feb-Oct	Mar-Oct
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Black sea bass													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Gray snapper													-	-	-	Oct-Nov	-
	Porgies													-	-	-	-	-
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Red drum													-	-	-	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	Apr-Nov*	Apr-Nov*
	Silver seatrout													-	-	-	-	-





FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	Feb-Nov	Feb-Nov
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	-	-
	Spot													-	-	-	Mar-Nov	Mar-Nov
	Spotted seatrout													-	-	-	Mar-Nov	-
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	Jan-Apr	Apr-Sep	Mar-Dec
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
Fish Freshwater	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
	Blue catfish													-	-	-	Jan-Dec	Jan-Dec
	Bluegill													-	-	-	-	-
	Flathead catfish													-	-	-	Apr-Nov*	Apr-Nov*
Marine Benthic	Redear sunfish													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	-	Dec-Apr
	Spotted hake													-	-	-	-	-
Marine Pelagic	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	Dec-Apr
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
 Cephalopod	Atlantic brief squid												
	Blue crab												
 Crab	Blue crab												
	Cannonball jellyfish												
 Invertebrate	Brown shrimp												
	Brown shrimp												
 Shrimp	White shrimp												
	White shrimp												

MARINE MAMMALS

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

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	960.62
10B	Freshwater Marshes	1,556.17
10C	Swamps	64.49
10D	Scrub and Shrub Wetlands	43.29
9A	Sheltered Tidal Flats	9.23
7	Exposed Tidal Flats	164.94

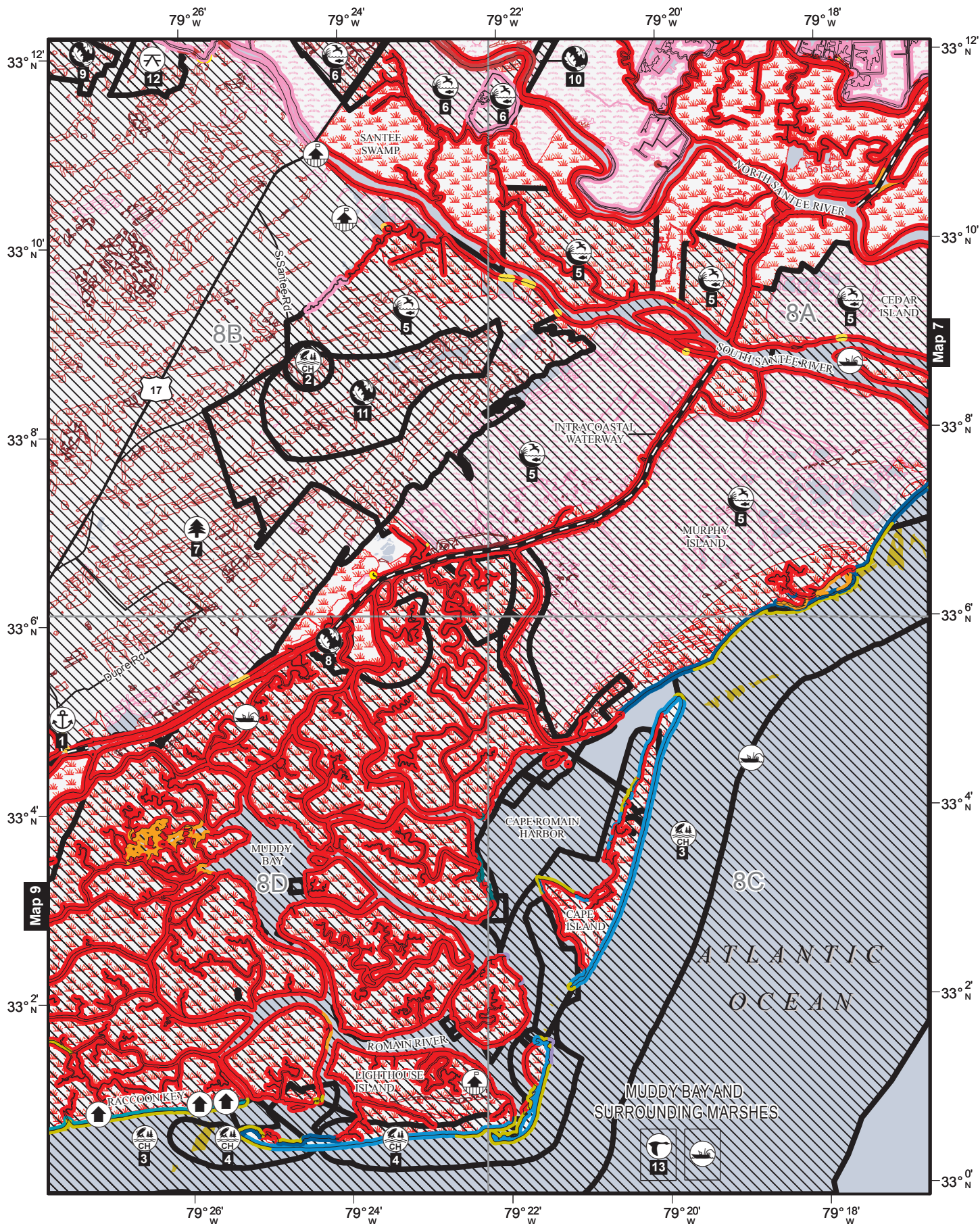
ESI SHORELINE HABITAT TYPES		
ESI Rank	Shoreline Habitat Classification	Length (Meters)
10A	Salt and Brackish Water Marshes	27,380.59
10D	Scrub and Shrub Wetlands	126.90
9A	Sheltered Tidal Flats	1,122.37
8C	Sheltered Riprap	306.62
7	Exposed Tidal Flats	10,706.13
6B	Riprap	45.52
3A	Fine to Medium Grained Sand Beaches	11,470.11
3B	Scarps and Steep Slopes (Sand)	158.79

Total ESI Shoreline: 51,317.04
Total ESI Shoreline: 31.89
Total Shoreline: 38,852.62
Total Shoreline: 24.14

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 8
South Carolina



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: August 2015

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 8
South Carolina

HUMAN USE RESOURCES

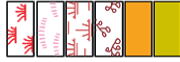
DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	MARINA	MARINA	
DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
2	CRITICAL HABITAT	FROSTED FLATWOODS SALAMANDER CRIT HAB	US FISH AND WILDLIFE SERVICE
3	CRITICAL HABITAT	LOGGERHEAD SEA TURTLE CRITICAL HABITAT	
4	CRITICAL HABITAT	PIPING PLOVER CRITICAL HABITAT	US FISH AND WILDLIFE SERVICE
5	MANAGEMENT AREA	SANTEE COASTAL RESERVE	SOUTH CAROLINA DEPARTMENT OF NATURAL RESOL 803-734-3993
6	MANAGEMENT AREA	SANTEE DELTA WILDLIFE MANAGEMENT AREA	SOUTH CAROLINA DEPARTMENT OF NATURAL RESOL 803-734-3993
7	NATIONAL FOREST	FRANCIS MARION & SUMTER NTL FORESTS	FOREST SUPERVISOR'S OFFICE 803-561-4000
8	NATURE CONSERVANCY	CAPE ROMAIN JEREMY ISLAND	THE NATURE CONSERVANCY
9	NATURE CONSERVANCY	FRANCIS MARION WAMBAW	THE NATURE CONSERVANCY
10	NATURE CONSERVANCY	SANTEE DELTA WOODSIDE	THE NATURE CONSERVANCY
11	NATURE CONSERVANCY	SANTEE RIVER BASIN MEGASITE	THE NATURE CONSERVANCY
12	PARK	HAMPTON PLANTATION STATE HISTORIC SITE	
13	WILDLIFE REFUGE	CAPE ROMAIN NATIONAL WILDLIFE REFUGE	843-928-3264
ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SHRIMP HAPC	SOUTH ATLANTIC FMC	866-723-6210
ESSENTIAL HABITAT	SNAPPER/GROUPER HAPC	SOUTH ATLANTIC FMC	866-723-6210

JURISDICTIONS

COUNTY:	CHARLESTON COUNTY, GEORGETOWN COUNTY	FEMA:	REGION IV
COAST GUARD:	DISTRICT 7, SECTOR CHARLESTON	EPA:	REGION 4
USACE:	SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT		

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	27,165.45	42.45
10B	Freshwater Marshes	13,222.81	20.66
10C	Swamps	4,606.92	7.20
10D	Scrub and Shrub Wetlands	1,138.95	1.78
9A	Sheltered Tidal Flats	149.03	0.23
7	Exposed Tidal Flats	226.44	0.35



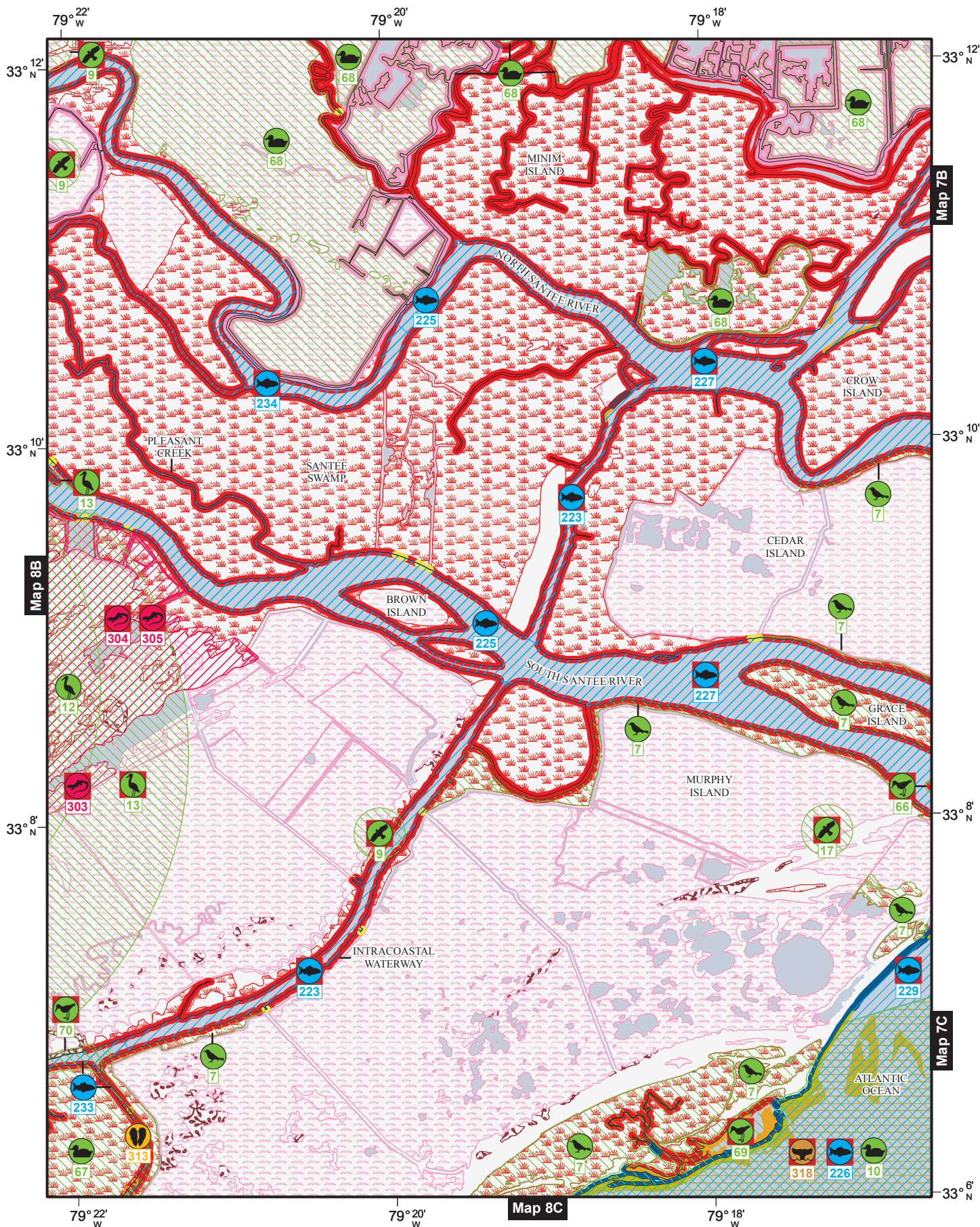
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	621,958.68	386.47	79%
10B	Freshwater Marshes	76,094.58	47.28	10%
10C	Swamps	4,309.78	2.68	1%
10D	Scrub and Shrub Wetlands	1,097.06	0.68	< 1%
9A	Sheltered Tidal Flats	13,766.98	8.55	2%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	238.59	0.15	< 1%
8B	Sheltered, Solid Man-Made Structures	1,301.07	0.81	< 1%
8C	Sheltered Riprap	788.45	0.49	< 1%
7	Exposed Tidal Flats	21,626.33	13.44	3%
6A	Gravel Beaches	1,901.26	1.18	< 1%
5	Mixed Sand and Gravel Beaches	4,209.82	2.62	1%
4	Coarse Grained Sand Beaches	21,104.80	13.11	3%
3A	Fine to Medium Grained Sand Beaches	13,424.11	8.34	2%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	958.09	0.60	< 1%
Total ESI Shoreline:		782,779.60	486.40	
Total Shoreline:		741,008.44	460.44	

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

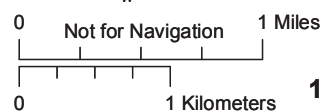




Map 8A
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



Map 8A
South Carolina

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	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
9	Raptor	Bald eagle	Nesting	T		Possible													Oct-May	-	-	-
10	Waterfowl	Scaup	Rafting			1,000S													-	-	-	-
	Waterfowl	Scoters	Migration			1,000S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			10,000S													-	-	-	-
12	Wading	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-
13	Wading	Wood stork	Nesting	E	T	1 Rookery													Mar-Sep	-	-	-
17	Raptor	Bald eagle	Nesting	T		Present													Oct-May	-	-	-
66	Shorebird	American oystercatcher	Wintering	C		10 Birds													-	-	-	-
67	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Canvasback	Wintering			100S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Northern pintail	Wintering			100S													-	-	-	-
	Waterfowl	Scaup	Wintering			100S													-	-	-	-
68	Waterfowl	Wood duck	Nesting			100S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			10S													-	-	-	-
69	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-
	Shorebird	Red knot	Migration	T		1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering			100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		8 Pairs													Mar-Jul	-	-	-
70	Shorebird	American oystercatcher	Nesting	C		39 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		1,000S													-	-	-	-
	Shorebird	Marbled godwit	Wintering			100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-

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				
223	Diadromous	Atlantic sturgeon	Migration	E	E	Present													-	-	Jan-Dec	Jan-Dec
225	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-	-	Jan-Dec	Jan-Dec
	Diadromous	American shad	Migration			High													-	-	-	Jan-May
	Diadromous	Blueback herring	Migration			High													-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	Jan-May
226	Diadromous	American eel	Migration			-													-	-	Jan-May	Sep-Jan
	Diadromous	American shad	Migration			-													-	-	Aug-Dec	Jan-May
	Diadromous	Atlantic sturgeon	General Distribution	E		Present													-	-	-	Jan-Dec
	Diadromous	Blueback herring	Migration			-													-	-	Aug-Dec	Jan-May
227	Diadromous	Hickory shad	Migration			-													-	-	Aug-Dec	Jan-May
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Low													-	-	-	Jan-Dec
	Diadromous	Atlantic sturgeon	General Distribution	E		Present													-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	Jan-Dec	Jan-Dec
229	Diadromous	American shad	Migration			High													-	-	-	Jan-May
	Diadromous	Atlantic sturgeon	General Distribution	E		Present													-	-	Jan-Dec	Jan-Dec
	Diadromous	Blueback herring	Migration			High													-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	Aug-Dec	Jan-May
233	Diadromous	Shortnose sturgeon	General Distribution	E	E	Low													-	-	-	Jan-Dec
	Marine Pelagic	Blacktip shark	Nursery Area			-													-	-	-	Jan-Dec
	Marine Pelagic	Finetooth shark	Nursery Area			High													-	-	May-Oct	May-Oct
	Marine Pelagic	Sandbar shark	Nursery Area			High													-	-	Apr-Oct	Apr-Oct
234	Marine Pelagic	Scalloped hammerhead	Nursery Area			High													-	-	May-Oct	-
	Diadromous	Atlantic sturgeon	Concentration Area	E		High													-	-	Jan-Dec	-

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				
303	Amphibian	Flatwoods salamander	Vulnerable Occurrence	E	T	-													-	-	-	-
	Amphibian	Gopher frog	Vulnerable Occurrence	E		-													-	-	-	-
	Snake	Diamondback rattlesnake	Vulnerable Occurrence	C		-													-	-	-	-
304	Amphibian	Flatwoods salamander	Vulnerable Occurrence	E	T	-													-	-	-	-
	Amphibian	Gopher frog	Vulnerable Occurrence	E		-													-	-	-	-
305	Snake	Diamondback rattlesnake	Vulnerable Occurrence	C		-													-	-	-	-
																			-	-	-	-



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				
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	Jun-Dec	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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
318	Whale	Humpback whale	General Distribution	E	E	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

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	Nesting			-													Apr-Aug	-	-	-
	Black rail	Nesting	C		-													May-Aug	-	-	-
	Black rail	Vulnerable Occurrence	C																		
	American black duck	Wintering			100S																
	American coot	Wintering			1,000S																
	Blue-winged teal	Wintering			100S																
	Blue-winged teal	Wintering			1,000S																
	Bufflehead	Wintering			10S																
	Canvasback	Wintering			10S																
	Gadwall	Wintering			1,000S																
	Green-winged teal	Wintering			1,000S																
	Green-winged teal	Wintering			10,000S																
	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Hooded merganser	Wintering			100S														-	-	-
	Mergansers	Wintering			100S														-	-	-
	Mergansers	Wintering			10S														-	-	-
	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Mottled duck	Wintering			10S														-	-	-
	Mottled duck	Wintering			100S														-	-	-
	Northern pintail	Wintering			1,000S														-	-	-
	Northern shoveler	Wintering			100S														-	-	-
	Northern shoveler	Wintering			1,000S														-	-	-
	Redhead	Wintering			100S														-	-	-
	Ring-necked duck	Wintering			100S														-	-	-
	Ring-necked duck	Wintering			1,000S														-	-	-
	Ruddy duck	Wintering			1,000S														-	-	-
	Ruddy duck	Wintering			100S														-	-	-
	Scaup	Wintering			1,000S														-	-	-
	Snow goose	Wintering			100S														-	-	-
	Waterfowl	Wintering			10S														-	-	-
	Wood duck	Nesting			Possible													Feb-Jun	-	-	-
	Wood duck	Wintering			10S													Feb-Jun	-	-	-
	Wood duck	Wintering			100S													Feb-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					
	Flatwoods salamander	General Distribution	E	T	Possible													-	-	-	-	-
	Gopher frog	General Distribution	E		Possible													-	-	-	-	-
	Diamondback rattlesnake	General Distribution	C		Rare													-	-	-	-	-
	Diamondback rattlesnake	General Distribution	C		Possible													-	-	-	-	-
	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-

REPTILES & AMPHIBIANS (continued)









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					
	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-

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				
	Manatee	General Distribution	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																	-	-	-	-
	Brown pelican																	-	-	Jul-Oct	-
	D. crested cormorant																	-	-	-	-
	Diving birds																	-	-	-	-
	Loons																	-	-	-	-
	Gulls																	-	-	-	-
	Terns																	-	-	-	-
	Seaside sparrow																	-	-	-	-
	Black-capped petrel																	-	-	-	-
	Jaegers																	-	-	-	-
	Northern gannet																	-	-	-	-
	Shearwaters																	-	-	-	-
	Storm-petrels																	-	-	-	-
	Phalaropes																	-	-	-	-
	Clapper rail																	Mar-Sep	-	-	-
	King rail																	Feb-Aug	-	-	-
	Least bittern																	May-Aug	-	-	-
	Mallard																	-	-	-	-



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					
	American eel																	-	-	-	Jan-May	Jan-Dec
	American shad																	-	-	-	Jan-Dec	-
	Blueback herring																	-	-	-	Jan-Dec	-
	Hickory shad																	-	-	-	Jan-Dec	-
	Striped bass																	-	-	-	Jan-Dec	Jan-Dec
	Atl. sharpnose shark																	-	-	Apr-Nov	Apr-Nov	Apr-Nov
	Atl. sharpnose shark																	-	-	-	Feb-Dec	Feb-Dec
	Atlantic croaker																	-	-	Nov-Apr	Mar-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					
	Atlantic croaker													-	-	Nov-Apr	Jan-Jul	Jan-May*
	Atlantic croaker													-	-	-	Jan-May*	Jan-May*
	Atlantic croaker													-	-	Nov-Apr	May-Sep	May-Sep
	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	Feb-Oct	Mar-Oct
	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Black sea bass													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Gray snapper													-	-	-	Oct-Nov	-
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Red drum													-	-	-	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	May-Nov	May-Nov
	Sheepshead													-	-	-	Apr-Nov*	Apr-Nov*
	Sheepshead													-	-	-	May-Oct*	May-Oct*
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern flounder													-	-	-	Jan-Dec	Jan-Dec
	Southern flounder													-	-	-	Feb-Nov	Feb-Nov
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	-	-
	Spot													-	-	-	Mar-Nov	Mar-Nov
	Spot													-	-	-	Feb-Dec	Feb-Dec
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Spotted seatrout													-	-	-	Mar-Nov	-
	Spotted seatrout													-	-	-	Jan-Dec	-
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	Jan-Apr	Apr-Sep	Mar-Dec
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
Fish	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
Freshwater	Blue catfish													-	-	-	Mar-Nov*	Mar-Nov*
	Blue catfish													-	-	-	Jan-Dec	Jan-Dec
	Bluegill													-	-	-	-	-
	Flathead catfish													-	-	-	Apr-Nov*	Apr-Nov*
	Largemouth bass													-	-	-	-	-


FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Redbreast sunfish													-	-	-	-
	Redear sunfish													-	-	-	-
	Fringed flounder													-	-	-	-
	Lemon shark													-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	Apr-Nov	-
	Spotted hake													-	-	-	Dec-Apr
	Anchovies													-	-	-	-
	Blacknose shark													-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	May-Oct	May-Oct
	Giant mania													-	-	-	-
	King mackerel													-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-
	Spinner shark													-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	Dec-Apr
	Tiger shark													-	-	Apr-Nov	Apr-Nov
	White shark													-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
Cephalopod	Atlantic brief squid	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Atlantic brief squid													-	-	-	-	-
Crab	Blue crab													-	-	May-Nov	Jan-Dec	Jan-Dec
	Blue crab													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
Invertebrate Shrimp	Horseshoe crab													-	-	-	-	-
	Cannonball jellyfish													-	-	-	-	-
	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
	Brown shrimp													-	-	Mar-Jun	Apr-Dec	Jun-Sep
	White shrimp													-	-	Jun-Sep	Jan-Dec	Apr-Dec
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov

MARINE MAMMALS

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

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	7,966.47	12.45
10B	Freshwater Marshes	9,887.45	15.45
10C	Swamps	125.44	0.20
10D	Scrub and Shrub Wetlands	138.85	0.22
9A	Sheltered Tidal Flats	29.94	0.05
7	Exposed Tidal Flats	114.88	0.18



ESI SHORELINE HABITAT TYPES

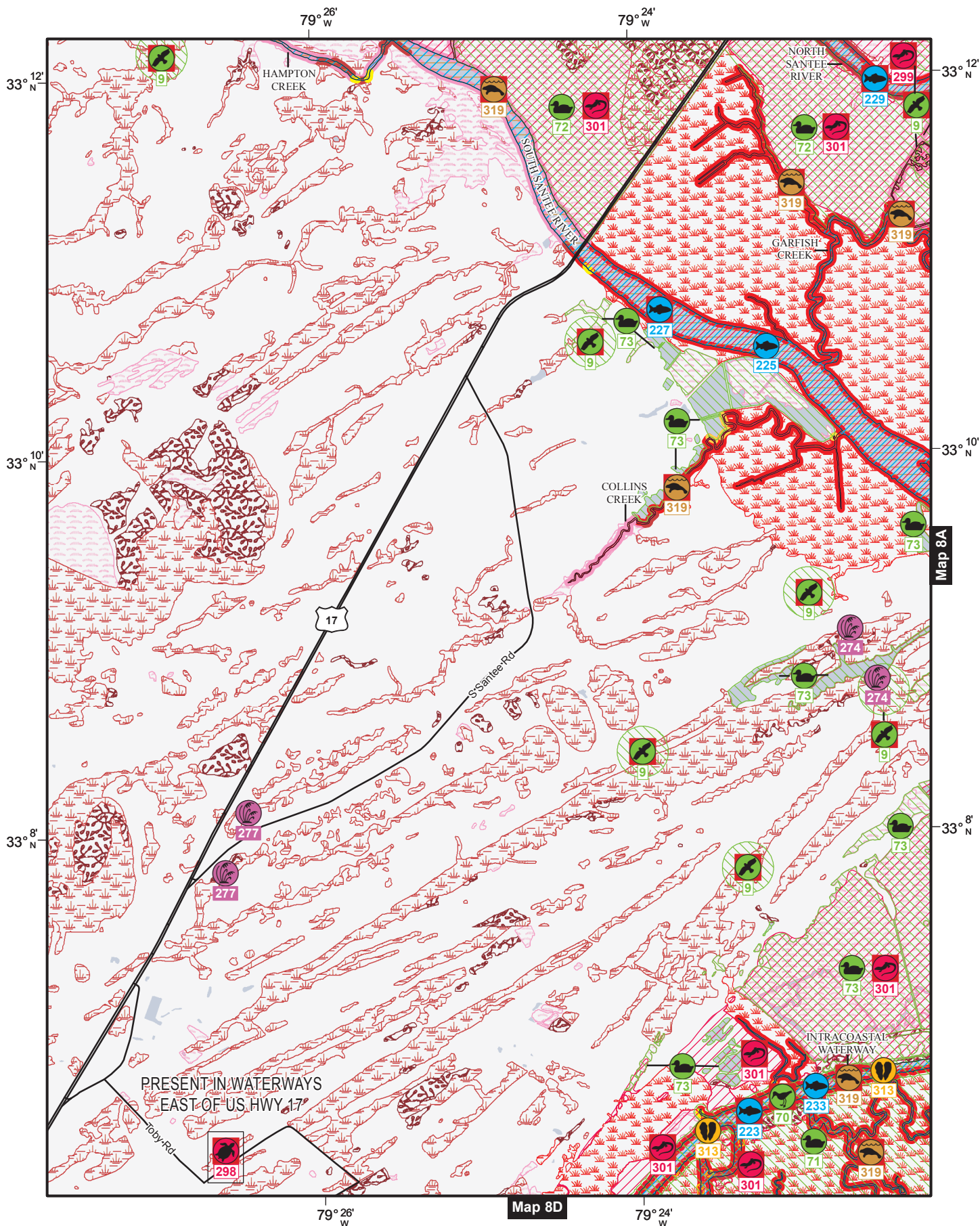
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	178,190.74	110.72	69%
10B	Freshwater Marshes	61,858.52	38.44	24%
10C	Swamps	1,315.41	0.82	1%
10D	Scrub and Shrub Wetlands	607.32	0.38	< 1%
9A	Sheltered Tidal Flats	4,493.01	2.79	2%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	27.72	0.02	< 1%
8B	Sheltered, Solid Man-Made Structures	1,072.26	0.67	< 1%
7	Exposed Tidal Flats	4,708.11	2.93	2%
6A	Gravel Beaches	104.29	0.06	< 1%
3A	Fine to Medium Grained Sand Beaches	7,530.75	4.68	3%

Total ESI Shoreline: 259,908.11 Total ESI Shoreline: 161.50
 Total Shoreline: 249,933.80 Total Shoreline: 155.30

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 8B
South Carolina

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
				T	C	Possible	J	F	M	A	M	J	J	A	S	O	N	D	Oct-May	-	-	-
9	Raptor	Bald eagle	Nesting																Oct-May	-	-	-
70	Shorebird	American oystercatcher	Nesting	C		39 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		1,000S													-	-	-	-
	Shorebird	Marbled godwit	Wintering			100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													Mar-Jun	Jul-Oct	-	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
71	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Canvasback	Wintering			100S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Mergansers	Wintering			10S													-	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Northern pintail	Wintering			100S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			100S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Scaup	Wintering			100S													-	-	-	-
72	Waterfowl	Blue-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Mergansers	Wintering			10S													-	-	-	-
	Waterfowl	Mottled duck	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S													-	-	-	-
	Waterfowl	Ruddy duck	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Wintering			100S													Feb-Jun	-	-	-
73	Waterfowl	Canvasback	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			1,000S													-	-	-	-
	Waterfowl	Snow goose	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Wintering			100S													Feb-Jun	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
				E	E	Present	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Jan-Dec	Jan-Dec
223	Diadromous	Atlantic sturgeon	Migration			Present													-	-	-	Jan-Dec	Jan-Dec
225	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	American shad	Migration			High													-	-	-	Jan-May	Jan-May
	Diadromous	Blueback herring	Migration			High													-	-	-	Jan-May	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	Jan-May	Jan-May

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				
227	Diadromous	Atlantic sturgeon	General Distribution	E	E	Present													-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	Jan-Dec	Jan-Dec
229	Diadromous	American shad	Migration			High													-	-	-	Jan-May
	Diadromous	Atlantic sturgeon	General Distribution	E		Present													-	-	Jan-Dec	Jan-Dec
	Diadromous	Blueback herring	Migration			High													-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	Jan-May
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	Jan-Dec	Jan-Dec
233	Marine Pelagic	Blacktip shark	Nursery Area			-													-	May-Oct	-	-
	Marine Pelagic	Finetooth shark	Nursery Area			High													-	May-Oct	May-Oct	May-Oct
	Marine Pelagic	Sandbar shark	Nursery Area			High													-	Apr-Oct	Apr-Oct	-
	Marine Pelagic	Scalloped hammerhead	Nursery Area			High													-	May-Oct	-	-

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					
274	Plant	Viviparous spikerush	Vulnerable Occurrence			-													-	-	-	-	-
277	Plant	Climbing fetterbush	Vulnerable Occurrence			-													-	-	-	-	-

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					
298	Turtle	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
	Turtle	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-
299	Snake	Diamondback rattlesnake	General Distribution	C		Possible													-	-	-	-	-
301	Amphibian	Flatwoods salamander	General Distribution	E	T	Possible													-	-	-	-	-
	Amphibian	Gopher frog	General Distribution	E		Possible													-	-	-	-	-

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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	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				
319	Manatee	West Indian manatee	General Distribution	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	Nesting			-													Apr-Aug	-	-	-
	Black rail	Nesting	C		-													May-Aug	-	-	-
	Black rail	Vulnerable Occurrence	C		-													-	-	-	-
	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-
	Wood stork	Nesting	E	T	1 Rookery													Mar-Sep	-	-	-
	American black duck	Wintering			100S													-	-	-	-
	American coot	Wintering			1,000S													-	-	-	-
	Blue-winged teal	Wintering			1,000S													-	-	-	-
	Bufflehead	Wintering			10S													-	-	-	-
	Gadwall	Wintering			1,000S													-	-	-	-
	Green-winged teal	Wintering			10,000S													-	-	-	-
	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Hooded merganser	Wintering			100S													-	-	-	-
	Mergansers	Wintering			100S													-	-	-	-
	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Mottled duck	Wintering			100S													-	-	-	-
	Northern pintail	Wintering			1,000S													-	-	-	-
	Northern shoveler	Wintering			1,000S													-	-	-	-
	Redhead	Wintering			100S													-	-	-	-
	Ruddy duck	Wintering			1,000S													-	-	-	-
	Scaup	Wintering			1,000S													-	-	-	-
	Waterfowl	Wintering			10S													-	-	-	-
	Wood duck	Nesting			Possible													Feb-Jun	-	-	-
	Wood duck	Wintering			10S													Feb-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					
	Flatwoods salamander	Vulnerable Occurrence	E	T	-													-	-	-	-	-
	Gopher frog	Vulnerable Occurrence	E		-													-	-	-	-	-
	Diamondback rattlesnake	General Distribution	C		Rare													-	-	-	-	-
	Diamondback rattlesnake	Vulnerable Occurrence	C		-													-	-	-	-	-




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				
	Seaside sparrow													-	-	-	-
	Clapper rail													Mar-Sep	-	-	-
	King rail													Feb-Aug	-	-	-
	Least bittern													May-Aug	-	-	-
	Mallard													-	-	-	-

FISH

Monthly Presence




Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
	Diadromous	American eel												-	-	-	Jan-May	Jan-Dec
		American shad												-	-	-	Jan-Dec	-
		Blueback herring												-	-	-	Jan-Dec	-
		Hickory shad												-	-	-	Jan-Dec	-
		Striped bass												-	-	-	Jan-Dec	-
	Estuarine Nursery	Atl. sharpnose shark												-	-	Apr-Nov	Apr-Nov	Apr-Nov
		Atlantic croaker												-	-	Nov-Apr	May-Sep	May-Sep
		Atlantic croaker												-	-	Nov-Apr	Jan-Jul	Jan-Jul
		Atlantic croaker												-	-	-	Jan-May*	Jan-May*
		Atlantic menhaden												-	-	-	Feb-Oct	Mar-Oct
		Atlantic menhaden												-	-	-	Jul-Oct	Jul-Oct
		Black drum												-	-	-	Apr-Jan*	Apr-Jan*
		Bonnethead shark												-	-	-	Apr-Nov	Apr-Nov
		Gray snapper												-	-	-	Oct-Nov	-
		Ladyfish												-	-	-	-	-
		Red drum												-	-	Aug-Nov	Jan-Dec	Jan-Dec
		Red drum												-	-	-	Jan-Dec	Jan-Dec
		Sheepshead												-	-	-	Apr-Nov*	Apr-Nov*
		Sheepshead												-	-	-	May-Oct*	May-Oct*
		Sheepshead												-	-	-	May-Nov	May-Nov
		Southern flounder												-	-	-	Jan-Dec	Jan-Dec
		Southern flounder												-	-	-	Mar-Nov	Mar-Nov
		Southern flounder												-	-	-	Feb-Nov	Feb-Nov
		Southern kingfish												-	-	-	-	-
		Spot												-	-	-	Mar-Nov	Mar-Nov
		Spot												-	-	-	Jan-Dec	Jan-Dec
		Spot												-	-	-	Feb-Dec	Feb-Dec
		Spotted seatrout												-	-	-	Jan-Dec	-
		Spotted seatrout												-	-	-	Mar-Nov	-
		Spotted seatrout												May-Aug	-	May-Aug	-	Jan-Dec
		Striped mullet												-	-	-	-	-
		Summer flounder												-	-	-	-	-
	Freshwater	Blue catfish												-	-	Jan-Apr	Apr-Sep	Mar-Dec
		Blue catfish												-	-	-	Jan-Dec	Jan-Dec
		Blue catfish												-	-	-	Mar-Nov*	Mar-Nov*
		Bluegill												-	-	-	-	-
		Flathead catfish												-	-	-	Apr-Nov*	Apr-Nov*
		Largemouth bass												-	-	-	-	-
		Redbreast sunfish												-	-	-	-	-
		Redear sunfish												-	-	-	-	-
		Lemon shark												-	-	-	Apr-Nov	-
	Marine Benthic													-	-	-	-	-

Monthly Presence

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



South Carolina: Map 8B

INVERTEBRATES

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Crab												
	Blue crab												
	Horseshoe crab												
	Brown shrimp												
	White shrimp												
MARINE MAMMALS													
Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Dolphin												
	Bottlenose dolphin												

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

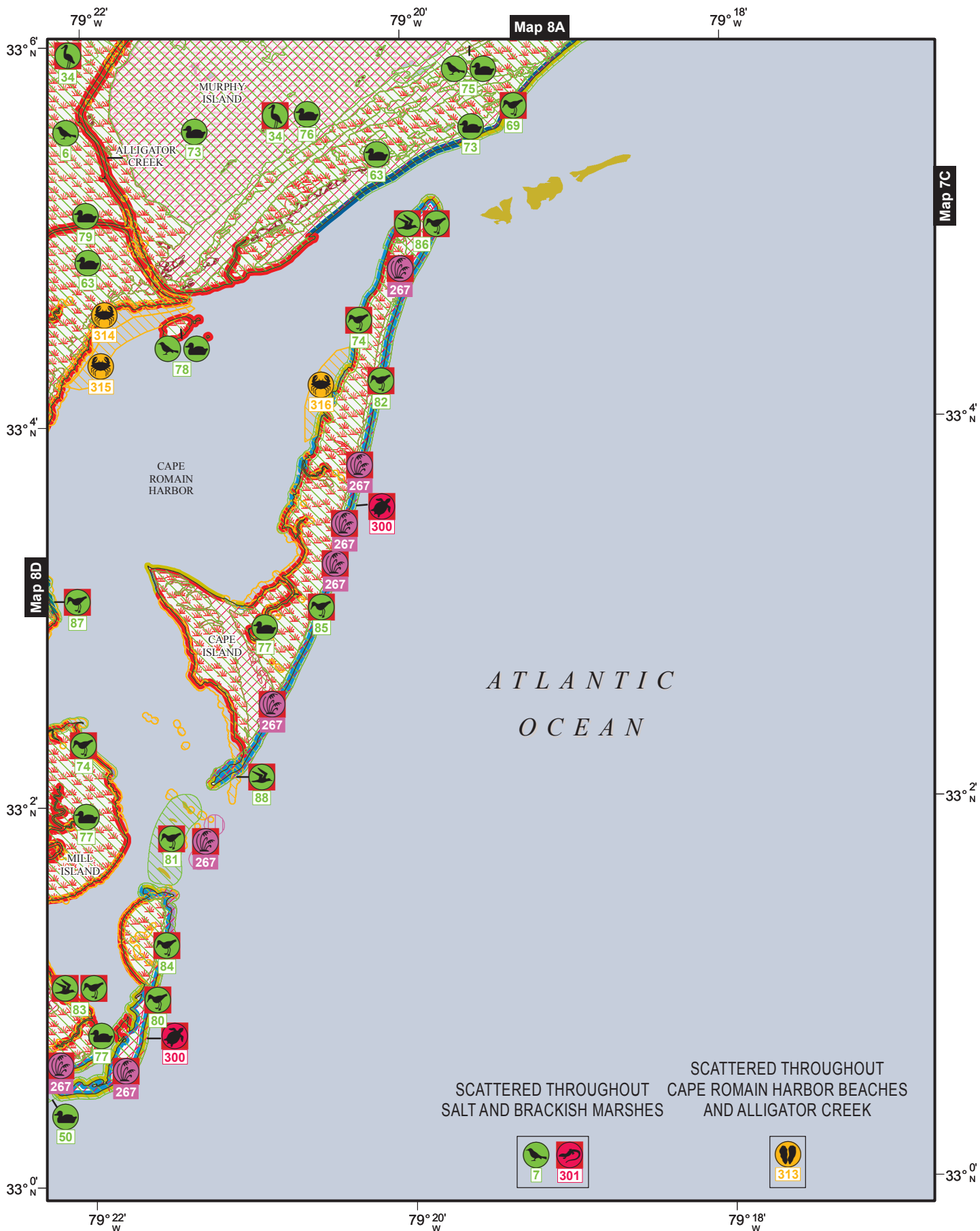
SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES			
ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
 10A	Salt and Brackish Water Marshes	2,762.33	4.32
10B	Freshwater Marshes	2,282.46	3.57
10C	Swamps	4,228.49	6.61
10D	Scrub and Shrub Wetlands	738.40	1.15
ESI SHORELINE HABITAT TYPES			
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)
 10A	Salt and Brackish Water Marshes	60,846.38	37.81
10B	Freshwater Marshes	14,324.04	8.90
10C	Swamps	2,792.18	1.73
10D	Scrub and Shrub Wetlands	438.24	0.27
8A	Sheltered Scarps (Bedrock/Mud/Clay)	210.87	0.13
8B	Sheltered, Solid Man-Made Structures	30.42	0.02
8C	Sheltered Riprap	235.39	0.15
Total ESI Shoreline:		78,877.52	49.01
Total Shoreline:		78,426.97	48.73
Total ESI Shoreline:		Total ESI Shoreline: 49.01	
Total Shoreline:		Total Shoreline: 48.73	

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

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





Map 8C
South Carolina

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				
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
7	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
34	Wading	Black rail	Nesting	C		-													May-Aug	-	-	-
	Wading	Black rail	Vulnerable Occurrence	C		-													-	-	-	-
50	Waterfowl	Scaup	Rafting			100S													-	-	-	-
	Waterfowl	Scoters	Migration			100S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			1,000S													-	-	-	-
63	Waterfowl	Wood duck	Wintering			10S													Feb-Jun	-	-	-
69	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-
	Shorebird	Red knot	Migration	T		1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering	T		100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		8 Pairs													Mar-Jul	-	-	-
73	Waterfowl	Canvasback	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			1,000S													-	-	-	-
	Waterfowl	Snow goose	Wintering			100S													-	-	-	-
	Waterfowl	Wood duck	Wintering			100S													Feb-Jun	-	-	-
74	Shorebird	American oystercatcher	Nesting	C		2 Pairs													Apr-Aug	-	-	-
75	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			10S													-	-	-	-
	Waterfowl	Gadwall	Wintering			1,000S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			10,000S													-	-	-	-
	Waterfowl	Mergansers	Wintering			100S													-	-	-	-
	Waterfowl	Mottled duck	Wintering			100S													-	-	-	-
	Waterfowl	Northern pintail	Wintering			1,000S													-	-	-	-
	Waterfowl	Northern shoveler	Wintering			1,000S													-	-	-	-
	Waterfowl	Scaup	Wintering			1,000S													-	-	-	-
	Waterfowl	Waterfowl	Wintering			10S													-	-	-	-
	Waterfowl	Wood duck	Wintering			10S													Feb-Jun	-	-	-
76	Waterfowl	Blue-winged teal	Wintering			1,000S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			10S													-	-	-	-
	Waterfowl	Gadwall	Wintering			1,000S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			10,000S													-	-	-	-

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
77	Waterfowl	Mergansers	Wintering			100S														-	-	-
	Waterfowl	Mottled duck	Wintering			100S														-	-	-
	Waterfowl	Northern pintail	Wintering			1,000S														-	-	-
	Waterfowl	Northern shoveler	Wintering			1,000S														-	-	-
	Waterfowl	Scaup	Wintering			1,000S														-	-	-
	Waterfowl	Waterfowl	Wintering			10S														-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S														-	-	-
	Waterfowl	Gadwall	Wintering			100S														-	-	-
	Waterfowl	Green-winged teal	Wintering			100S														-	-	-
	Waterfowl	Mottled duck	Wintering			10S														-	-	-
78	Waterfowl	Northern pintail	Wintering			100S														-	-	-
	Waterfowl	Northern shoveler	Wintering			100S														-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S														-	-	-
	Waterfowl	Scaup	Wintering			100S														-	-	-
	Waterfowl	Wood duck	Wintering			10S														-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S														-	-	-
	Waterfowl	Gadwall	Wintering			100S														-	-	-
	Waterfowl	Green-winged teal	Wintering			100S														-	-	-
	Waterfowl	Mottled duck	Wintering			10S														-	-	-
	Waterfowl	Northern pintail	Wintering			100S														-	-	-
79	Waterfowl	Northern shoveler	Wintering			100S														-	-	-
	Waterfowl	Ring-necked duck	Wintering			100S														-	-	-
	Waterfowl	Scaup	Wintering			100S														-	-	-
	Waterfowl	Wood duck	Wintering			10S														-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S														-	-	-
	Waterfowl	Gadwall	Wintering			100S														-	-	-
	Waterfowl	Green-winged teal	Wintering			100S														-	-	-
	Waterfowl	Mottled duck	Wintering			10S														-	-	-
	Waterfowl	Northern pintail	Wintering			100S														-	-	-
	Waterfowl	Northern shoveler	Wintering			100S														-	-	-
80	Shorebird	Piping plover	Wintering			10S														-	-	-
	Shorebird	Red knot	Migration			1,000S														-	-	-
	Shorebird	Red knot	Wintering			100S														-	-	-
81	Shorebird	American oystercatcher	Nesting			20 Pairs														-	-	-
	Shorebird	American oystercatcher	Wintering			4 Birds														-	-	-
	Shorebird	Piping plover	Wintering			10S														-	-	-
	Shorebird	Red knot	Migration			1,000S														-	-	-
	Shorebird	Red knot	Wintering			100S														-	-	-
	Shorebird	Shorebirds	Migration			1,000S														-	-	-
	Shorebird	Shorebirds	Wintering			1,000S														-	-	-
	Shorebird	Shorebirds	Wintering			1,000S														-	-	-
	Shorebird	Shorebirds	Wintering			1,000S														-	-	-

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	
82	Shorebird	Wilson's plover	Nesting	T		6 Pairs												Mar-Jul	-
	Shorebird	American oystercatcher	Wintering	C		10S												-	-
	Shorebird	Piping plover	Wintering	E	T	10S												-	-
	Shorebird	Shorebirds	Migration			100S												Mar-Jun	Jul-Oct
	Shorebird	Shorebirds	Wintering			100S												-	-
83	Gull/Tern	Least tern	Nesting	T		5 Nests												May-Aug	-
	Shorebird	American oystercatcher	Nesting	C		6 Pairs												Apr-Aug	-
	Shorebird	American oystercatcher	Wintering	C		100S												-	-
	Shorebird	Marbled godwit	Wintering			10S												-	-
	Shorebird	Piping plover	Wintering	E	T	-												-	-
84	Shorebird	Shorebirds	Migration			100S												Mar-Jun	Jul-Oct
	Shorebird	Shorebirds	Wintering			100S												-	-
	Shorebird	Wilson's plover	Nesting	T		7 Pairs												Mar-Jul	-
	Shorebird	American oystercatcher	Nesting	C		20 Pairs												Apr-Aug	-
	Shorebird	American oystercatcher	Wintering	C		4 Birds												-	-
85	Shorebird	Shorebirds	Migration			1,000S												Mar-Jun	Jul-Oct
	Shorebird	Shorebirds	Wintering			1,000S												-	-
	Shorebird	Wilson's plover	Nesting	T		6 Pairs												Mar-Jul	-
	Shorebird	American oystercatcher	Nesting	C		5 Pairs												Apr-Aug	-
	Shorebird	Wilson's plover	Nesting	T		1 Pair												Mar-Jul	-
86	Gull/Tern	Black skimmer	Nesting	C		246 Nests												May-Aug	-
	Gull/Tern	Gull-billed tern	Nesting	C		5 Nests												May-Aug	-
	Gull/Tern	Least tern	Nesting	T		126 Nests												May-Aug	-
	Shorebird	American oystercatcher	Nesting	C		6 Pairs												Apr-Aug	-
	Shorebird	Wilson's plover	Nesting	T		22 Pairs												Mar-Jul	-
87	Shorebird	American oystercatcher	Nesting	C		18 Pairs												Apr-Aug	-
	Shorebird	American oystercatcher	Wintering	C		58 Birds												-	-
88	Gull/Tern	Black skimmer	Nesting	C		47 Nests												May-Aug	-
	Gull/Tern	Least tern	Nesting	T		12 Nests												May-Aug	-

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
267	Wetland	Seabeach amaranth	Vulnerable Occurrence		T	-												-


REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Hatch	Interst	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D				
300	Turtle	Green sea turtle	Nesting	T	T	Low												-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low												-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	High												-	-	-	-	-
301	Amphibian	Flatwoods salamander	General Distribution	E	T	Possible												-	-	-	-	-
	Amphibian	Gopher frog	General Distribution	E		Possible												-	-	-	-	-



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				
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	Jun-Dec	Jan-Dec	Jan-Dec
314	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul	May-Aug	-	Apr-Jul
315	Crab	Horseshoe crab	Nursery Area			-													-	-	Jan-Dec	-
316	Crab	Horseshoe crab	Nursery Area			-													-	-	Jan-Dec	-
	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul	May-Aug	-	Apr-Jul
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				
	Waterfowl	American black duck	Wintering			100S												-	-	-	-
		American coot	Wintering			1,000S												-	-	-	-
		Bufflehead	Wintering			100S												-	-	-	-
		Canvasback	Wintering			100S												-	-	-	-
		Hooded merganser	Nesting			Possible												Feb-Jun	-	-	-
		Hooded merganser	Wintering			100S												-	-	-	-
		Mergansers	Wintering			10S												-	-	-	-
		Mottled duck	Nesting			Possible												Feb-May	-	-	-
		Red-breasted merganser	Wintering			10S												-	-	-	-
		Redhead	Wintering			100S												-	-	-	-
		Ruddy duck	Wintering			1,000S												-	-	-	-
		Scaup	Rafting			1,000S												-	-	-	-
		Scoters	Migration			1,000S												-	Apr-Jun	-	-
		Scoters	Rafting			10,000S												-	-	-	-
		Wood duck	Nesting			Possible												Feb-Jun	-	-	-



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	American eel	Migration			-												-	-	-	Jan-May	Sep-Jan
		American shad	Migration			-												-	-	-	Aug-Dec	Jan-May
		Atlantic sturgeon	General Distribution			Present												-	-	-	-	Jan-Dec
		Blueback herring	Migration			-												-	-	-	Aug-Dec	Jan-May
		Hickory shad	Migration			-												-	-	-	Aug-Dec	Jan-May
		Shortnose sturgeon	General Distribution			Low												-	-	-	-	Jan-Dec
	Marine Pelagic	Blacktip shark	Nursery Area			-												-	-	May-Oct	-	-
		Finetooth shark	Nursery Area			High												-	-	May-Oct	May-Oct	May-Oct
		Sandbar shark	Nursery Area			High												-	-	Apr-Oct	Apr-Oct	-
		Scalloped hammerhead	Nursery Area			High												-	-	May-Oct	-	-

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					
	Snake	Diamondback rattlesnake	General Distribution			Rare												-	-	-	-	-
	Turtle	Green sea turtle	General Distribution			-												-	-	-	-	-

REPTILES & AMPHIBIANS (continued)


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					
MARINE MAMMALS	K. ridley sea turtle	General Distribution	E	E	-													-	-	-		
	Leatherback sea turtle	General Distribution	E	E	-													-	-	-		
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-		
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					
	Manatee	General Distribution	E	E	-													-	-	-		
	Whale	General Distribution	E	E	-													-	-	-		
ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)																						

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS




Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt	
		J	F	M	A	M	J	J	A	S	O	N	D					
	Alcids															-	-	-
	Brown pelican																Jul-Oct	-
	D. crested cormorant																-	-
	Diving birds																-	-
	Loons																-	-
	Gulls																-	-
	Terns																-	-
	Seaside sparrow																-	-
	Black-capped petrel																-	-
	Jaegers																-	-
	Northern gannet																-	-
	Shearwaters																-	-
	Storm-petrels																-	-
	Phalaropes																-	-
	Clapper rail															Mar-Sep	-	-
	King rail															Feb-Aug	-	-
	Least bittern															May-Aug	-	-
	Mallard															-	-	-
																		
FISH																		

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					
	Atl. sharpnose shark																	-	-	Apr-Nov	Apr-Nov	Apr-Nov
	Atl. sharpnose shark																	-	-	-	Feb-Dec	Feb-Dec
	Atlantic croaker																	-	-	Nov-Apr	May-Sep	May-Sep
	Atlantic croaker																	-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic croaker																	-	-	Nov-Apr	Apr-Oct	Apr-Oct
	Atlantic menhaden																	-	-	Dec-May	Sep-Nov	Mar-Nov
	Atlantic menhaden																	-	-	-	Jun-Oct	Jun-Oct
	Atlantic menhaden																	-	-	-	Jul-Oct	Jul-Oct
	Black drum																	-	-	-	Jan-Dec	Jan-Dec
	Black drum																	-	-	-	Apr-Jan*	Apr-Jan*

South Carolina: Map 8C




FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Black sea bass													-	-	-	-
	Bluefish													-	-	-	-
	Bonnethead shark													-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-
	Porgies													-	-	-	-
	Red drum													-	Aug-Nov	Jan-Dec	Jan-Dec
	Red drum													-	Aug-Nov	-	Aug-Nov
	Sheepshead													-	-	May-Nov	May-Nov
	Silver seatrout													-	-	-	-
	Southern flounder													-	-	-	-
	Southern flounder													-	-	Mar-Nov	Mar-Nov
	Southern kingfish													-	-	-	-
	Spot													-	-	Jan-Dec	Jan-Dec
	Spot													-	-	-	-
	Spotted seatrout													-	May-Aug	-	Jan-Dec
	Star drum													-	-	-	-
	Striped mullet													-	-	-	-
	Summer flounder													-	-	-	-
	Weakfish													-	-	-	-
 Fish	Great hammerhead													-	-	Apr-Oct	Apr-Oct
	Fringed flounder													-	-	-	-
 Marine Benthic	Lemon shark													-	-	Apr-Nov	Apr-Nov
	Lemon shark													-	-	Apr-Nov	-
	Smooth dogfish													-	-	-	Dec-Apr
	Spotted hake													-	-	-	-
 Marine Pelagic	Anchovies													-	-	-	-
	Blacknose shark													-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-
	King mackerel													-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-
	Spinner shark													-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	Dec-Apr
	Tiger shark													-	-	Apr-Nov	Apr-Nov
	White shark													-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
 Cephalopod	Atlantic brief squid													-	-	-	-
	Blue crab													-	May-Nov	Jan-Dec	Jan-Dec
	Blue crab													-	May-Nov	Mar-Dec	Mar-Dec
	Blue crab													Apr-Sep	May-Nov	-	Apr-Sep
 Invertebrate	Horseshoe crab													-	-	-	-
	Cannonball jellyfish													-	-	-	-
	Brown shrimp													-	Jan-Mar	-	Jun-Nov
	Brown shrimp													-	Mar-Jun	Apr-Dec	Jun-Sep
	White shrimp													-	Jun-Sep	Jan-Dec	Apr-Dec
 MARINE MAMMALS	White shrimp													May-Sep	May-Sep	-	Mar-Nov

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

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES		
ESI Rank	Habitat Classification	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,901.30
10B	Freshwater Marshes	816.99
10C	Swamps	11.72
10D	Scrub and Shrub Wetlands	40.53
7	Exposed Tidal Flats	50.74

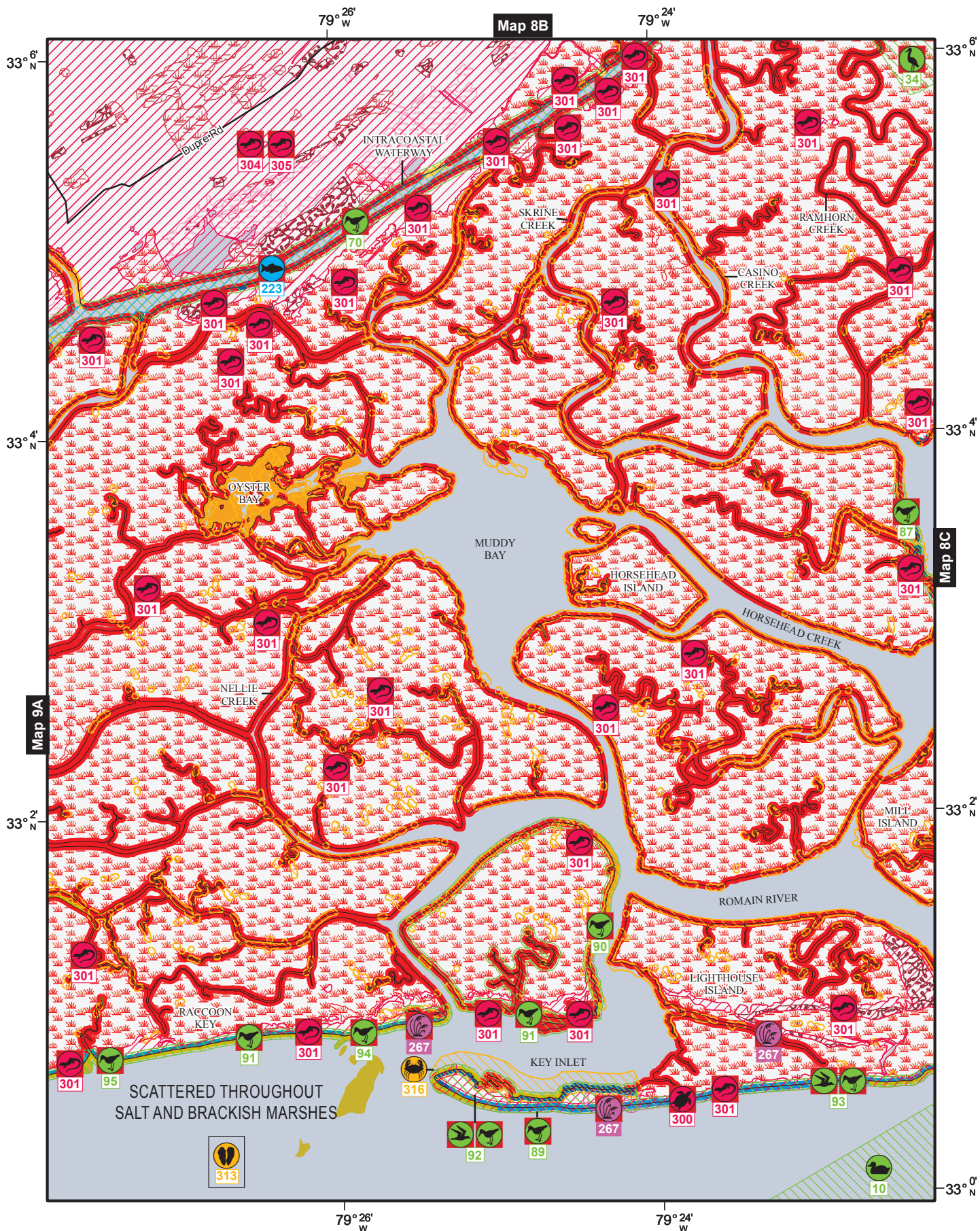
ESI SHORELINE HABITAT TYPES		
ESI Rank	Shoreline Habitat Classification	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	53%
10C	Swamps	< 1%
7	Exposed Tidal Flats	14%
6A	Gravel Beaches	1%
4	Coarse Grained Sand Beaches	25%
3A	Fine to Medium Grained Sand Beaches	5%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	1%

Total ESI Shoreline: 66,301.88
Total ESI Shoreline: 41.20
Total Shoreline: 52,847.61
Total Shoreline: 32.84

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

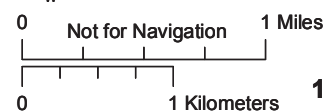




Map 8D
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



Map 8D
South Carolina

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				
10	Waterfowl	Scaup	Rafting			1,000S													-	-	-	-
	Waterfowl	Scoters	Migration			1,000S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			10,000S													-	-	-	-
34	Wading	Black rail	Nesting	C		-													May-Aug	-	-	-
	Wading	Black rail	Vulnerable Occurrence	C		-													-	-	-	-
70	Shorebird	American oystercatcher	Nesting	C		39 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		1,000S													-	-	-	-
	Shorebird	Marbled godwit	Wintering			100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
87	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Shorebird	American oystercatcher	Nesting	C		18 Pairs													Apr-Aug	-	-	-
89	Shorebird	American oystercatcher	Wintering	C		58 Birds													-	-	-	-
	Shorebird	American oystercatcher	Wintering	C		100S													-	-	-	-
	Shorebird	Marbled godwit	Wintering			10S													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	-													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-
	Shorebird	Red knot	Migration		T	1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering		T	100S													-	-	-	-
	Shorebird	Shorebirds	Migration			100S													-	Mar-Jun	Jul-Oct	-
90	Shorebird	Shorebirds	Wintering			100S													-	-	-	-
	Shorebird	Marbled godwit	Wintering			-													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	-													-	-	-	-
	Shorebird	Red knot	Migration		T	1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering		T	100S													-	-	-	-
	Shorebird	Wilson's plover	Wintering		T	10S													-	-	-	-
91	Shorebird	American oystercatcher	Nesting	C		33 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		185 Birds													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
92	Gull/Tern	Black skimmer	Nesting	C		70 Nests													May-Aug	-	-	-
	Gull/Tern	Gull-billed tern	Nesting	C		2 Nests													May-Aug	-	-	-
	Gull/Tern	Least tern	Nesting	T		6 Nests													May-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	C		12 Pairs													Apr-Aug	-	-	-
93	Shorebird	Wilson's plover	Nesting	T		16 Pairs													Mar-Jul	-	-	-
	Gull/Tern	Least tern	Nesting	T		5 Nests													May-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	C		6 Pairs													Apr-Aug	-	-	-
	Shorebird	Wilson's plover	Nesting	T		7 Pairs													Mar-Jul	-	-	-
94	Shorebird	Wilson's plover	Nesting	T		9 Pairs													Mar-Jul	-	-	-
95	Shorebird	Wilson's plover	Nesting	T		7 Pairs													Mar-Jul	-	-	-

FISH

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
223	Diadromous	Atlantic sturgeon	Migration	E	E	Present	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	Migration	E	E	Present	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Jan-Dec	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
267	Wetland	Seabeach amaranth	Vulnerable Occurrence	T	-	-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-

REPTILES & AMPHIBIANS



Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Interst	Juveniles	Adults
300	Turtle	Green sea turtle	Nesting	T	T	Low	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	High	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
301	Amphibian	Flatwoods salamander	General Distribution	E	T	Possible	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Amphibian	Gopher frog	General Distribution	E	T	Possible	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
304	Amphibian	Flatwoods salamander	Vulnerable Occurrence	E	T	-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Amphibian	Gopher frog	Vulnerable Occurrence	E	T	-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
305	Snake	Diamondback rattlesnake	Vulnerable Occurrence	C	-	-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
313	Bivalve	Eastern oyster	Concentration Area	-	-	Reef	J	F	M	A	M	J	J	A	S	O	N	D	May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec
316	Crab	Horseshoe crab	Nursery Area	-	-	-	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Jan-Dec	-
	Crab	Horseshoe crab	Spawning Area	-	-	High	J	F	M	A	M	J	J	A	S	O	N	D	Apr-Jul	Apr-Jul	May-Aug	-	Apr-Jul

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				
	Nelson's sparrow	Wintering	-	-	-													-	-	-	
	Saltmarsh sparrow	Wintering	-	-	-													-	-	-	
	Seaside sparrow	Nesting	-	-	-													Apr-Aug	-	-	
	American black duck	Wintering	100S	-	-													-	-	-	
	American coot	Wintering	1,000S	-	-													-	-	-	
	Blue-winged teal	Wintering	10S	-	-													-	-	-	
	Bufflehead	Wintering	100S	-	-													-	-	-	
	Canvasback	Wintering	100S	-	-													-	-	-	
	Gadwall	Wintering	100S	-	-													-	-	-	
	Green-winged teal	Wintering	100S	-	-													-	-	-	
	Hooded merganser	Nesting	Possible	-	-													Feb-Jun	-	-	



BIRDS (continued)

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				
	Hooded merganser	Wintering			100S													-	-	-	-
	Mergansers	Wintering			10S													-	-	-	-
	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Mottled duck	Wintering			10S													-	-	-	-
	Northern pintail	Wintering			100S													-	-	-	-
	Northern shoveler	Wintering			100S													-	-	-	-
	Red-breasted merganser	Wintering			10S													-	-	-	-
	Redhead	Wintering			100S													-	-	-	-
	Ring-necked duck	Wintering			100S													-	-	-	-
	Ruddy duck	Wintering			1,000S													-	-	-	-
	Scaup	Rafting			100S													-	-	-	-
	Scaup	Wintering			100S													-	-	-	-
	Scoters	Migration			100S													Apr-Jun	-	-	-
	Scoters	Rafting			1,000S													-	-	-	-
	Wood duck	Nesting			Possible													Feb-Jun	-	-	-
	Wood duck	Wintering			10S													Feb-Jun	-	-	-



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					
	American eel	Migration			-													-	-	-	Jan-May	Sep-Jan
	American shad	Migration			-													-	-	-	Aug-Dec	Jan-May
	Atlantic sturgeon	General Distribution			Present													-	-	-	Jan-Dec	Jan-Dec
	Blueback herring	Migration			-													-	-	-	Aug-Dec	Jan-May
	Hickory shad	Migration			-													-	-	-	Aug-Dec	Jan-May
	Shortnose sturgeon	General Distribution			Low													-	-	-	Jan-May	Jan-Dec
	Blacktip shark	Nursery Area			-													-	-	-	May-Oct	Jan-May
	Finetooth shark	Nursery Area			High													-	-	-	May-Oct	May-Oct
	Sandbar shark	Nursery Area			High													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead	Nursery Area			High													-	-	-	May-Oct	May-Oct






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					
 	Diamondback rattlesnake	General Distribution			Rare													-	-	-	-	-
	Green sea turtle	General Distribution			-													-	-	-	-	-
	K. ridley sea turtle	General Distribution			-													-	-	-	-	-
	Leatherback sea turtle	General Distribution			-													-	-	-	-	-
	Loggerhead sea turtle	General Distribution			-													-	-	-	-	-


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				
 	West Indian manatee	General Distribution			-													-	-	-	-
	Humpback whale	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													-	-	-	-
	Brown pelican													-	-	Jul-Oct	-
	D. crested cormorant													-	-	-	-
	Diving birds													-	-	-	-
	Loons													-	-	-	-
	Gulls													-	-	-	-
	Terns													-	-	-	-
	Seaside sparrow													-	-	-	-
	Black-capped petrel													-	-	-	-
	Jaegers													-	-	-	-
	Northern gannet													-	-	-	-
	Shearwaters													-	-	-	-
	Storm-petrels													-	-	-	-
	Phalaropes													-	-	-	-
	Clapper rail													Mar-Sep	-	-	-
	Mallard													-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atl. sharpnose shark													-	-	Apr-Nov	Apr-Nov	Apr-Nov
	Atlantic croaker													-	-	Nov-Apr	Apr-Oct	Apr-Oct
	Atlantic croaker													-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic croaker													-	-	Nov-Apr	May-Sep	May-Sep
	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Atlantic menhaden													-	-	-	Jun-Oct	Jun-Oct
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Black drum													-	-	-	Jan-Dec	Jan-Dec
	Black sea bass													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Sheepshead													-	-	-	May-Nov	May-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	-	-




FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Southern flounder													-	-	-	Mar-Nov
	Southern kingfish													-	-	-	-
	Spot													-	-	-	-
	Spot													-	-	-	-
	Spotted seatrout													-	-	Jan-Dec	Jan-Dec
	Star drum													-	May-Aug	-	-
	Striped mullet													-	-	-	-
	Summer flounder													-	-	-	-
	Weakfish													-	-	-	-
	Great hammerhead													-	-	-	-
	Atlantic spadefish													-	-	Apr-Oct	Apr-Oct
	Florida pompano													-	-	-	-
	Fringed flounder													-	-	-	-
	Lemon shark													-	-	Apr-Nov	-
	Lemon shark													-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	Dec-Apr
	Spotted hake													-	-	-	-
	Anchovies													-	-	-	-
	Blacknose shark													-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-
	King mackerel													-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-
	Spinner shark													-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	Dec-Apr
	Tiger shark													-	-	Apr-Nov	Apr-Nov
	White shark													-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Cephalopod													-	-	-	-
	Atlantic brief squid													-	-	-	-
	Blue crab													-	-	-	-
	Blue crab													-	-	-	-
	Blue crab													-	-	-	-
	Horseshoe crab													-	-	-	-
	Cannonball jellyfish													-	-	-	-
	Brown shrimp													-	-	-	-
	Brown shrimp													-	-	-	-
	White shrimp													-	-	-	-
	White shrimp													-	-	-	-
	White shrimp													-	-	-	-

MARINE MAMMALS

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

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	14,535.82	22.71
10B	Freshwater Marshes	239.91	0.37
10C	Swamps	242.75	0.38
10D	Scrub and Shrub Wetlands	222.03	0.35
9A	Sheltered Tidal Flats	119.09	0.19
7	Exposed Tidal Flats	60.82	0.10

ESI SHORELINE HABITAT TYPES

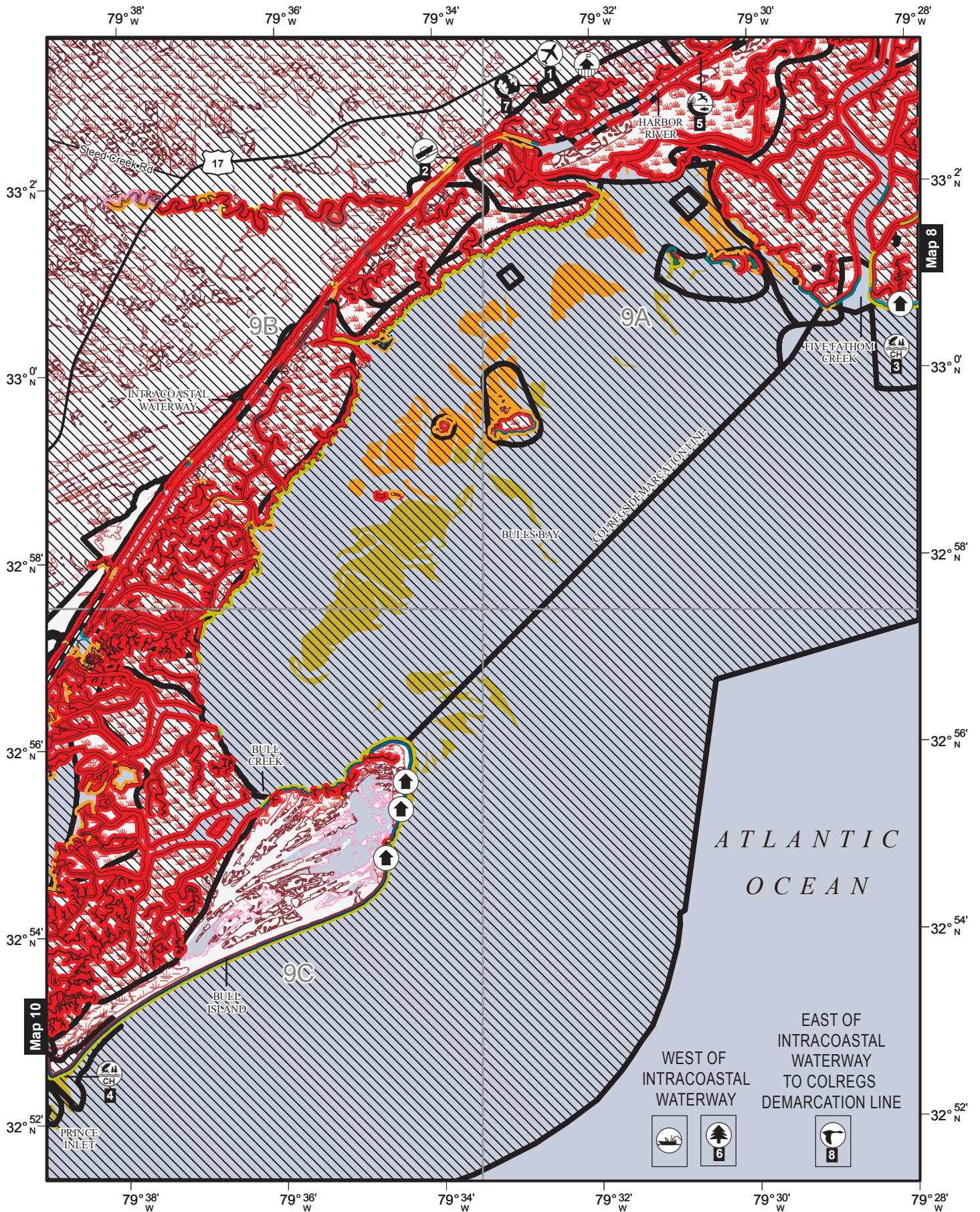
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	347,548.19	215.96	92%
10C	Swamps	56.48	0.04	< 1%
10D	Scrub and Shrub Wetlands	51.50	0.03	< 1%
9A	Sheltered Tidal Flats	9,273.97	5.76	2%
8B	Sheltered, Solid Man-Made Structures	198.40	0.12	< 1%
8C	Sheltered Riprap	553.06	0.34	< 1%
7	Exposed Tidal Flats	7,435.28	4.62	2%
6A	Gravel Beaches	1,281.95	0.80	< 1%
5	Mixed Sand and Gravel Beaches	4,209.86	2.62	1%
4	Coarse Grained Sand Beaches	4,845.10	3.01	1%
3A	Fine to Medium Grained Sand Beaches	2,369.65	1.47	1%

Total ESI Shoreline: 377,823.44 Total ESI Shoreline: 234.77
 Total Shoreline: 359,931.26 Total Shoreline: 223.65

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 Carolina



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: August 2015

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000

Map 9
South Carolina

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AIRPORT	LAUREL HILL FARMS AIRPORT	
2	BOAT RAMP	BUCK HALL	US FOREST SERVICE
DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
3	CRITICAL HABITAT	LOGGERHEAD SEA TURTLE CRITICAL HABITAT	
4	CRITICAL HABITAT	PIPING PLOVER CRITICAL HABITAT	US FISH AND WILDLIFE SERVICE
5	MANAGEMENT AREA	DOE HILL PLANTATION/LOTS-WILDLIFE	
6	NATIONAL FOREST	FRANCIS MARION & SUMMITER NTL FORESTS	803-561-4000
7	NATURE CONSERVANCY	FRANCIS MARION NATIONAL FOREST EASEMENT	THE NATURE CONSERVANCY
8	WILDLIFE REFUGE	CAPE ROMAIN NATIONAL WILDLIFE REFUGE	843-928-3264
ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SHRIMP HAPC	SOUTH ATLANTIC FMC	866-723-6210
ESSENTIAL HABITAT	SNAPPER/GROUPER HAPC	SOUTH ATLANTIC FMC	866-723-6210

JURISDICTIONS			
COUNTY:	CHARLESTON COUNTY	FEMA:	REGION IV
COAST GUARD:	DISTRICT 7, SECTOR CHARLESTON	EPA:	REGION 4
USACE:	SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT		

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	14,437.54	22.56
10B	Freshwater Marshes	400.91	0.63
10C	Swamps	4,072.54	6.36
10D	Scrub and Shrub Wetlands	2,200.95	3.44
9A	Sheltered Tidal Flats	1,465.87	2.29
7	Exposed Tidal Flats	1,660.97	2.60

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	523,842.16	325.50	79%
10B	Freshwater Marshes	2,815.76	1.75	< 1%
10C	Swamps	1,358.44	0.84	< 1%
10D	Scrub and Shrub Wetlands	12,635.02	7.85	2%
9A	Sheltered Tidal Flats	38,812.58	24.12	6%
9B	Vegetated Low Banks	766.48	0.48	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	1,692.20	1.05	< 1%
8B	Sheltered, Solid Man-Made Structures	354.69	0.22	< 1%
8C	Sheltered Riprap	1,126.33	0.70	< 1%
7	Exposed Tidal Flats	44,351.75	27.56	7%
6A	Gravel Beaches	13,993.30	8.70	2%
5	Mixed Sand and Gravel Beaches	9,654.14	6.00	1%
3A	Fine to Medium Grained Sand Beaches	12,138.44	7.54	2%

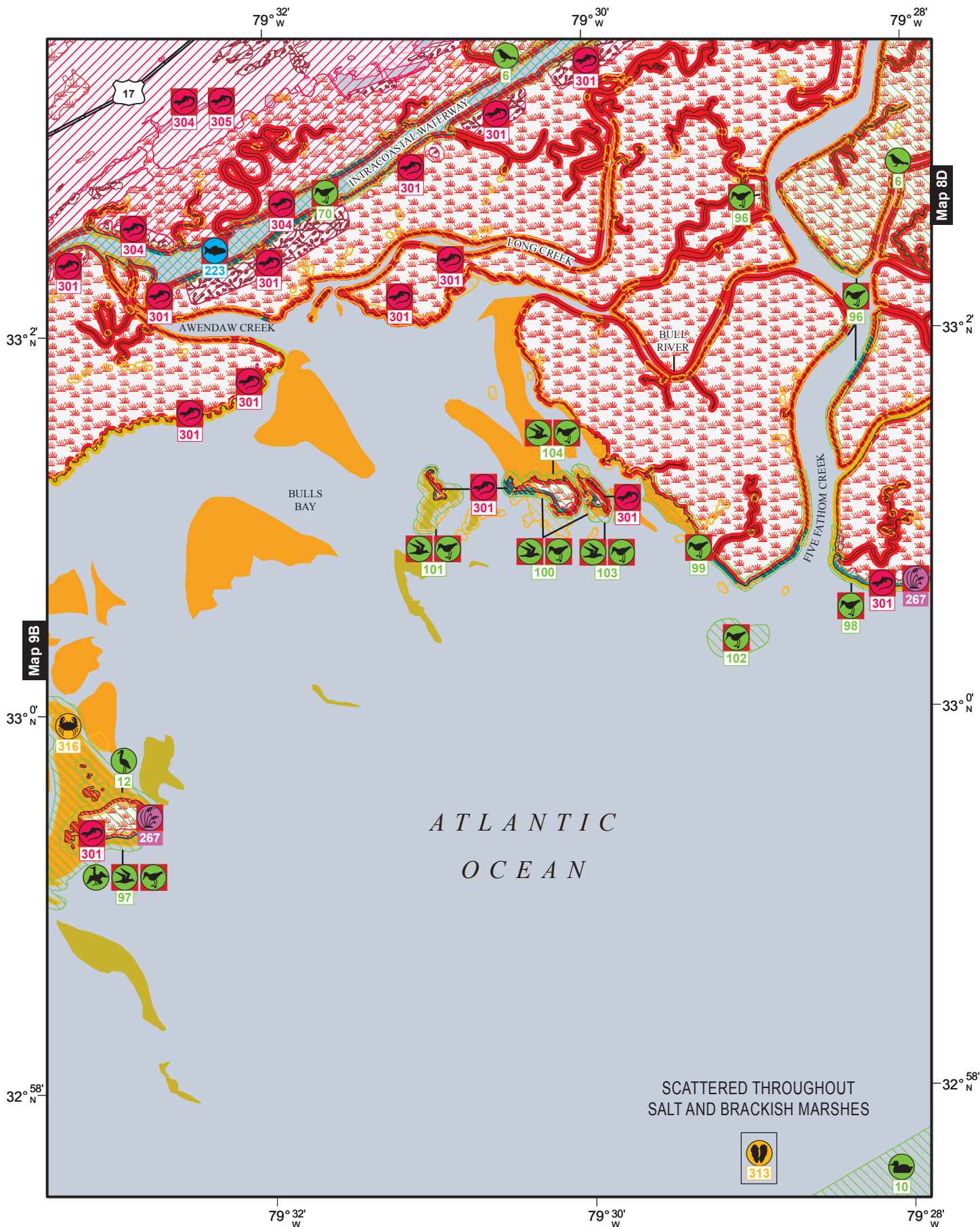
Total ESI Shoreline: 663,541.30
Total Shoreline: 548,485.26

Total ESI Shoreline: 412.31
Total Shoreline: 340.81

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 9A
South Carolina

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				
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
10	Waterfowl	Scaup	Rafting			1,000S													-	-	-	-
	Waterfowl	Scoters	Migration			1,000S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			10,000S													-	-	-	-
12	Wading	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-
70	Shorebird	American oystercatcher	Nesting	C		39 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		1,000S													-	-	-	-
	Shorebird	Marbled godwit	Wintering			100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Shorebird	American oystercatcher	Nesting	C		3 Pairs													Apr-Aug	-	-	-
96	Shorebird	American oystercatcher	Nesting			735 Nests													Mar-Sep	-	-	-
97	Diving	Brown pelican	Nesting	C		200 Nests													May-Aug	-	-	-
	Gull/Tern	Black skimmer	Nesting	C		33 Nests													May-Aug	-	-	-
	Gull/Tern	Gull-billed tern	Nesting	C		1,824 Nests													May-Aug	-	-	-
	Gull/Tern	Royal tern	Nesting			537 Nests													May-Aug	-	-	-
	Gull/Tern	Sandwich tern	Nesting			25 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		53 Birds													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	-													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
98	Shorebird	American oystercatcher	Nesting	C		33 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		185 Birds													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		7 Pairs													Mar-Jul	-	-	-
	Shorebird	American oystercatcher	Nesting	C		7 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
100	Gull/Tern	Forster's tern	Nesting			2 Nests													May-Aug	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
101	Gull/Tern	Gull-billed tern	Nesting	C		26 Nests													May-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	C		14 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-

BIRDS (continued)

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Eggs	Larvae	Juveniles	Adults	Molt
							J	F	M	A	M	J	J	A	S	O	N	D						
102	Shorebird	Shorebirds	Wintering			1,000S													-				-	-
	Shorebird	American oystercatcher	Nesting	C		16 Pairs													Apr-Aug				-	-
	Shorebird	American oystercatcher	Wintering	C		10S													-				-	-
103	Gull/Tern	Common tern	Nesting			18 Nests													May-Aug				-	-
	Gull/Tern	Gull-billed tern	Nesting	C		80 Nests													May-Aug				-	-
	Gull/Tern	Least tern	Nesting	T		23 Nests													May-Aug				-	-
	Shorebird	American oystercatcher	Nesting	C		16 Pairs													Apr-Aug				-	-
	Shorebird	American oystercatcher	Wintering	C		22 Birds													-				-	-
104	Gull/Tern	Black skimmer	Nesting	C		80 Nests													May-Aug				-	-
	Gull/Tern	Common tern	Nesting			19 Nests													May-Aug				-	-
	Gull/Tern	Gull-billed tern	Nesting	C		76 Nests													May-Aug				-	-
	Gull/Tern	Least tern	Nesting	T		34 Nests													May-Aug				-	-
	Shorebird	American oystercatcher	Nesting	C		15 Pairs													Apr-Aug				-	-
	Shorebird	American oystercatcher	Wintering	C		100S													-				-	-

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					
223	Diadromous	Atlantic sturgeon	Migration		E	Present													-			Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-			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					
267	Wetland	Seabeach amaranth	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					
301	Amphibian	Flatwoods salamander	General Distribution	E	T	Possible													-			-	-
	Amphibian	Gopher frog	General Distribution	E		Possible													-			-	-
304	Amphibian	Flatwoods salamander	Vulnerable Occurrence	E	T	-													-			-	-
	Amphibian	Gopher frog	Vulnerable Occurrence	E		-													-			-	-
305	Snake	Diamondback rattlesnake	Vulnerable Occurrence	C		-													-			-	-
			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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov			Jan-Dec	Jan-Dec
316	Crab	Horseshoe crab	Nursery Area			-													-			Jan-Dec	-
	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul		May-Aug	-	Apr-Jul



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	Nelson's sparrow			-													-	-	-	-
		Saltmarsh sparrow			-													-	-	-	-
	Waterfowl	American black duck			100S													-	-	-	-
		American coot			1,000S													-	-	-	-
		Blue-winged teal			10S													-	-	-	-
		Bufflehead			100S													-	-	-	-
		Canvasback			100S													-	-	-	-
		Gadwall			100S													-	-	-	-
		Green-winged teal			100S													-	-	-	-
		Hooded merganser			Possible													Feb-Jun	-	-	-
		Hooded merganser			100S													-	-	-	-
		Mergansers			10S													-	-	-	-
		Mottled duck			Possible													Feb-May	-	-	-
		Mottled duck			10S													-	-	-	-
		Northern pintail			100S													-	-	-	-
		Northern shoveler			100S													-	-	-	-
		Red-breasted merganser			10S													-	-	-	-
		Redhead			100S													-	-	-	-
		Ring-necked duck			100S													-	-	-	-
		Ruddy duck			1,000S													-	-	-	-
		Scaup			100S													-	-	-	-
		Scaup			100S													-	-	-	-
		Scoters			100S													Apr-Jun	-	-	-
		Scoters			1,000S													-	-	-	-
		Wood duck			Possible													Feb-Jun	-	-	-
		Wood duck			10S													Feb-Jun	-	-	-


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	American eel			-													-	-	-	Jan-May	Sep-Jan
		American shad			-													-	-	-	Aug-Dec	Jan-May
		Atlantic sturgeon			Present													-	-	-	-	Jan-Dec
		Blueback herring			-													-	-	-	Aug-Dec	Jan-May
		Hickory shad			-													-	-	-	Aug-Dec	Jan-May
		Shortnose sturgeon			Low													-	-	-	-	Jan-Dec
	Marine Pelagic	Blacktip shark			-													-	-	-	May-Oct	May-Oct
		Finetooth shark			High													-	-	-	May-Oct	May-Oct
		Sandbar shark			High													-	-	-	Apr-Oct	Apr-Oct
		Scalloped hammerhead			High													-	-	-	May-Oct	May-Oct

REPTILES & AMPHIBIANS








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

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				
 Manatee	West Indian manatee	General Distribution	E	E	-													-	-	-	-
	Humpback whale	General Distribution	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	Alcids														-	-	-
	Brown pelican														-	Jul-Oct	-
	D. crested cormorant														-	-	-
	Diving birds														-	-	-
 Loons	Loons														-	-	-
	Gulls														-	-	-
 Terns	Terns														-	-	-
	Seaside sparrow														-	-	-
 Passerine	Black-capped petrel														-	-	-
	Jaegers														-	-	-
	Northern gannet														-	-	-
	Shearwaters														-	-	-
 Shorebird	Storm-petrels														-	-	-
	Phalaropes														-	-	-
 Wading	Clapper rail														-	-	-
	Mallard														-	-	-
 Waterfowl															-	-	-

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					
 Estuarine Nursery	Atl. sharpnose shark																	-	-	Apr-Nov	Apr-Nov	Apr-Nov
	Atl. sharpnose shark																	-	-	-	Feb-Dec	Feb-Dec
	Atlantic croaker																	-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic croaker																	-	-	Nov-Apr	May-Sep	May-Sep
	Atlantic menhaden																	-	-	Dec-May	Mar-Nov	Mar-Nov
	Atlantic menhaden																	-	-	-	Jul-Oct	Jul-Oct
	Black drum																	-	-	-	Apr-Jan*	Apr-Jan*



FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Black sea bass													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Sheepshead													-	-	-	May-Nov	May-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	-	-
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
 Fish	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
 Marine Benthic	Atlantic spadefish													-	-	-	-	-
	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Lemon shark													-	-	-	Apr-Nov	-
	Smooth dogfish													-	-	-	-	Dec-Apr
	Spotted hake													-	-	-	-	-
 Marine Pelagic	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	-
	Tiger shark													-	-	-	Apr-Nov	Dec-Apr
	White shark													-	-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
 Cephalopod	Atlantic brief squid	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
 Crab	Blue crab													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
	Blue crab													-	-	May-Nov	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	-	-
 Invertebrate	Cannonball jellyfish													-	-	-	-	-
 Shrimp	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
	Brown shrimp													-	-	Mar-Jun	Apr-Dec	Jun-Sep
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov
	White shrimp													-	-	Jun-Sep	Jan-Dec	Apr-Dec

MARINE MAMMALS

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

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	5,814.95	9.09
10B	Freshwater Marshes	32.24	0.05
10C	Swamps	31.36	0.05
10D	Scrub and Shrub Wetlands	287.47	0.45
9A	Sheltered Tidal Flats	912.42	1.43
7	Exposed Tidal Flats	182.93	0.29

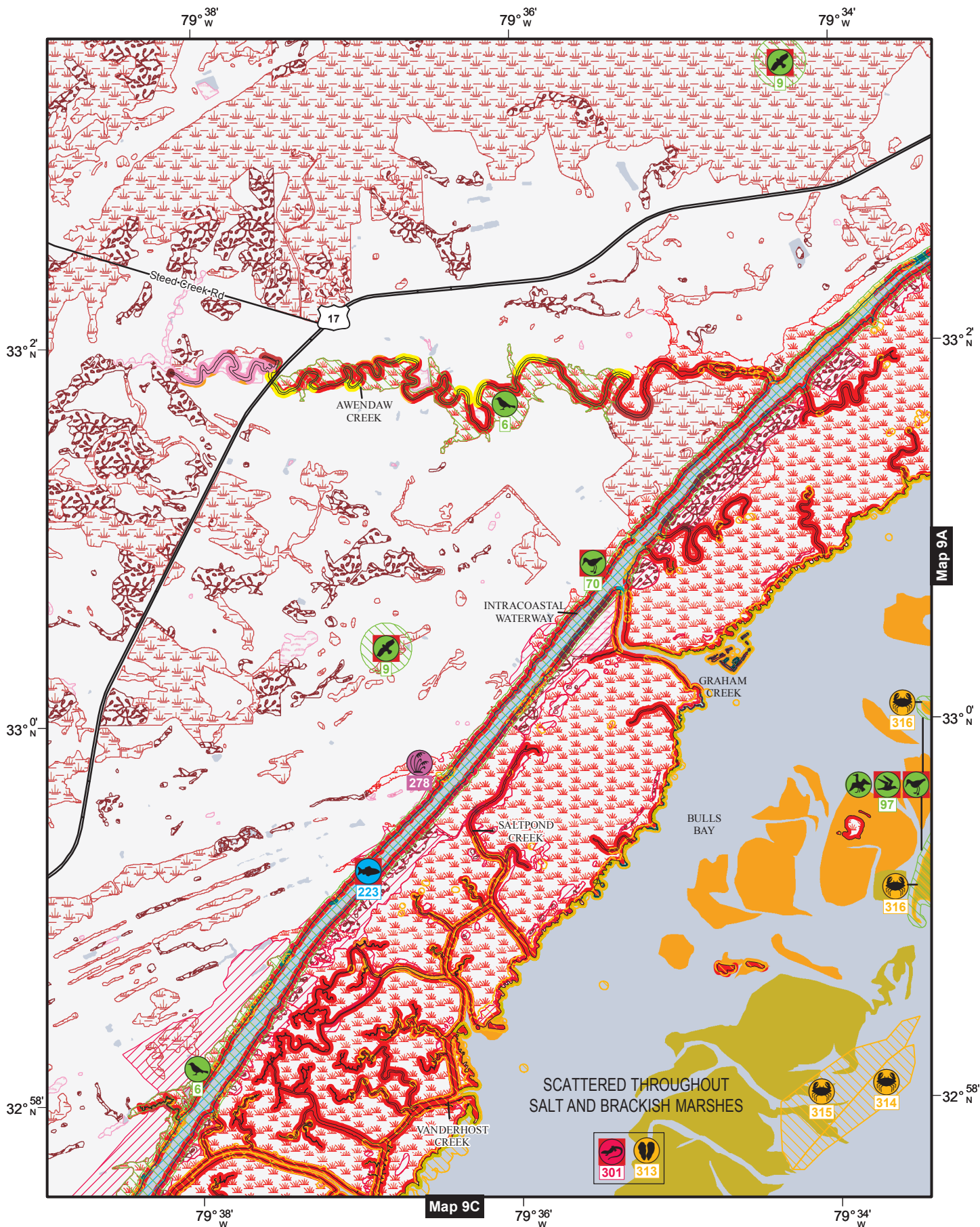
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	141,078.61	87.66	82%
10C	Swamps	155.87	0.10	< 1%
10D	Scrub and Shrub Wetlands	427.18	0.27	< 1%
9A	Sheltered Tidal Flats	10,194.92	6.33	6%
8C	Sheltered Riprap	234.53	0.15	< 1%
7	Exposed Tidal Flats	8,457.81	5.26	5%
6A	Gravel Beaches	7,868.20	4.89	5%
5	Mixed Sand and Gravel Beaches	2,642.89	1.64	2%
Total ESI Shoreline:		171,060.02	106.29	
Total Shoreline:		144,015.06	89.49	

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 9B
South Carolina

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				
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
9	Raptor	Bald eagle	Nesting	T		Possible													Oct-May	-	-	-
70	Shorebird	American oystercatcher	Nesting	C		39 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		1,000S													-	-	-	-
	Shorebird	Marbled godwit	Wintering			100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
97	Diving	Brown pelican	Nesting			735 Nests													Mar-Sep	-	-	-
	Gull/Tern	Black skimmer	Nesting	C		200 Nests													May-Aug	-	-	-
	Gull/Tern	Gull-billed tern	Nesting	C		33 Nests													May-Aug	-	-	-
	Gull/Tern	Royal tern	Nesting			1,824 Nests													May-Aug	-	-	-
	Gull/Tern	Sandwich tern	Nesting			537 Nests													May-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	C		25 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		53 Birds													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	-													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-

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					
223	Diadromous	Atlantic sturgeon	Migration		E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shorthose sturgeon	Migration	E	E	Present													-	-	-	Jan-Dec	Jan-Dec

HABITATS & RARE PLANTS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Value	-	-	-
							J	F	M	A	M	J	J	A	S	O	N	D				
278	Wetland	Shell middens	High Ecological			-													-	-	-	-

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					
301	Amphibian	Flatwoods salamander	General Distribution	E	T	Possible													-	-	-	-	-
	Amphibian	Gopher frog	General Distribution	E		Possible													-	-	-	-	-

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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec
314	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul	Apr-Jul	May-Aug	-	Apr-Jul
315	Crab	Horseshoe crab	Nursery Area			-													-	-	-	Jan-Dec	-
316	Crab	Horseshoe crab	Nursery Area			-													-	-	-	Jan-Dec	-
	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul	Apr-Jul	May-Aug	-	Apr-Jul

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				
Passerine	Nelson's sparrow	Wintering			-													-	-	-	
	Saltmarsh sparrow	Wintering			-													-	-	-	
Wading	Wading birds	Nesting			1 Rookery													Feb-Sep			
Waterfowl	American black duck	Wintering			100S													-	-	-	
	American coot	Wintering			1,000S													-	-	-	
	Blue-winged teal	Wintering			10S													-	-	-	
	Bufflehead	Wintering			100S													-	-	-	
	Canvasback	Wintering			100S													-	-	-	
	Gadwall	Wintering			100S													-	-	-	
	Green-winged teal	Wintering			100S													-	-	-	
	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	
	Hooded merganser	Wintering			100S													-	-	-	
	Mergansers	Wintering			10S													-	-	-	
	Mottled duck	Nesting			Possible													Feb-May	-	-	
	Mottled duck	Wintering			10S													-	-	-	
	Northern pintail	Wintering			100S													-	-	-	
	Northern shoveler	Wintering			100S													-	-	-	
	Red-breasted merganser	Wintering			10S													-	-	-	
	Redhead	Wintering			100S													-	-	-	
Ring-necked duck	Wintering			100S													-	-	-		
Ruddy duck	Wintering			1,000S													-	-	-		
Scaup	Rafting			100S													-	-	-		
Scaup	Wintering			100S													-	-	-		
Scoters	Migration			100S													-	Apr-Jun	-	-	
Scoters	Rafting			1,000S													-	-	-	-	
Wood duck	Nesting			Possible													Feb-Jun	-	-	-	
Wood duck	Wintering			10S													Feb-Jun	-	-	-	

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	American eel	Migration		-													-	-	-	Jan-May	Sep-Jan
		American shad	Migration		-													-	-	-	Aug-Dec	Jan-May
		Atlantic sturgeon	General Distribution	E	Present													-	-	-	-	Jan-Dec
		Blueback herring	Migration		-													-	-	-	Aug-Dec	Jan-May
		Hickory shad	Migration		-													-	-	-	Aug-Dec	Jan-May
	Marine Pelagic	Shortnose sturgeon	General Distribution	E	E	Low												-	-	-	-	Jan-Dec
		Blacktip shark	Nursery Area		-													-	-	May-Oct	-	-
		Finetooth shark	Nursery Area		High													-	-	May-Oct	May-Oct	May-Oct
		Sandbar shark	Nursery Area		High													-	-	Apr-Oct	Apr-Oct	-
		Scalloped hammerhead	Nursery Area		High													-	-	May-Oct	-	-




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					
	Amphibian	Flatwoods salamander	Vulnerable Occurrence	E	T													-	-	-	-	-
		Gopher frog	Vulnerable Occurrence	E														-	-	-	-	-
	Snake	Diamondback rattlesnake	General Distribution	C	Rare													-	-	-	-	-
		Diamondback rattlesnake	Vulnerable Occurrence	C														-	-	-	-	-
	Turtle	Green sea turtle	General Distribution	T	T													-	-	-	-	-
		K. ridley sea turtle	General Distribution	E	E													-	-	-	-	-
		Leatherback sea turtle	General Distribution	E	E													-	-	-	-	-
		Loggerhead sea turtle	General Distribution	T	T													-	-	-	-	-


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				
	Manatee	West Indian manatee	General Distribution	E	E													-	-	-	-
	Whale	Humpback whale	General Distribution	E	E													-	-	-	-



BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F) Jul-Oct	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Brown pelican													-	-	-	-
	D. crested cormorant													-	-	-	-
	Diving birds													-	-	-	-
	Loons													-	-	-	-
	Gulls													-	-	-	-
	Terns													-	-	-	-
	Seaside sparrow													-	-	-	-
	Northern gannet													-	-	-	-
	Clapper rail													Mar-Sep	-	-	-
	Mallard													-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atl. sharpnose shark													-	-	Apr-Nov	Apr-Nov	Apr-Nov
	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atlantic croaker													-	-	Nov-Apr	May-Sep	May-Sep
	Atlantic croaker													-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	May-Nov	May-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern flounder													-	-	-	-	-
	Southern kingfish													-	-	-	Jan-Dec	Jan-Dec
	Spot													-	-	-	-	-
	Spot													May-Aug	-	May-Aug	-	Jan-Dec
	Spotted seatrout													-	-	-	-	-
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-

FISH (continued)

		Monthly Presence																
Subelement	Species	J	F	M	A	M	J	J	A	S	O	N	D	Spawn	Eggs	Larvae	Juveniles	Adults
 Fish Marine Benthic	Weakfish													-	-	-	-	-
	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
	Atlantic spadefish													-	-	-	-	-
	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Lemon shark													-	-	-	Apr-Nov	-
	Smooth dogfish													-	-	-	-	Dec-Apr
 Marine Pelagic	Spotted hake													-	-	-	-	-
	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Spanish mackerel													-	-	-	-	-
	Spiny dogfish													-	-	-	-	Dec-Apr
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr




REPTILES & AMPHIBIANS

<i>Subelement</i>	<i>Species</i>	<i>Monthly Presence</i>												<i>Nest</i>	<i>Hatch</i>	<i>Internest</i>	<i>Juveniles</i>	<i>Adults</i>
 Turtle	C. diamondback terrapin	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
																		

INVERTEBRATES

<i>Subelement</i>	<i>Species</i>	<i>Monthly Presence</i>												<i>Spawn</i>	<i>Eggs</i>	<i>Larvae</i>	<i>Juveniles</i>	<i>Adults</i>
 Cephalopod	Atlantic brief squid	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
 Crab	Blue crab													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
	Blue crab													-	-	May-Nov	Jan-Dec	Jan-Dec
	Horseshoe crab													-	-	-	-	-
 Invertebrate	Cannonball jellyfish													-	-	-	-	-
 Shrimp	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
	Brown shrimp													-	-	Mar-Jun	Apr-Dec	Jun-Sep
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov
	White shrimp													-	-	Jun-Sep	Jan-Dec	Apr-Dec

MARINE MAMMALS

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

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

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	3,938.42	6.15
10B	Freshwater Marshes	134.28	0.21
10C	Swamps	3,847.10	6.01
10D	Scrub and Shrub Wetlands	1,304.57	2.04
9A	Sheltered Tidal Flats	543.80	0.85
7	Exposed Tidal Flats	759.64	1.19

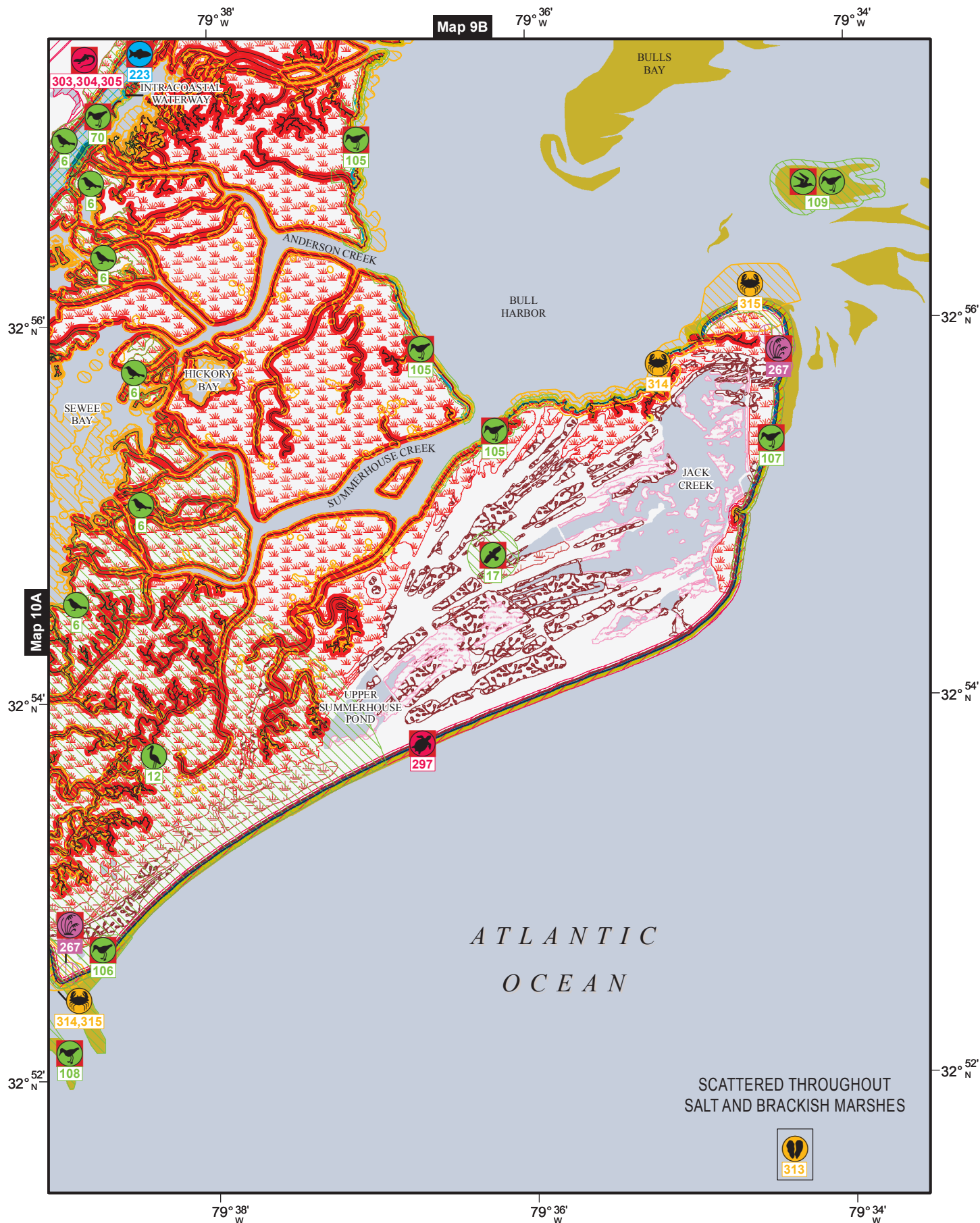
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	142,194.60	88.36	77%
10B	Freshwater Marshes	2,815.76	1.75	2%
10C	Swamps	1,202.57	0.75	1%
10D	Scrub and Shrub Wetlands	2,792.84	1.74	2%
9A	Sheltered Tidal Flats	10,457.19	6.50	6%
9B	Vegetated Low Banks	766.48	0.48	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	1,692.20	1.05	1%
8B	Sheltered, Solid Man-Made Structures	261.13	0.16	< 1%
8C	Sheltered Riprap	894.46	0.56	< 1%
7	Exposed Tidal Flats	15,779.68	9.81	9%
6A	Gravel Beaches	5,752.53	3.57	3%
5	Mixed Sand and Gravel Beaches	58.12	0.04	< 1%
Total ESI Shoreline:		184,667.57	114.75	
Total Shoreline:		151,371.39	94.06	

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

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





Map 9C

South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 9C
South Carolina

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				
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
12	Wading	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-
17	Raptor	Bald eagle	Nesting	T		Present													Oct-May	-	-	-
70	Shorebird	American oystercatcher	Nesting	C		39 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		1,000S													-	-	-	-
	Shorebird	Marbled godwit	Wintering			100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
105	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Shorebird	American oystercatcher	Nesting	C		17 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		10S													-	-	-	-
	Shorebird	American oystercatcher	Wintering	C		-													-	-	-	-
106	Shorebird	Piping plover	Wintering	E	T	-													-	-	-	-
	Shorebird	Shorebirds	Migration			100S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			100S													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		3 Pairs													Mar-Jul	-	-	-
107	Shorebird	American oystercatcher	Wintering	C		-													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-
	Shorebird	Red knot	Migration	T		1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering	T		100S													-	-	-	-
108	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		7 Pairs													Mar-Jul	-	-	-
	Shorebird	Wilson's plover	Wintering	T		-													-	-	-	-
109	Shorebird	American oystercatcher	Wintering	C		10S													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	-													-	-	-	-
	Shorebird	Red knot	Migration	T		1,000S													-	Mar-May	Jul-Oct	-
109	Shorebird	Red knot	Wintering	T		100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Shorebird	Wilson's plover	Wintering	T		-													-	-	-	-
109	Gull/Tern	Black skimmer	Nesting	C		320 Nests													May-Aug	-	-	-
	Gull/Tern	Gull-billed tern	Nesting	C		44 Nests													May-Aug	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-

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				
223	Diadromous	Atlantic sturgeon	Migration	E	E	Present													-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-	-	Jan-Dec	Jan-Dec

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				
267	Wetland	Seabeach amaranth	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				
297	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Medium													-	-	-	-
303	Amphibian	Flatwoods salamander	Vulnerable Occurrence	E	T	-													-	-	-	-
	Amphibian	Gopher frog	Vulnerable Occurrence	E		-													-	-	-	-
	Snake	Diamondback rattlesnake	Vulnerable Occurrence	C		-													-	-	-	-
304	Amphibian	Flatwoods salamander	Vulnerable Occurrence	E	T	-													-	-	-	-
	Amphibian	Gopher frog	Vulnerable Occurrence	E		-													-	-	-	-
305	Snake	Diamondback rattlesnake	Vulnerable Occurrence	C		-													-	-	-	-



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				
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	Jun-Dec	Jan-Dec	Jan-Dec
314	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul	May-Aug	-	Apr-Jul
315	Crab	Horseshoe crab	Nursery Area			-													-	-	Jan-Dec	-

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																	-	-	-	-
	Nelson's sparrow	Wintering			-													-	-	-	-
	Waterfowl																	-	-	-	-
	Saltmarsh sparrow	Wintering			-													-	-	-	-
	American black duck	Wintering			100S													-	-	-	-
	American coot	Wintering			1,000S													-	-	-	-
	Blue-winged teal	Wintering			10S													-	-	-	-
	Bufflehead	Wintering			100S													-	-	-	-
	Canvasback	Wintering			100S													-	-	-	-
	Gadwall	Wintering			100S													-	-	-	-
	Green-winged teal	Wintering			100S													-	-	-	-
	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Hooded merganser	Wintering			100S													-	-	-	-
	Mergansers	Wintering			10S													-	-	-	-
	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Mottled duck	Wintering			10S													-	-	-	-
	Northern pintail	Wintering			100S													-	-	-	-
	Northern shoveler	Wintering			100S													-	-	-	-
	Red-breasted merganser	Wintering			10S													-	-	-	-
	Redhead	Wintering			100S													-	-	-	-
	Ring-necked duck	Wintering			100S													-	-	-	-
	Ruddy duck	Wintering			1,000S													-	-	-	-
	Scaup	Rafting			100S													-	-	-	-
	Scaup	Rafting			1,000S													-	-	-	-
	Scaup	Wintering			100S													-	-	-	-
	Scoters	Migration			1,000S													Apr-Jun	-	-	-
	Scoters	Migration			100S													Apr-Jun	-	-	-
	Scoters	Rafting			10,000S													-	-	-	-
	Scoters	Rafting			1,000S													-	-	-	-
	Wood duck	Nesting			Possible													Feb-Jun	-	-	-
	Wood duck	Wintering			10S													Feb-Jun	-	-	-

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																	-	-	-	-	-
	American eel	Migration			-													-	-	-	Jan-May	Sep-Jan
	American shad	Migration			-													-	-	-	Aug-Dec	Jan-May
	Atlantic sturgeon	General Distribution			Present													-	-	-	-	Jan-Dec
	Blueback herring	Migration			-													-	-	-	Aug-Dec	Jan-May
	Hickory shad	Migration			-													-	-	-	Aug-Dec	Jan-May
	Marine Pelagic																	-	-	-	-	-
	Shortnose sturgeon	General Distribution			Low													-	-	-	-	Jan-Dec
	Blacktip shark	Nursery Area			-													-	-	-	-	-
	Finetooth shark	Nursery Area			High													-	-	-	May-Oct	May-Oct
	Sandbar shark	Nursery Area			High													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead	Nursery Area			High													-	-	-	May-Oct	May-Oct

South Carolina: Map 9C

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					
	Flatwoods salamander	General Distribution	E	T	Possible													-	-	-	-	-
	Gopher frog	General Distribution	E		Possible													-	-	-	-	-
	Diamondback rattlesnake	General Distribution	C		Rare													-	-	-	-	-
	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-

MARINE MAMMALS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt	
		J	F	M	A	M	J	J	A	S	O	N	D					
	Alcids																	
	Brown pelican																	
	D. crested cormorant																	
	Diving birds																	
	Loons																	
	Gulls																	
	Terns																	
	Seaside sparrow																	
	Black-capped petrel																	
	Jaegers																	
	Northern gannet																	
	Shearwaters																	
	Storm-petrels																	
	Phalaropes																	
	Clapper rail																	
	Mallard																	

FISH

Monthly Presence

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
Estuarine Nursery	Atl. sharpnose shark													-	-	Apr-Nov	Apr-Nov	Apr-Nov
	Atl. sharpnose shark													-	-	Apr-Nov	Apr-Nov	Apr-Nov
	Atlantic croaker													-	-	Nov-Apr	Mar-Nov	Feb-Dec
	Atlantic croaker													-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic menhaden													-	-	Nov-Sep	May-Sep	May-Sep
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
Fish	Sheepshead													-	-	-	May-Nov	May-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spot													-	-	-	-	-
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
	Atlantic spadefish													-	-	-	-	-
	Florida pompano													-	-	-	-	-
Marine Benthic	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	-	Dec-Apr
	Spotted hake													-	-	-	-	-
	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-





FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	Dec-Apr
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic brief squid													-	-	-	-	-
	Blue crab													-	-	May-Nov	Jan-Dec	Jan-Dec
	Blue crab													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
	Horseshoe crab													-	-	-	-	-
	Cannonball jellyfish													-	-	-	-	-
	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
	Brown shrimp													-	-	Mar-Jun	Apr-Dec	Jun-Sep
	White shrimp													-	-	Jun-Sep	Jan-Dec	Apr-Dec
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov

MARINE MAMMALS

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

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	4,684.98	7.32
10B	Freshwater Marshes	234.46	0.37
10C	Swamps	198.12	0.31
10D	Scrub and Shrub Wetlands	609.65	0.95
9A	Sheltered Tidal Flats	9.64	0.02
7	Exposed Tidal Flats	672.99	1.05

ESI SHORELINE HABITAT TYPES

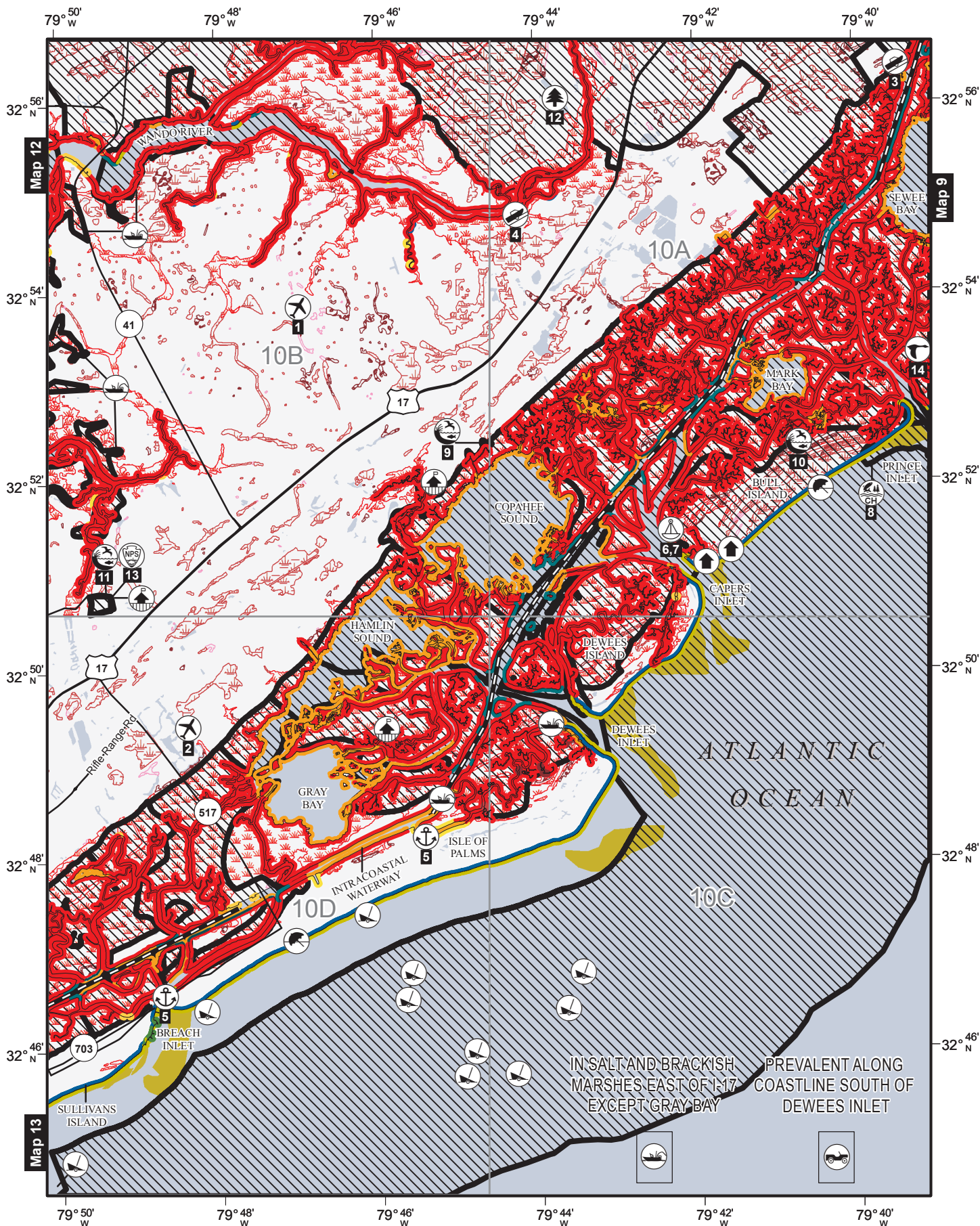
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	240,598.82	149.50	78%
10D	Scrub and Shrub Wetlands	9,417.89	5.85	3%
9A	Sheltered Tidal Flats	18,161.69	11.29	6%
8B	Sheltered, Solid Man-Made Structures	93.56	0.06	< 1%
7	Exposed Tidal Flats	20,114.14	12.50	7%
6A	Gravel Beaches	372.56	0.23	< 1%
5	Mixed Sand and Gravel Beaches	6,952.93	4.32	2%
3A	Fine to Medium Grained Sand Beaches	12,138.67	7.54	4%

Total ESI Shoreline: 307,850.26 Total ESI Shoreline: 191.29
 Total Shoreline: 253,131.37 Total Shoreline: 157.29

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

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





Map 10
South Carolina



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: August 2015

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 10
South Carolina

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AIRPORT	MT PLEASANT RGNL-FAISON FIELD	
2	AIRPORT	RAVEN'S RUN AIRPORT	
3	BOAT RAMP	GARRIS LANDING	CAPE ROMAIN NAT WLR
4	BOAT RAMP	PARADISE	CHARLESTON COUNTY
5	MARINA	MARINA	
6	REPEATED MEASUREMENT SITE	DB - 8664941 - SOUTH CAPERS ISLAND, SC	
7	REPEATED MEASUREMENT SITE	TG - SOUTH CAPERS ISLAND	

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
8	CRITICAL HABITAT	PIPING PLOVER CRITICAL HABITAT	US FISH AND WILDLIFE SERVICE
9	MANAGEMENT AREA	BUZZARD'S ISLAND HERITAGE PRESERVE	
10	MANAGEMENT AREA	CAPERS ISLAND HERITAGE PRESERVE	
11	MANAGEMENT AREA	SNEE FARM HERITAGE PRESERVE	
12	NATIONAL FOREST	FRANCIS MARION & SUMTER NTL FORESTS	803-561-4000
13	NATIONAL PARK	CHARLES PINCKNEY NATIONAL HISTORIC SITE	843-883-3123
14	WILDLIFE REFUGE	CAPE ROMAIN NATIONAL WILDLIFE REFUGE	843-928-3264

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SHRIMP HAPC	SOUTH ATLANTIC FMC	866-723-6210
ESSENTIAL HABITAT	SNAPPER/GROUPER HAPC	SOUTH ATLANTIC FMC	866-723-6210

JURISDICTIONS			
COUNTY:	BERKELEY COUNTY, CHARLESTON COUNTY	FEMA:	REGION IV
COAST GUARD:	DISTRICT 7, SECTOR CHARLESTON	EPA:	REGION 4
USACE:	SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT		

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	18,575.20	29.02
10B	Freshwater Marshes	134.29	0.21
10C	Swamps	4,291.28	6.71
10D	Scrub and Shrub Wetlands	723.55	1.13
9A	Sheltered Tidal Flats	2.61	0.00
7	Exposed Tidal Flats	1,067.58	1.67

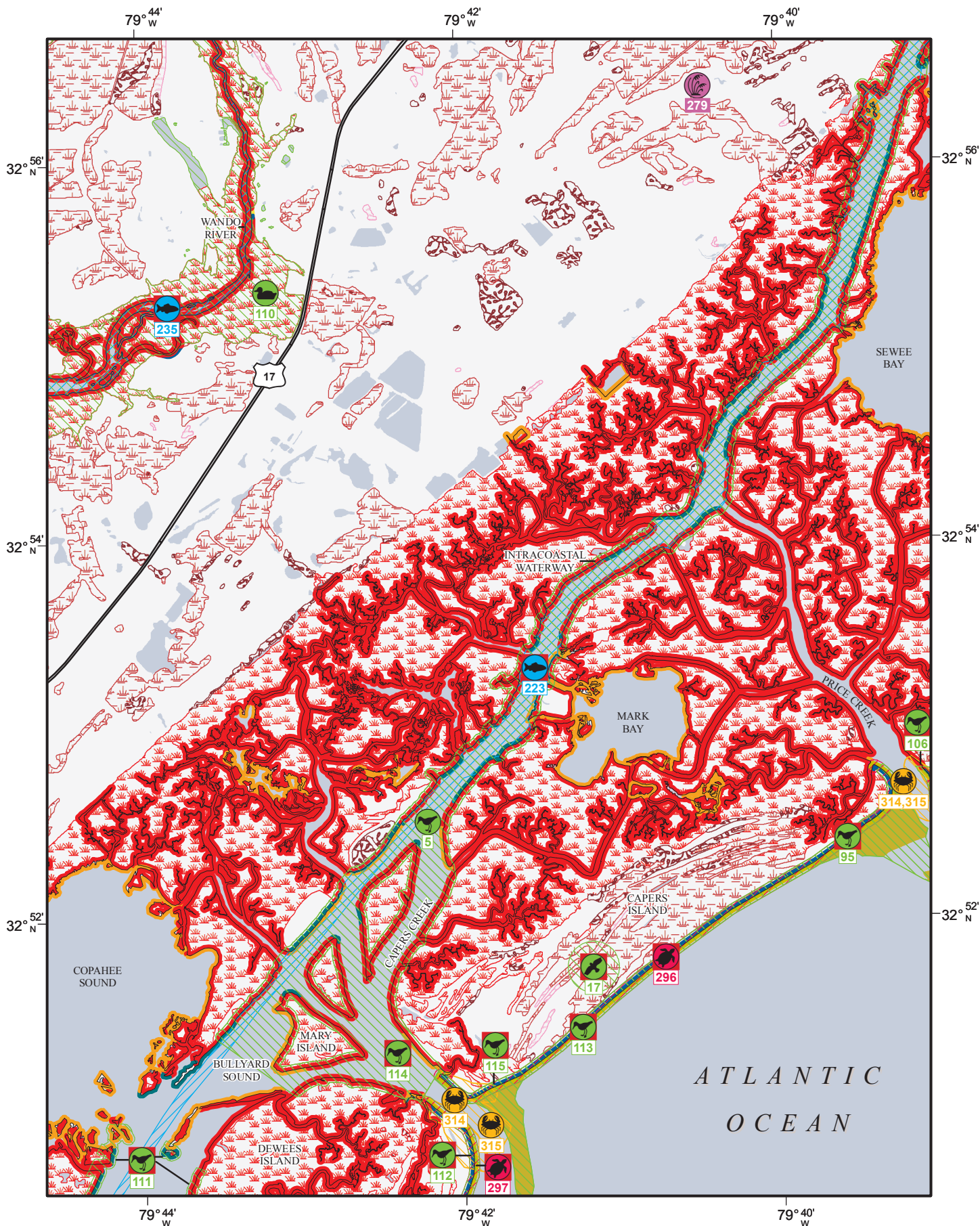
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	932,522.87	579.44	79%
10C	Swamps	1,963.66	1.22	< 1%
10D	Scrub and Shrub Wetlands	1,658.18	1.03	< 1%
9A	Sheltered Tidal Flats	162,993.82	101.28	14%
9B	Vegetated Low Banks	1,794.33	1.11	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	322.78	0.20	< 1%
8B	Sheltered, Solid Man-Made Structures	5,317.62	3.30	< 1%
8C	Sheltered Riprap	1,363.29	0.85	< 1%
7	Exposed Tidal Flats	27,317.09	16.97	2%
6A	Gravel Beaches	21,521.32	13.37	2%
6B	Riprap	1,086.72	0.68	< 1%
5	Mixed Sand and Gravel Beaches	1,054.17	0.66	< 1%
3A	Fine to Medium Grained Sand Beaches	26,808.54	16.66	2%
3B	Scarps and Steep Slopes (Sand)	1,026.53	0.64	< 1%
1B	Exposed, Solid Man-Made Structures	25.08	0.02	< 1%
Total ESI Shoreline:		1,186,775.99	737.43	
Total Shoreline:		971,151.43	603.45	

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

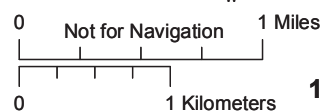




Map 10A
South Carolina



SEE BACK OF MAP
 for details about mapped species and other
 species that occur in the mapped area.
 Data Published: August 2015



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Map 10A
South Carolina

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) Mar-Jun	Mig.(F) Jul-Oct	Molt
							J	F	M	A	M	J	J	A	S	O	N	D				
5	Shorebird	Shorebirds	Migration			1,000S													-			-
	Shorebird	Shorebirds	Wintering			1,000S													-			-
17	Raptor	Bald eagle	Nesting	T		Present													Oct-May			-
95	Shorebird	Wilson's plover	Nesting	T		7 Pairs													Mar-Jul			-
106	Shorebird	American oystercatcher	Wintering	C		-													-			-
	Shorebird	Piping plover	Wintering	E	T	-													-			-
	Shorebird	Shorebirds	Migration			100S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			100S													-			-
	Shorebird	Wilson's plover	Nesting	T		3 Pairs													Mar-Jul			-
110	Waterfowl	American black duck	Wintering			10S													-			-
	Waterfowl	American coot	Wintering			10,000S													-			-
	Waterfowl	Hooded merganser	Wintering			10S													-			-
	Waterfowl	Northern shoveler	Wintering			10S													-			-
	Waterfowl	Redhead	Wintering			10S													-			-
	Waterfowl	Ring-necked duck	Wintering			1,000S													-			-
	Waterfowl	Wood duck	Nesting			100S													Feb-Jun			-
	Waterfowl	Wood duck	Wintering			10S													-			-
111	Shorebird	American oystercatcher	Wintering	C		721 Birds													-			-
112	Shorebird	American oystercatcher	Wintering	C		-													-			-
	Shorebird	Piping plover	Wintering	E	T	10S													-			-
	Shorebird	Red knot	Migration	T		1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering	T		100S													-			-
	Shorebird	Shorebirds	Migration			100S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			100S													-			-
	Shorebird	Wilson's plover	Nesting	T		5 Pairs													Mar-Jul			-
113	Shorebird	American oystercatcher	Wintering	C		10S													-			-
	Shorebird	Piping plover	Wintering	E	T	-													-			-
	Shorebird	Piping plover	Wintering	E	T	10S													-			-
	Shorebird	Red knot	Migration	T		1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering	T		100S													-			-
	Shorebird	Wilson's plover	Wintering	T		-													-			-
114	Shorebird	American oystercatcher	Nesting	C		39 Pairs													Apr-Aug			-
	Shorebird	American oystercatcher	Wintering	C		1,000S													-			-
	Shorebird	Marbled godwit	Wintering			100S													-			-
115	Shorebird	Wilson's plover	Nesting	T		1 Pair													Mar-Jul			-

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					
223	Diadromous	Atlantic sturgeon	Migration		E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Atlantic sturgeon	General Distribution		E	Rare													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Rare													-	-	-	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					
279	Plant	Bandana Everglades	Vulnerable Occurrence			-													-	-	-	-	-

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					
296	Turtle	Green sea turtle	Nesting		T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
297	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Medium													-	-	-	-	-

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					
314	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul	Apr-Jul	May-Aug	-	Apr-Jul
315	Crab	Horseshoe crab	Nursery Area			-													-	-	-	Jan-Dec	-

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				
316	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
		Saltmarsh sparrow	Wintering			-													-	-	-	-
		Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
		Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-
317	Waterfowl	American black duck	Wintering			100S													-	-	-	-
		American coot	Wintering			1,000S													-	-	-	-
		Blue-winged teal	Wintering			10S													-	-	-	-
		Bufflehead	Wintering			100S													-	-	-	-
318		Canvasback	Wintering			100S													-	-	-	-
		Gadwall	Wintering			100S													-	-	-	-
		Green-winged teal	Wintering			100S													-	-	-	-
		Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
319		Hooded merganser	Wintering			100S													-	-	-	-

BIRDS (continued)

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Molt
						J	F	M	A	M	J	J	A	S	O	N	D	
	Mergansers	Wintering			10S													
	Mottled duck	Nesting			Possible													
	Mottled duck	Wintering			10S													
	Northern pintail	Wintering			100S													
	Northern shoveler	Wintering			100S													
	Redhead	Wintering			100S													
	Ring-necked duck	Wintering			100S													
	Ruddy duck	Wintering			1,000S													
	Scaup	Rafting			1,000S													
	Scaup	Wintering			100S													
	Scoters	Migration			1,000S													
	Scoters	Rafting			10,000S													
	Wood duck	Nesting			Possible													
	Wood duck	Wintering			10S													

FISH

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
						J	F	M	A	M	J	J	A	S	O	N	D	
	American eel	Migration			-													Sep-Jan
	American shad	Migration			-													Jan-May
	Atlantic sturgeon	General Distribution		E	Present													Aug-Dec
	Blueback herring	Migration			-													Jan-Dec
	Hickory shad	Migration			-													Jan-May
	Shortnose sturgeon	General Distribution		E	E													Jan-May
					Low													Jan-Dec

REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
						J	F	M	A	M	J	J	A	S	O	N	D	
	Flatwoods salamander	General Distribution		E	Possible													-
	Flatwoods salamander	Vulnerable Occurrence		E	T													-
	Gopher frog	General Distribution		E	Possible													-
	Gopher frog	Vulnerable Occurrence		E	-													-
	Diamondback rattlesnake	General Distribution		C	Rare													-
	Diamondback rattlesnake	Vulnerable Occurrence		C	-													-
	Green sea turtle	General Distribution		T	T													-
	K. ridley sea turtle	General Distribution		E	E													-
	Leatherback sea turtle	General Distribution		E	E													-
	Loggerhead sea turtle	General Distribution		T	T													-

INVERTEBRATES

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
						J	F	M	A	M	J	J	A	S	O	N	D	
	Eastern oyster	Concentration Area			Reef													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				
Manatee	West Indian manatee	General Distribution	E	E	-													-	-	-	-
Whale	Humpback whale	General Distribution	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				
Aldid	Alcids													-	-	-	-
	Brown pelican													-	-	Jul-Oct	-
Diving	D. crested cormorant													-	-	-	-
	Diving birds													-	-	-	-
Gull/Tern	Loons													-	-	-	-
	Gulls													-	-	-	-
Terns	Terns													-	-	-	-
	Seaside sparrow													-	-	-	-
Passerine	Black-capped petrel													-	-	-	-
	Pelagic													-	-	-	-
Jaegers	Jaegers													-	-	-	-
	Northern gannet													-	-	-	-
Shearwaters	Shearwaters													-	-	-	-
	Storm-petrels													-	-	-	-
Shorebird	Phalaropes													-	-	-	-
	Clapper rail													-	-	-	-
Waterfowl	Mallard													-	-	-	-

FISH


Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
Diadromous	American eel													-	-	-	Jan-May	Jan-Dec
	Striped bass													-	-	-	Jan-Dec	Jan-Dec
Estuarine Nursery	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atl. sharpnose shark													-	-	-	Apr-Nov	Apr-Nov
Atlantic croaker	Atl. sharpnose shark													-	-	-	-	-
	Atlantic croaker													-	-	-	Mar-Nov	Mar-Nov
Atlantic croaker	Atlantic croaker													-	-	-	Nov-Apr	Jun-Sep
	Atlantic croaker													-	-	-	Nov-Apr	May-Sep
Atlantic menhaden	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Atlantic menhaden													-	-	-	Dec-May	Mar-Nov
Black drum	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Bluefish													-	-	-	-	-
Bonnethead shark	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
Ladyfish	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
Red drum	Red drum													-	-	-	-	-
	Red drum													-	-	-	Aug-Nov	Jan-Dec

South Carolina: Map 10A

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
Fish	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Sheepshead													-	-	-	May-Nov	May-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Dec	Mar-Dec
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	Mar-Jan*	Mar-Jan*
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spot													-	-	-	-	-
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
Marine Benthic	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
	Atlantic spadefish													-	-	-	-	-
	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Lemon shark													-	-	-	Apr-Nov	-
	Smooth dogfish													-	-	-	-	-
	Spotted hake													-	-	-	-	Dec-Apr
	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
Marine Pelagic	Blacktip shark													-	-	May-Oct	-	-
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	May-Oct	May-Oct	May-Oct
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	Apr-Oct	Apr-Oct	-
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	May-Oct	May-Oct	May-Oct
	Scalloped hammerhead													-	-	May-Oct	-	-
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	Dec-Apr
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr

REPTILES & AMPHIBIANS

Subelement	Species
 Turtle	C. diamondback terrapin

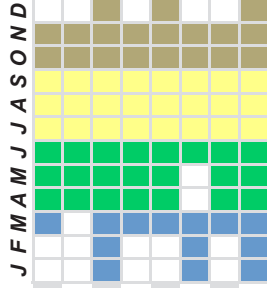
Monthly Presence



Nest	Hatch	Internest	Juveniles	Adults
-	-	-	-	-

INVERTEBRATES

Monthly Presence



Subelement	Species	Spawn	Eggs	Larvae	Juveniles	Adults
 Crab	Atlantic brief squid	-	-	-	-	-
	Blue crab	Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
 Shrimp	Blue crab	-	-	May-Nov	Jan-Dec	Jan-Dec
	Cannonball jellyfish	-	-	-	-	-
	Brown shrimp	-	-	Mar-Jun	Apr-Dec	Jun-Sep
	Brown shrimp	-	-	Jan-Mar	-	Jun-Nov
	White shrimp	May-Sep	May-Sep	Jun-Sep	-	Mar-Nov
	White shrimp	-	-	Jun-Sep	Jan-Dec	Apr-Dec

MARINE MAMMALS

Monthly Presence



Subelement	Species	Mating	Calving	Pupping	Molt
 Dolphin	Bottlenose dolphin	-	-	-	-

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	7,801.54	12.19
10B	Freshwater Marshes	43.04	0.07
10C	Swamps	1,927.39	3.01
10D	Scrub and Shrub Wetlands	347.43	0.54
9A	Sheltered Tidal Flats	0.11	0.00
7	Exposed Tidal Flats	144.43	0.23

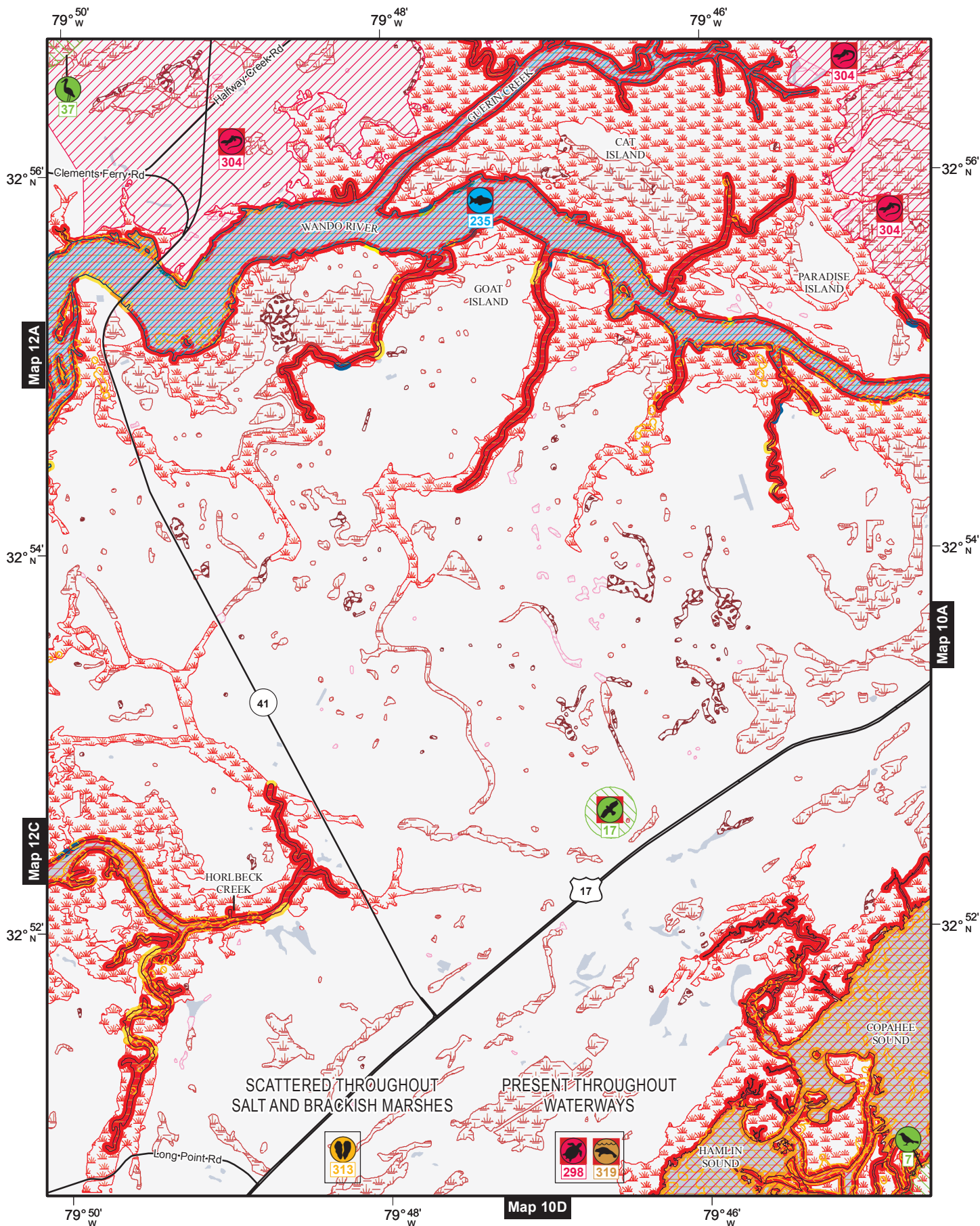
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	530,119.13	329.40	86%
10C	Swamps	226.48	0.14	< 1%
10D	Scrub and Shrub Wetlands	390.49	0.24	< 1%
9A	Sheltered Tidal Flats	56,818.66	35.31	9%
9B	Vegetated Low Banks	1,460.29	0.91	< 1%
8B	Sheltered, Solid Man-Made Structures	163.50	0.10	< 1%
8C	Sheltered Riprap	96.85	0.06	< 1%
7	Exposed Tidal Flats	7,351.63	4.57	1%
6A	Gravel Beaches	12,170.05	7.56	2%
5	Mixed Sand and Gravel Beaches	1,054.17	0.66	< 1%
3A	Fine to Medium Grained Sand Beaches	7,351.63	4.57	1%
3B	Scarps and Steep Slopes (Sand)	220.89	0.14	< 1%
Total ESI Shoreline:		617,423.77	383.65	
Total Shoreline:		540,281.77	335.72	

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

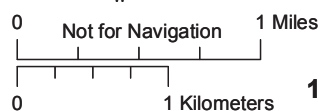




Map 10B
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



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)	Larvae	Juveniles	Adults	Molt
							J	F	M	A	M	J	J	A	S	O	N	D						
7	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-	-	-
17	Raptor	Bald eagle	Nesting	T		Present												Oct-May	-	-	-	-	-	-
37	Wading	Wading birds	Nesting			3 Rookeries												Feb-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					
235	Diadromous	Atlantic sturgeon	General Distribution		E	Rare													-	-	-	-	-
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Rare													-	-	-	-	-

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					
298	Turtle	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
	Turtle	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-
304	Amphibian	Flatwoods salamander	Vulnerable Occurrence	E	T	-													-	-	-	-	-
	Amphibian	Gopher frog	Vulnerable Occurrence	E		-													-	-	-	-	-



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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec



MARINE MAMMALS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Mating	Calving	Pupping	Molt
				E	E		J	F	M	A	M	J	J	A	S	O	N	D				
319	Manatee	West Indian manatee	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				
	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-
	American black duck	Wintering			10S													-	-	-	-
	American coot	Wintering			10,000S													-	-	-	-
	Blue-winged teal	Wintering			10S													-	-	-	-
	Bufflehead	Wintering			100S													-	-	-	-
	Gadwall	Wintering			100S													-	-	-	-
	Green-winged teal	Wintering			100S													-	-	-	-
	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Hooded merganser	Wintering			10S													-	-	-	-
	Mergansers	Wintering			10S													-	-	-	-
	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Northern shoveler	Wintering			10S													-	-	-	-
	Redhead	Wintering			10S													-	-	-	-
	Ring-necked duck	Wintering			1,000S													-	-	-	-
	Wood duck	Nesting			100S													Feb-Jun	-	-	-
	Wood duck	Wintering			10S													-	-	-	-



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					
	Flatwoods salamander	General Distribution	E	T	Possible													-	-	-	-	-
	Gopher frog	General Distribution	E		Possible													-	-	-	-	-
	Diamondback rattlesnake	General Distribution	C		Rare													-	-	-	-	-
	Diamondback rattlesnake	Vulnerable Occurrence	C		-													-	-	-	-	-

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Passerine	Seaside sparrow													-	-	-	-
 Wading	Clapper rail													Mar-Sep	-	-	-
 Waterfowl	Mallard													-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Diadromous	American eel													-	-	-	Jan-May	Jan-Dec
 Estuarine Nursery	Striped bass													-	-	-	Jan-Dec	Jan-Dec
	Atl. sharpnose shark													-	-	-	-	-
	Atlantic croaker													-	-	Nov-Apr	May-Sep	May-Sep
	Atlantic croaker													-	-	Nov-Apr	Jun-Sep	Jun-Sep
	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Bluefish													-	-	-	-	-
	Ladyfish													-	-	-	-	-
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	May-Nov	May-Nov
	Southern flounder													-	-	-	Mar-Dec	Mar-Dec
	Southern flounder													-	-	-	Mar-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					
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	Mar-Jan*	Mar-Jan*
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	Dec-Apr	Jan-Dec	Mar-Dec

REPTILES & AMPHIBIANS

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

INVERTEBRATES

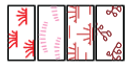
Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Crab	Blue crab													-	-	May-Nov	May-Nov	May-Nov
	Blue crab													-	-	May-Nov	Jan-Dec	Jan-Dec
 Shrimp	Brown shrimp													-	-	Mar-Jun	Apr-Oct	Jun-Nov
	Brown shrimp													-	-	Mar-Jun	Apr-Dec	Jun-Sep
	White shrimp													-	-	Jun-Sep	Jan-Dec	Apr-Dec
	White shrimp													-	-	Jun-Sep	Jan-Dec	Jan-Dec

MARINE MAMMALS

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

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

ESI POLYGON HABITAT TYPES



<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
10A	Salt and Brackish Water Marshes	4,664.22	7.29
10B	Freshwater Marshes	62.78	0.10
10C	Swamps	2,031.85	3.17
10D	Scrub and Shrub Wetlands	241.55	0.38

ESI SHORELINE HABITAT TYPES

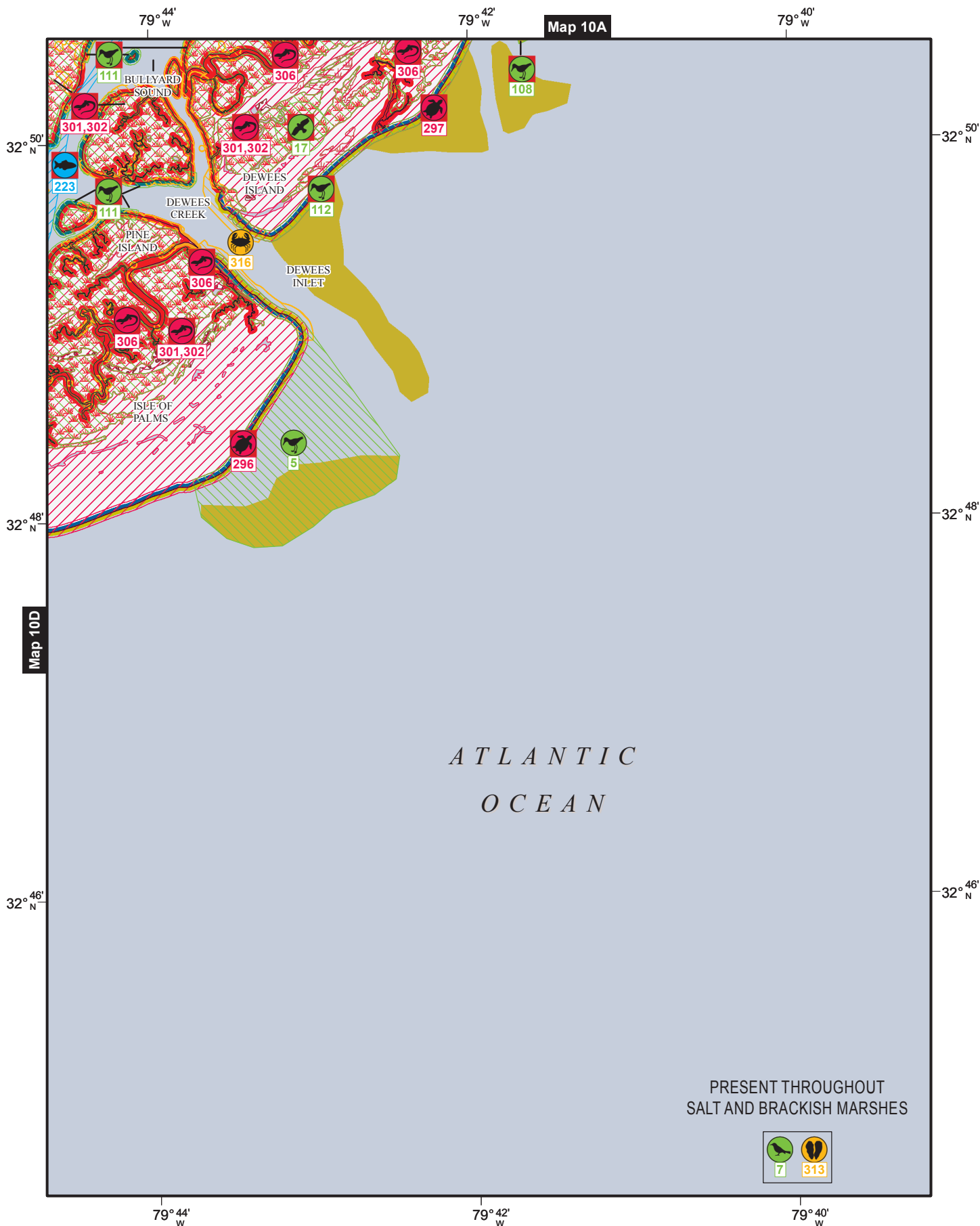
<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
10A	Salt and Brackish Water Marshes	137,613.36	85.51	83%
10C	Swamps	685.08	0.43	< 1%
10D	Scrub and Shrub Wetlands	23.51	0.01	< 1%
9A	Sheltered Tidal Flats	21,766.79	13.53	13%
9B	Vegetated Low Banks	269.68	0.17	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	322.78	0.20	< 1%
8B	Sheltered, Solid Man-Made Structures	1,874.21	1.16	1%
8C	Sheltered Riprap	777.67	0.48	< 1%
7	Exposed Tidal Flats	519.33	0.32	< 1%
6A	Gravel Beaches	708.40	0.44	< 1%
3B	Scarps and Steep Slopes (Sand)	805.64	0.50	< 1%

Total ESI Shoreline: 165,366.45 Total ESI Shoreline: 102.75
 Total Shoreline: 141,227.58 Total Shoreline: 87.75

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

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

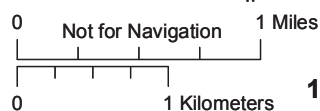




Map 10C South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



Map 10C
South Carolina

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				
5	Shorebird	Shorebirds	Migration			1,000S													-		Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-		-	-
7	Passerine	Nelson's sparrow	Wintering			-													-		-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-		-	-
17	Raptor	Bald eagle	Nesting	T		Present													Oct-May		-	-
108	Shorebird	American oystercatcher	Wintering	C		10S													-		-	-
	Shorebird	Piping plover	Wintering	E	T	10S													-		-	-
	Shorebird	Piping plover	Wintering	E	T	-													-		-	-
	Shorebird	Red knot	Migration	T		1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering	T		100S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
	Shorebird	Wilson's plover	Wintering	T		-													-	-	-	-
111	Shorebird	American oystercatcher	Wintering	C		721 Birds													-	-	-	-
112	Shorebird	American oystercatcher	Wintering	C		-													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	10S													-	-	-	-
	Shorebird	Red knot	Migration	T		1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering	T		100S													-	-	-	-
	Shorebird	Shorebirds	Migration			100S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			100S													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		5 Pairs													Mar-Jul	-	-	-

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					
223	Diadromous	Atlantic sturgeon	Migration		E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-	-	-	Jan-Dec	Jan-Dec

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					
296	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
297	Turtle	Loggerhead sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Medium													-	-	-	-	-

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					
301	Amphibian	Flatwoods salamander	General Distribution	E	T	Possible													-	-	-	-	-
	Amphibian	Gopher frog	General Distribution	E		Possible													-	-	-	-	-
302	Snake	Diamondback rattlesnake	General Distribution	C		Rare													-	-	-	-	-
306	Amphibian	Flatwoods salamander	General Distribution	E	T	Possible													-	-	-	-	-
	Amphibian	Gopher frog	General Distribution	E		Possible													-	-	-	-	-
	Snake	Diamondback rattlesnake	General Distribution	C		Rare													-	-	-	-	-

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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec
316	Crab	Horseshoe crab	Nursery Area			-													-	-	-	Jan-Dec	-
	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul	Apr-Jul	May-Aug	-	Apr-Jul

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				
	Scaup	Rafting			1,000S														-	-	
	Scoters	Migration			1,000S													Apr-Jun	-	-	
	Scoters	Rafting			10,000S													-	-	-	



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							
	American eel	Migration			-														-				Sep-Jan	
	American shad	Migration			-														-				Jan-May	
	Atlantic sturgeon	General Distribution		E	Present														-				Jan-Dec	
	Blueback herring	Migration			-														-				Jan-May	
	Hickory shad	Migration			-														-				Jan-May	
	Shortnose sturgeon	General Distribution	E	E	Low														-				Jan-Dec	





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	-													-	-	-		
	K. ridley sea turtle	General Distribution	E	E	-													-	-	-		
	Leatherback sea turtle	General Distribution	E	E	-													-	-	-		
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-		


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				
	Manatee	West Indian manatee	E	E	-																
	Whale	Humpback whale	E	E	-																
		N.A. right whale	E	E	-																

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Alcid	Alcids													-	-	-	-	-
	Brown pelican													-	-	Jul-Oct	-	-
	D. crested cormorant													-	-	-	-	-
	Diving birds													-	-	-	-	-
 Gull/Tern	Loons													-	-	-	-	-
	Gulls													-	-	-	-	-
	Terns													-	-	-	-	-
	Seaside sparrow													-	-	-	-	-
 Passerine	Black-capped petrel													-	-	-	-	-
	Jaegers													-	-	-	-	-
	Northern gannet													-	-	-	-	-
	Shearwaters													-	-	-	-	-
 Shorebird	Storm-petrels													-	-	-	-	-
	Phalaropes													-	-	-	-	-
	Clapper rail													-	-	-	-	-
	Wading													Mar-Sep	-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Estuarine Nursery	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atl. sharpnose shark													-	-	Apr-Nov	Apr-Nov	Apr-Nov
	Atlantic croaker													-	-	Nov-Apr	Jun-Nov	Jun-Nov
	Atlantic croaker													-	-	Nov-Apr	May-Sep	May-Sep
	Atlantic croaker													-	-	Nov-Apr	Mar-Nov	Mar-Nov
	Atlantic menhaden													-	-	Jul-Oct	Jul-Oct	Jul-Oct
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Black drum													-	-	Apr-Jan*	Apr-Jan*	Apr-Jan*
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Red drum													-	-	-	-	Aug-Nov
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Sheepshead													-	-	-	May-Nov	May-Nov
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	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					
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
Fish Marine Benthic	Great hammerhead													-	-	-	-	-
	Atlantic spadefish													-	-	-	-	-
	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	-	-
	Lemon shark													-	-	-	-	-
	Smooth dogfish													-	-	-	-	-
	Spotted hake													-	-	-	-	-
Marine Pelagic	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	-	-
	Blacktip shark													-	-	-	-	-
	Blacktip shark													-	-	-	-	-
	Blacktip shark													-	-	-	-	-
	Cobia													-	-	-	-	-
	Finetooth shark													-	-	-	-	-
	Finetooth shark													-	-	-	-	-
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	-	-
	Sandbar shark													-	-	-	-	-
	Sandbar shark													-	-	-	-	-
	Scalloped hammerhead													-	-	-	-	-
	Scalloped hammerhead													-	-	-	-	-
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	-	-
	Spiny dogfish													-	-	-	-	-
	Tiger shark													-	-	-	-	-
	White shark													-	-	-	-	-



REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
 Cephalopod	Atlantic brief squid													-	-	-	-
	Blue crab													Apr-Sep	May-Nov	Jan-Dec	Apr-Sep
 Invertebrate	Blue crab													-	May-Nov	-	-
	Cannonball jellyfish													-	-	-	-
	Brown shrimp													-	Mar-Jun	Apr-Dec	Jun-Sep
	Brown shrimp													-	Jan-Mar	-	Jun-Nov
 Shrimp	White shrimp													-	Jun-Sep	Jan-Dec	Apr-Dec
	White shrimp													May-Sep	May-Sep	-	Mar-Nov

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
 Dolphin	Atl. spotted dolphin													-	-	-	-
	Bottlenose dolphin													-	-	-	-
 Whale	Pygmy sperm whale													-	-	-	-
	S.finned pilot whale													-	-	-	-

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

SHORELINE RESOURCES

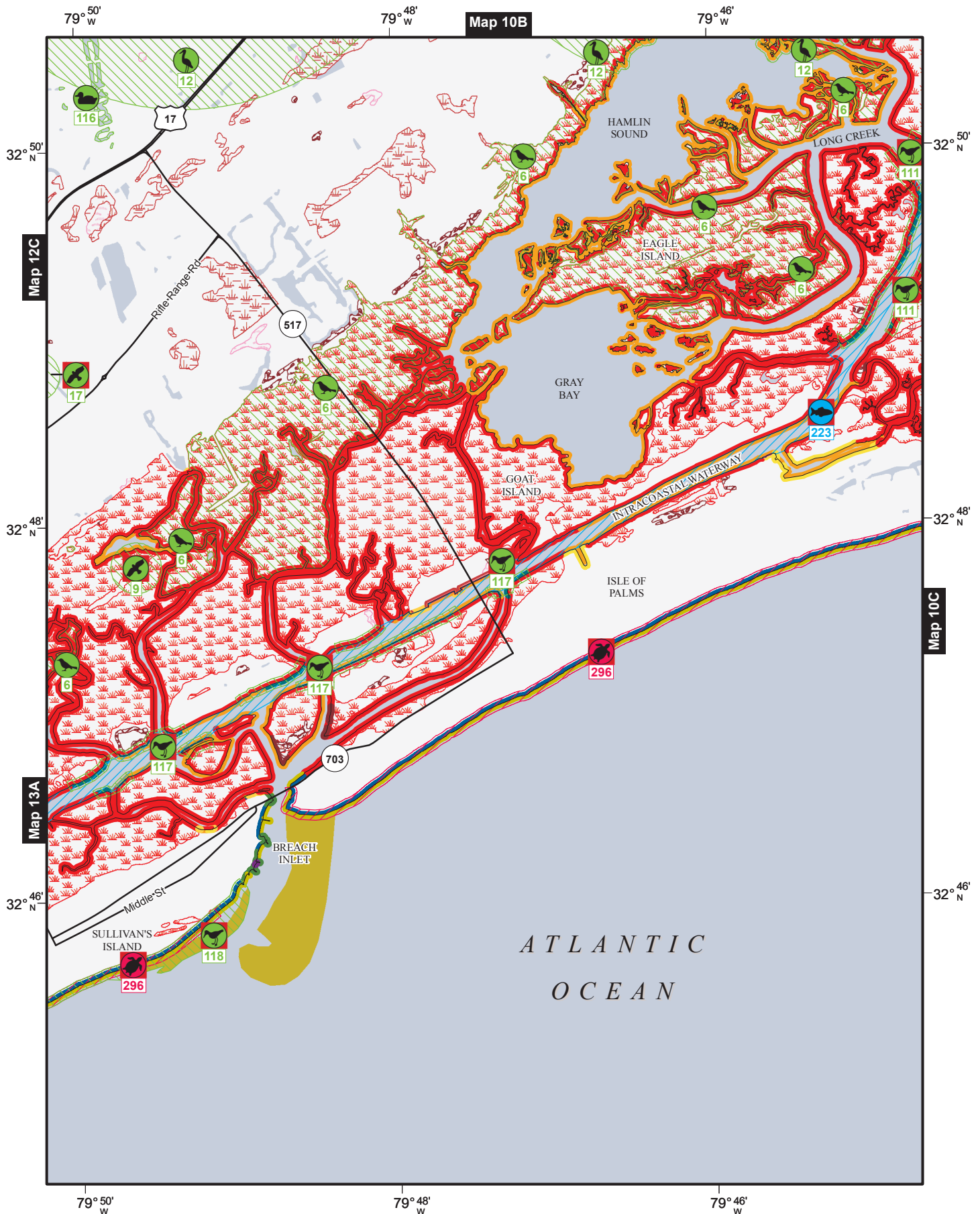
ESI POLYGON HABITAT TYPES		Area (Sq. Miles)	
ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,153.74	1.80
10C	Swamps	61.65	0.10
10D	Scrub and Shrub Wetlands	38.60	0.06
9A	Sheltered Tidal Flats	2.50	0.00
7	Exposed Tidal Flats	671.51	1.05

ESI SHORELINE HABITAT TYPES		Length (Miles)		% of ESI Shoreline
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	
10A	Salt and Brackish Water Marshes	56,964.53	35.40	72%
10D	Scrub and Shrub Wetlands	437.47	0.27	1%
9A	Sheltered Tidal Flats	1,301.85	0.81	2%
7	Exposed Tidal Flats	8,497.29	5.28	11%
6A	Gravel Beaches	2,938.79	1.83	4%
3A	Fine to Medium Grained Sand Beaches	9,144.60	5.68	12%
Total ESI Shoreline:		79,284.53	Total ESI Shoreline: 49.27	
Total Shoreline:		66,533.54	Total Shoreline: 41.34	

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

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

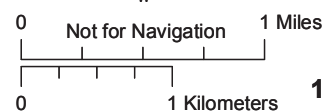




Map 10D
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



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Map 10D
South Carolina

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				
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
9	Raptor	Bald eagle	Nesting	T		Possible													Oct-May	-	-	-
12	Wading	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-
17	Raptor	Bald eagle	Nesting	T		Present													Oct-May	-	-	-
111	Shorebird	American oystercatcher	Wintering	C		721 Birds													-	-	-	-
116	Waterfowl	American black duck	Wintering			10S													-	-	-	-
	Waterfowl	American coot	Wintering			10,000S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Waterfowl	Hooded merganser	Wintering			10S													-	-	-	-
	Waterfowl	Mergansers	Wintering			10S													-	-	-	-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Northern shoveler	Wintering			10S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			1,000S													-	-	-	-
	Waterfowl	Wood duck	Nesting			100S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			10S													-	-	-	-
117	Shorebird	American oystercatcher	Nesting	C		9 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		2 Birds													-	-	-	-
118	Shorebird	Piping plover	Wintering	E	T	-													-	-	-	-
	Shorebird	Red knot	Migration	T		1,000S													Mar-May	Jul-Oct	-	-
	Shorebird	Red knot	Wintering	T		100S													-	-	-	-
	Shorebird	Shorebirds	Migration			100S													Mar-Jun	Jul-Oct	-	-
	Shorebird	Shorebirds	Wintering			100S													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		2 Pairs													Mar-Jul	-	-	-

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					
223	Diadromous	Atlantic sturgeon	Migration		E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-	-	-	Jan-Dec	Jan-Dec

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					
296	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Low													-	-	-	-	-

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				
	Passerine	Nelson's sparrow	Wintering		-													-	-	-	-
		Saltmarsh sparrow	Wintering		-													-	-	-	-
	Waterfowl	Scaup	Rafting		1,000S													-	-	-	-
		Scoters	Migration		1,000S													-	Apr-Jun	-	-
		Scoters	Rafting		10,000S													-	-	-	-

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	American eel	Migration		-													-	-	-	Jan-May	Sep-Jan
		American shad	Migration		-													-	-	-	Aug-Dec	Jan-May
		Atlantic sturgeon	General Distribution	E	Present													-	-	-	-	Jan-Dec
		Blueback herring	Migration		-													-	-	-	Aug-Dec	Jan-May
		Hickory shad	Migration		-													-	-	-	Aug-Dec	Jan-May
		Shortnose sturgeon	General Distribution	E	E	Low												-	-	-	-	Jan-Dec

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					
	Amphibian	Flatwoods salamander	General Distribution	E	Possible													-	-	-	-	-
		Gopher frog	General Distribution	E	Possible													-	-	-	-	-
	Snake	Diamondback rattlesnake	General Distribution	C	Rare													-	-	-	-	-
	Turtle	Green sea turtle	General Distribution	T	-													-	-	-	-	-
		K. ridley sea turtle	General Distribution	E	-													-	-	-	-	-
		Leatherback sea turtle	General Distribution	E	-													-	-	-	-	-
		Loggerhead sea turtle	General Distribution	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	Eastern oyster	Concentration Area		Reef													May-Nov	May-Nov	Jun-Dec	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				
Manatee	West Indian manatee	General Distribution	E	E	-													-	-	-	-
Whale	Humpback whale	General Distribution	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	Alcids													-	-	-	-
Diving	Brown pelican													-	-	Jul-Oct	-
	D. crested cormorant													-	-	-	-
	Diving birds													-	-	-	-
	Loons													-	-	-	-
Gull/Tern	Gulls													-	-	-	-
	Terns													-	-	-	-
Passerine	Seaside sparrow													-	-	-	-
Pelagic	Black-capped petrel													-	-	-	-
	Jaegers													-	-	-	-
	Northern gannet													-	-	-	-
	Shearwaters													-	-	-	-
Shorebird	Storm-petrels													-	-	-	-
	Phalaropes													-	-	-	-
	Clapper rail													-	-	-	-
	Mallard													-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
Estuarine Nursery	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atl. sharpnose shark													-	-	-	Apr-Nov	Apr-Nov
	Atlantic croaker													-	-	Nov-Apr	May-Sep	May-Sep
	Atlantic croaker													-	-	Nov-Apr	Jun-Nov	Jun-Nov
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	May-Nov	May-Nov
	Silver seatrout													-	-	-	-	-

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Southern flounder													-	-	-	-	Mar-Nov
	Southern flounder													-	-	-	-	-
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	-	-
	Spot													-	-	-	-	-
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
Fish	Great hammerhead													-	-	-	-	-
	Atlantic spadefish													-	-	-	Apr-Oct	Apr-Oct
Marine Benthic	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	-	-
	Smooth dogfish													-	-	-	Apr-Nov	Apr-Nov
	Spotted hake													-	-	-	-	Dec-Apr
Marine Pelagic	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	May-Oct	May-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	Dec-Apr
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr


REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
Cephalopod	Atlantic brief squid													-	-	-	-	-
Crab	Blue crab													-	-	May-Nov	Jan-Dec	Jan-Dec
Invertebrate	Blue crab													Apr-Sep	Apr-Sep	May-Nov	-	Apr-Sep
	Cannonball jellyfish													-	-	-	-	-

INVERTEBRATES (continued)

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Brown shrimp												
	Brown shrimp												
	White shrimp												
	White shrimp												

MARINE MAMMALS

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

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	4,958.02	7.75
10B	Freshwater Marshes	28.53	0.04
10C	Swamps	272.63	0.43
10D	Scrub and Shrub Wetlands	96.21	0.15
7	Exposed Tidal Flats	251.63	0.39

ESI SHORELINE HABITAT TYPES

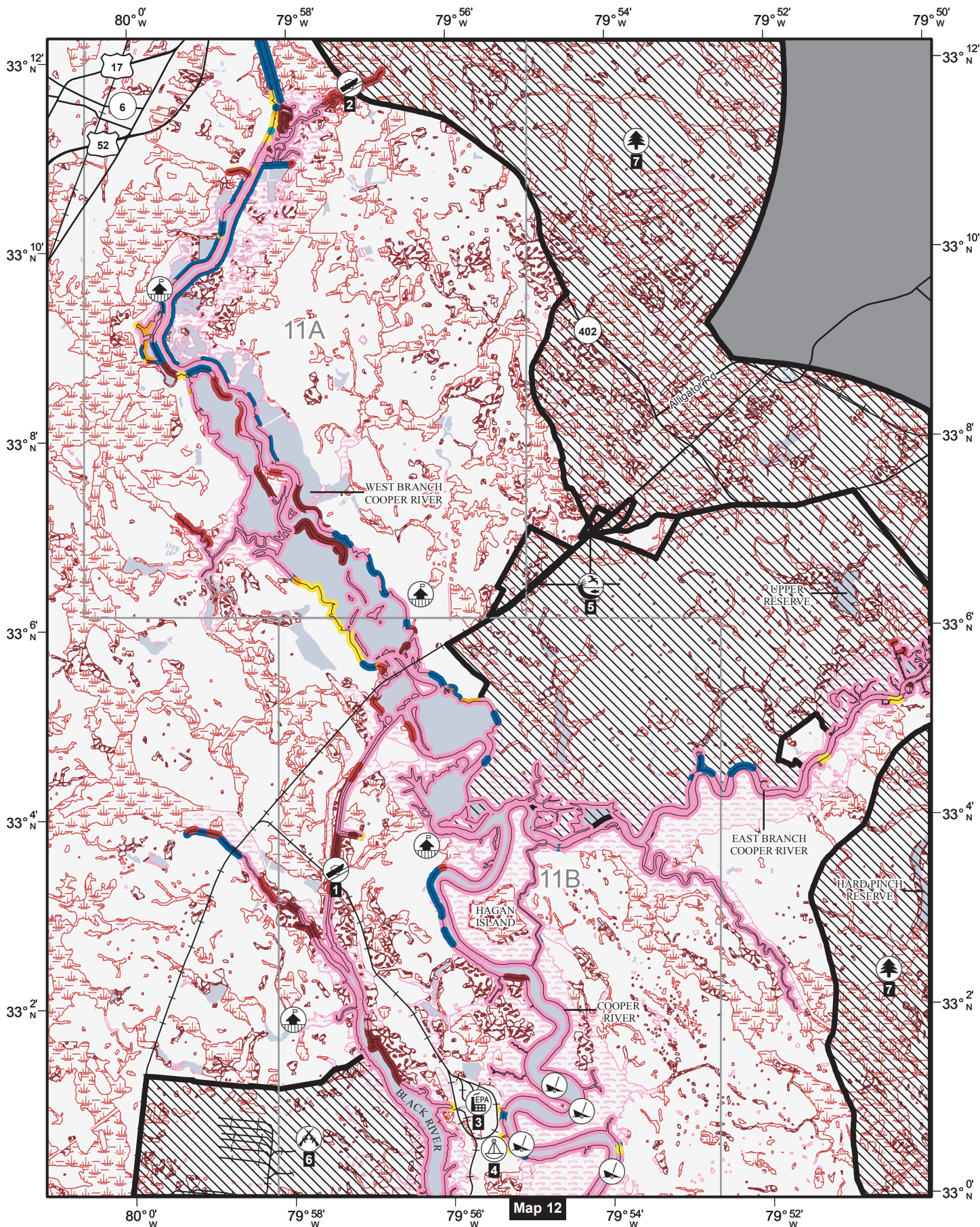
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	207,875.26	129.17	64%
10C	Swamps	1,052.10	0.65	< 1%
10D	Scrub and Shrub Wetlands	806.04	0.50	< 1%
9A	Sheltered Tidal Flats	83,106.06	51.64	26%
9B	Vegetated Low Banks	64.36	0.04	< 1%
8B	Sheltered, Solid Man-Made Structures	3,280.26	2.04	1%
8C	Sheltered Riprap	488.77	0.30	< 1%
7	Exposed Tidal Flats	10,948.22	6.80	3%
6A	Gravel Beaches	5,704.08	3.54	2%
6B	Riprap	1,086.72	0.68	< 1%
3A	Fine to Medium Grained Sand Beaches	10,311.68	6.41	3%
1B	Exposed, Solid Man-Made Structures	25.08	0.02	< 1%

Total ESI Shoreline: 324,748.63 Total ESI Shoreline: 201.79
Total Shoreline: 223,157.67 Total Shoreline: 138.66

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 11
South Carolina



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: August 2015

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 11
South Carolina

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)				
Map ID	Type	Name	Contact	Phone
1	BOAT RAMP	DUNHAM CREEK	BERKELEY COUNTY	
2	BOAT RAMP	REMBERT C DENNIS	BERKELEY COUNTY	
3	EPA FACILITY	SOUTH CAROLINA ELECTRIC & GAS, WILLIAMS STATION	PLANT MANAGER	
4	REPEATED MEASUREMENT SITE	TG - GEN DYNAMICS PIER		

DISPLAYED ON MAP (POLYGONS)				
Map ID	Type	Name	Contact	Phone
5	MANAGEMENT AREA	BONNEAU FERRY WILDLIFE MANAGEMENT AREA	SOUTH CAROLINA DEPARTMENT OF NATURAL RESOL	
6	MILITARY	NAVAL WEAPONS STATION CHARLESTON	BASE OPERATOR	843-963-1110
7	NATIONAL FOREST	FRANCIS MARION & SUMTER NTL FORESTS	FOREST SUPERVISOR'S OFFICE	803-561-4000

JURISDICTIONS				
COUNTY:	BERKELEY COUNTY	FEMA:	REGION IV	
COAST GUARD:	DISTRICT 7, SECTOR CHARLESTON	EPA:	REGION 4	
USACE:	SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT			

ESI POLYGON HABITAT TYPES



ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10B	Freshwater Marshes	8,460.44	13.22
10C	Swamps	17,046.35	26.63
10D	Scrub and Shrub Wetlands	5,674.56	8.87

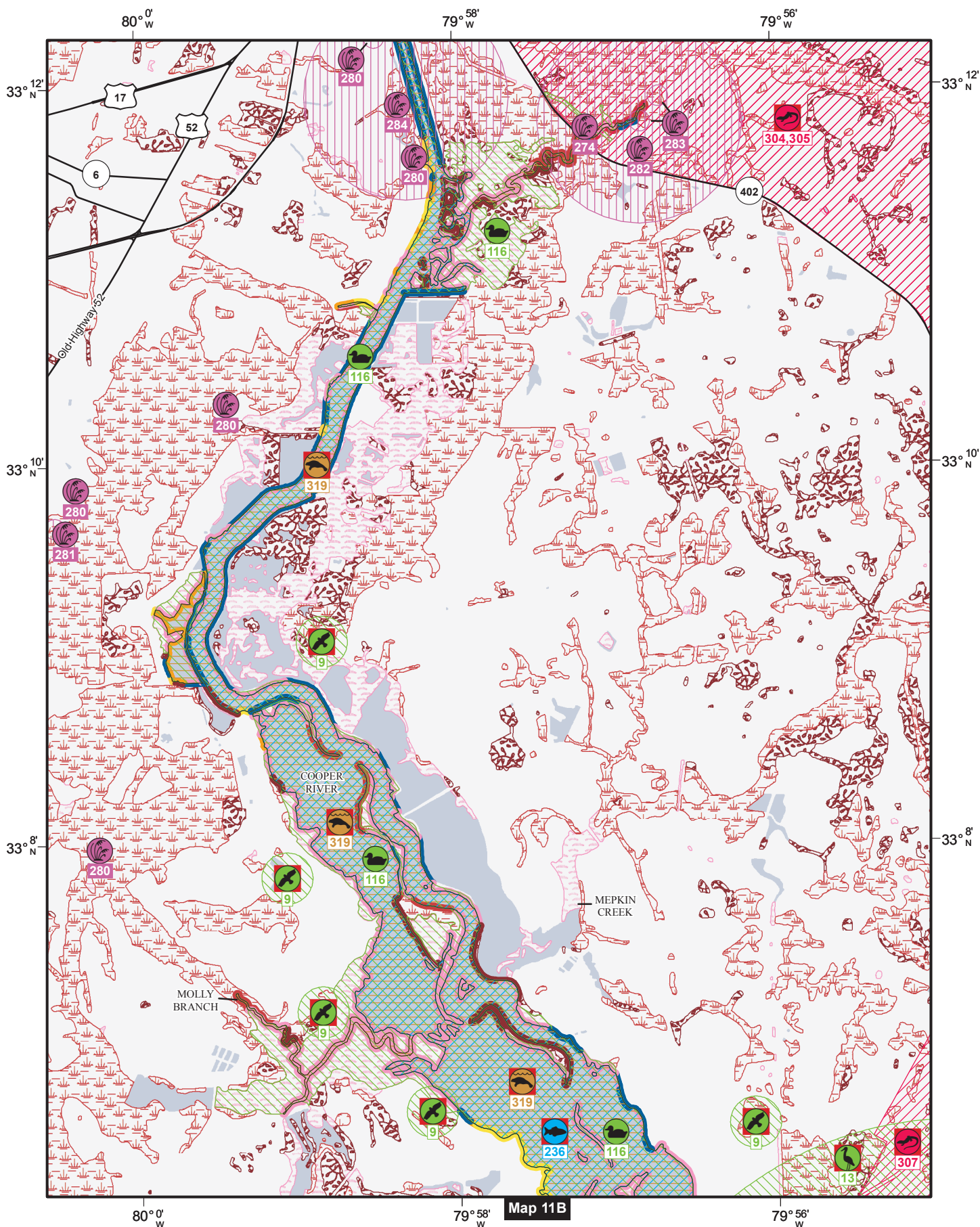
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10B	Freshwater Marshes	211,829.42	131.63	78%
10C	Swamps	8,454.81	5.25	3%
10D	Scrub and Shrub Wetlands	18,728.07	11.64	7%
9A	Sheltered Tidal Flats	2,029.25	1.26	1%
9B	Vegetated Low Banks	1,398.63	0.87	1%
8B	Sheltered, Solid Man-Made Structures	4,904.79	3.05	2%
8C	Sheltered Riprap	1,469.62	0.91	1%
5	Mixed Sand and Gravel Beaches	24.34	0.02	< 1%
3B	Scarps and Steep Slopes (Sand)	23,833.91	14.81	9%
Total ESI Shoreline:		272,672.82	Total ESI Shoreline: 169.43	
		Total Shoreline: 256,791.49	Total Shoreline: 159.56	

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

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





Map 11A
South Carolina

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
							J	F	M	A	M	J	J	A	S	O	N	D					
9	Raptor	Bald eagle	Nesting	S	T	Possible													Oct-May	-	-	-	-
13	Wading	Wood stork	Nesting	E	T	1 Rookery													Mar-Sep	-	-	-	-
116	Waterfowl	American black duck	Wintering			10S													-	-	-	-	-
	Waterfowl	American coot	Wintering			10,000S													-	-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-	-
	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-	-
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-	-
	Waterfowl	Hooded merganser	Wintering			10S													-	-	-	-	-
	Waterfowl	Mergansers	Wintering			10S													-	-	-	-	-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-	-
	Waterfowl	Northern shoveler	Wintering			10S													-	-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			1,000S													-	-	-	-	-
	Waterfowl	Wood duck	Nesting			100S													Feb-Jun	-	-	-	-
	Waterfowl	Wood duck	Wintering			10S													-	-	-	-	-

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					
236	Diadromous	American shad	Migration			High													-	-	-	-	Jan-May
	Diadromous	Atlantic sturgeon	General Distribution		E	Low													-	-	-	-	Jan-Dec
	Diadromous	Blueback herring	Migration			High													-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	-	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					
274	Plant	Viviparous spikerush	Vulnerable Occurrence			-													-	-	-	-	-
280	Plant	Nutmeg hickory	Vulnerable Occurrence			-													-	-	-	-	-
281	Plant	Nutmeg hickory	Vulnerable Occurrence			-													-	-	-	-	-
	Plant	Widow sedge	Vulnerable Occurrence			-													-	-	-	-	-
282	Plant	Shadow-witch orchid	Vulnerable Occurrence			-													-	-	-	-	-
283	Plant	Widow sedge	Vulnerable Occurrence			-													-	-	-	-	-
284	Plant	Blackstem spleenwort	Vulnerable Occurrence			-													-	-	-	-	-

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					
304	Amphibian	Flatwoods salamander	Vulnerable Occurrence	E	T	-													-	-	-	-	-
	Amphibian	Gopher frog	Vulnerable Occurrence	E		-													-	-	-	-	-
305	Snake	Diamondback rattlesnake	Vulnerable Occurrence	C		-													-	-	-	-	-
307	Amphibian	Gopher frog	Vulnerable Occurrence	E		-													-	-	-	-	-
	Snake	Diamondback rattlesnake	Vulnerable Occurrence	C		-													-	-	-	-	-

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				
319	Manatee	West Indian manatee	General Distribution	E	E	-													-	-	-	-

WIDESPREAD IN MAPPED AREA (> 10 SQUARE KILOMETERS)



BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Molt
						J	F	M	A	M	J	J	A	S	O	N	D					
	Wading	Wading birds	Nesting		1 Rookery													Feb-Sep	-	-	-	-
	Wading	Wading birds	Nesting		3 Rookeries													Feb-Sep	-	-	-	-

HABITATS & RARE PLANTS



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					
	Plant	Ravenel's eryngo	Vulnerable Occurrence		-													-	-	-	-	-

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					
	Amphibian	Flatwoods salamander	General Distribution	E	T	Possible												-	-	-	-	-
	Gopher frog	General Distribution	E		Possible													-	-	-	-	-
	Northern dwarf siren	General Distribution	T		Possible													-	-	-	-	-
	Snake	Diamondback rattlesnake	General Distribution	C		Rare												-	-	-	-	-

ALSO PRESENT IN MAPPED AREA (GENERAL DISTRIBUTION)

BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Molt
						J	F	M	A	M	J	J	A	S	O	N	D					
	Wading	King rail	General Distribution	E														Feb-Aug	-	-	-	-
	Least bittern	General Distribution	E															May-Aug	-	-	-	-
	Waterfowl	Mallard	General Distribution	C														-	-	-	-	-

FISH

Monthly Presence

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D	Spawn			
Diadromous	American shad													-	-	-	-
	Blueback herring													-	-	-	-
	Hickory shad													-	-	-	-
	Striped bass													-	-	-	-
														-	-	-	-

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	1,505.95	2.35
10C	Swamps	5,255.61	8.21
10D	Scrub and Shrub Wetlands	1,398.01	2.18

ESI SHORELINE HABITAT TYPES

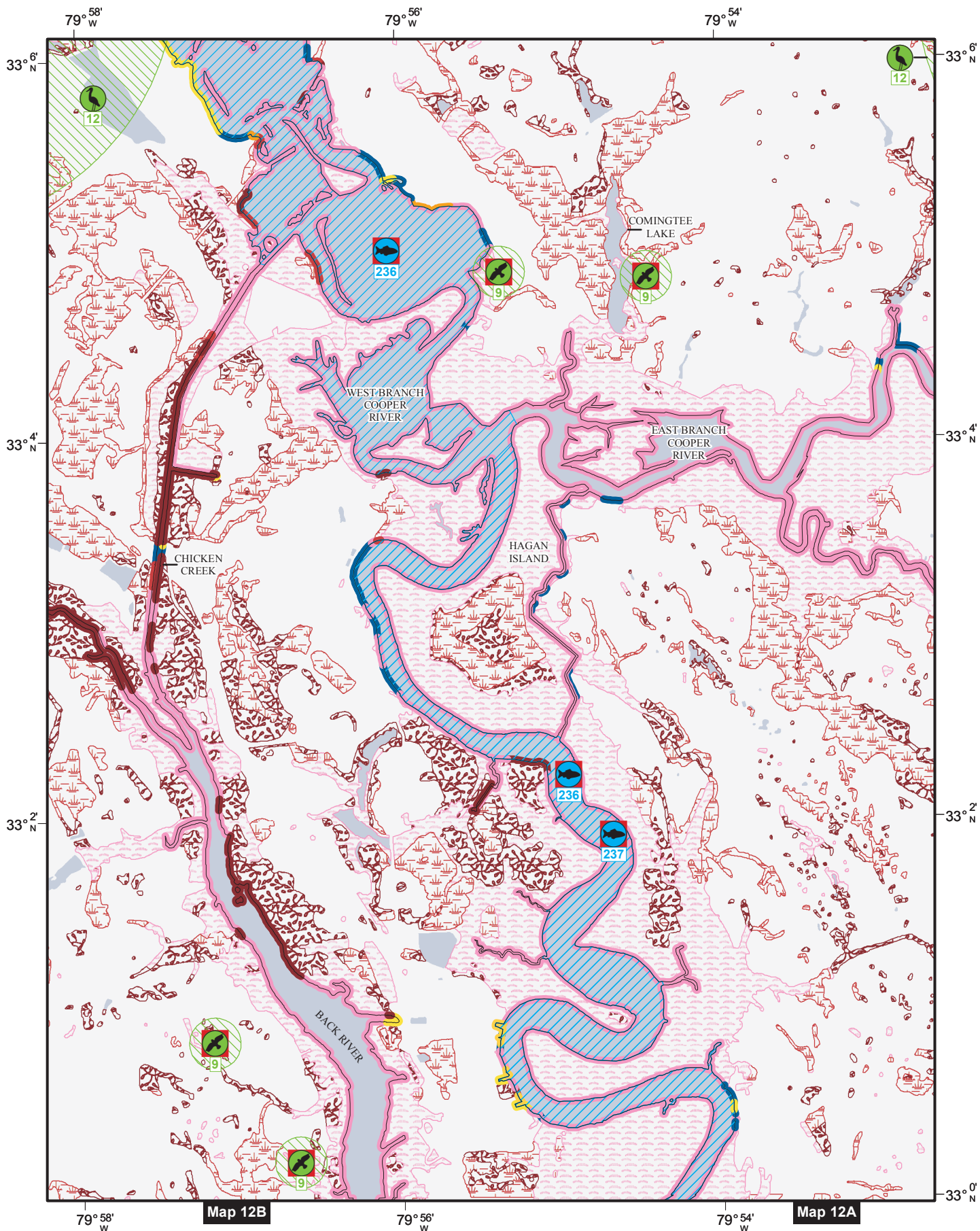
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10B	Freshwater Marshes	52,921.47	32.88	59%
10C	Swamps	6,111.68	3.80	7%
10D	Scrub and Shrub Wetlands	7,841.34	4.87	9%
9A	Sheltered Tidal Flats	2,029.25	1.26	2%
9B	Vegetated Low Banks	887.61	0.55	1%
8B	Sheltered, Solid Man-Made Structures	2,249.84	1.40	3%
8C	Sheltered Riprap	1,026.89	0.64	1%
5	Mixed Sand and Gravel Beaches	24.34	0.02	< 1%
3B	Scarps and Steep Slopes (Sand)	16,856.21	10.47	19%

Total ESI Shoreline: 89,948.62 Total ESI Shoreline: 55.89
Total Shoreline: 75,528.76 Total Shoreline: 46.93

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

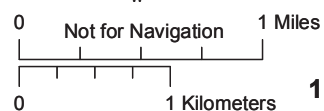




Map 11B
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



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
9	Raptor	Bald eagle	Nesting	S	T	Possible	J	F	M	A	M	J	J	A	S	O	N	D	Oct-May	-	-	-	-
12	Wading	Wading birds	Nesting			1 Rookery													Feb-Sep	-	-	-	-

FISH



Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
236	Diadromous	American shad	Migration			High	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-May
	Diadromous	Atlantic sturgeon	General Distribution		E	Low													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Blueback herring	Migration			High													-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
237	Diadromous	Shortnose sturgeon	Concentration Area		E	High													-	-	-	-	Jan-Dec

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				
 Wading	Wading birds	Nesting			3 Rookeries													Feb-Sep	-	-	-
	Wood stork	Nesting	E	T	1 Rookery													Mar-Sep	-	-	-
 Waterfowl	American black duck	Wintering			10S													-	-	-	-
	American coot	Wintering			10,000S													-	-	-	-
	Blue-winged teal	Wintering			10S													-	-	-	-
	Bufflehead	Wintering			100S													-	-	-	-
	Gadwall	Wintering			100S													-	-	-	-
	Green-winged teal	Wintering			100S													-	-	-	-
	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Hooded merganser	Wintering			10S													-	-	-	-
	Mergansers	Wintering			10S													-	-	-	-
	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Northern shoveler	Wintering			10S													-	-	-	-
	Redhead	Wintering			10S													-	-	-	-
	Ring-necked duck	Wintering			1,000S													-	-	-	-
	Wood duck	Nesting			100S													Feb-Jun	-	-	-
	Wood duck	Wintering			10S													-	-	-	-

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					
	Flatwoods salamander	General Distribution	E	T	Possible													-	-	-	-	-
	Gopher frog	General Distribution	E		Possible													-	-	-	-	-
	Gopher frog	Vulnerable Occurrence	T		-													-	-	-	-	-
	Northern dwarf siren	General Distribution	T		Possible													-	-	-	-	-
	Diamondback rattlesnake	General Distribution	C		Rare													-	-	-	-	-
	Diamondback rattlesnake	Vulnerable Occurrence	C		-													-	-	-	-	-

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				
	West Indian manatee	General Distribution	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				
	King rail																	Feb-Aug	-	-	-
	Least bittern																	May-Aug	-	-	-
	Mallard																	-	-	-	-

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					
	American shad																	-	-	-	Jan-Dec	-
	Blueback herring																	-	-	-	Jan-Dec	-
	Hickory shad																	-	-	-	Jan-Dec	-
	Striped bass																	-	-	-	Jan-Dec	-
	Atlantic croaker																	-	-	Nov-Apr	Jan-May*	Jan-May*
	Atlantic menhaden																	-	-	-	Feb-Oct	Mar-Oct
	Gray snapper																	-	-	-	Oct	-
	Red drum																	-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead																	-	-	-	May-Oct*	May-Oct*
	Southern flounder																	-	-	-	Jan-Dec	Jan-Dec
	Spot																	-	-	-	Feb-Dec	Feb-Dec
	Spotted seatrout																	-	-	-	Jan-Dec	-
	Striped mullet																	-	-	-	-	-
	Blue catfish																	-	-	-	Mar-Nov*	Mar-Nov*
	Largemouth bass																	-	-	-	-	-
	Redbreast sunfish																	-	-	-	-	-

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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES



ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10B	Freshwater Marshes	5,135.57	8.02
10C	Swamps	2,479.80	3.87
10D	Scrub and Shrub Wetlands	1,626.77	2.54

ESI SHORELINE HABITAT TYPES

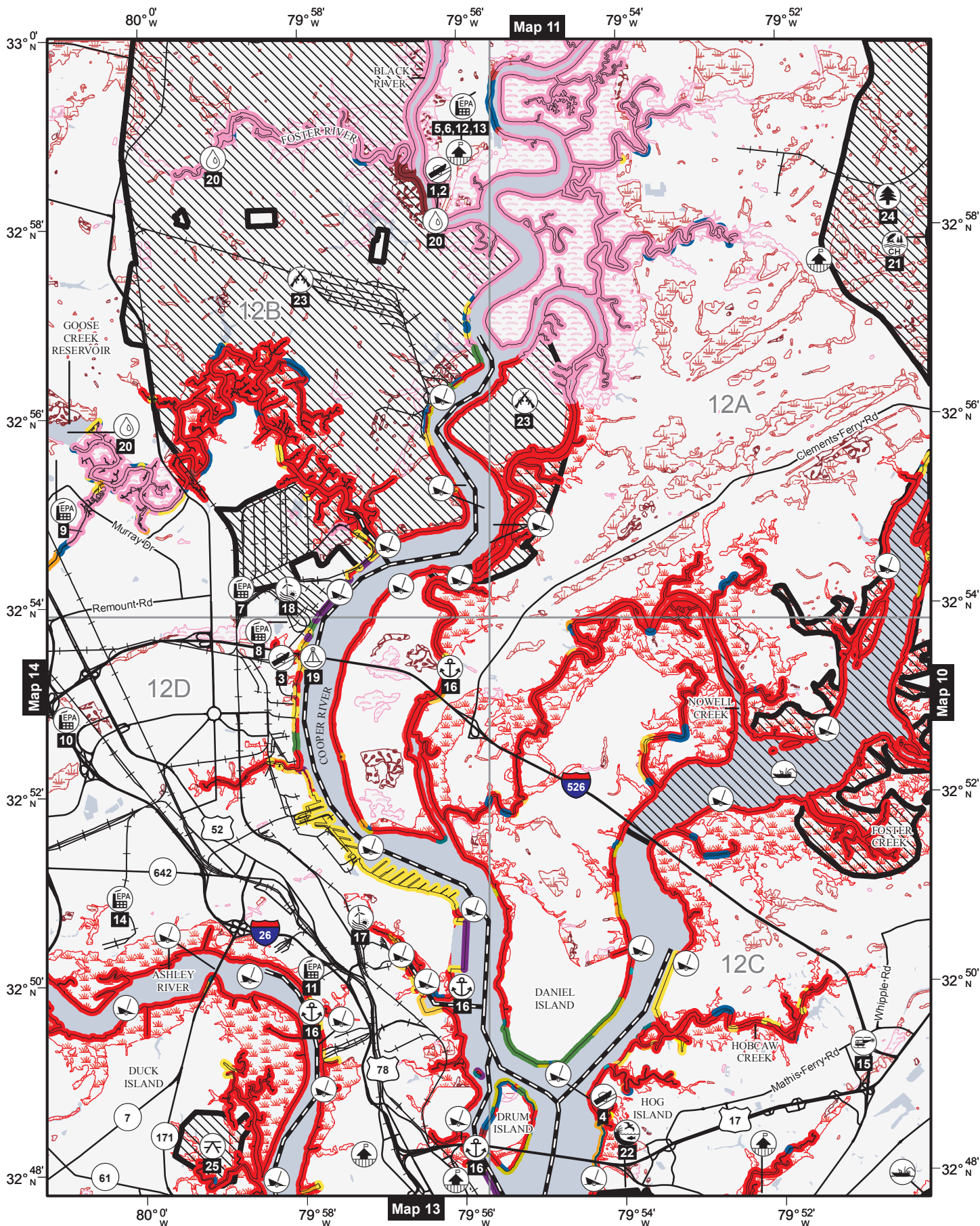
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10B	Freshwater Marshes	121,872.71	75.73	86%
10C	Swamps	1,193.24	0.74	1%
10D	Scrub and Shrub Wetlands	10,061.14	6.25	7%
9B	Vegetated Low Banks	511.02	0.32	< 1%
8B	Sheltered, Solid Man-Made Structures	2,349.62	1.46	2%
8C	Sheltered Riprap	442.73	0.28	< 1%
3B	Scarps and Steep Slopes (Sand)	5,179.96	3.22	4%

Total ESI Shoreline: 141,610.43 Total ESI Shoreline: 87.99
Total Shoreline: 140,148.95 Total Shoreline: 87.08

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

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





Map 12
South Carolina



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: August 2015

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 12
South Carolina

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Contact Phone
1	BOAT RAMP	BUSHY PARK - FRESH WATER	SCDOT/SCE&G/CITY OF CHARLESTON
2	BOAT RAMP	BUSHY PARK - SALT WATER	SCDOT/SCE&G/CITY OF CHARLESTON
3	BOAT RAMP	R. M. HENDRICK'S (VIRGINIA AV. PARK)	COOPER RIVER PARKS & PLAYGROUND COMM
4	BOAT RAMP	REMLEY'S POINT	CHARLESTON COUNTY
5	EPA FACILITY	SYMRISE, INC. - BUSHY PARK	SR. COMPLIANCE MANAGER
6	EPA FACILITY	SUN CHEMICAL CORPORATION, BUSHY PARK FACILITY	P.E., ENVIRONMENTAL MANAGER
7	EPA FACILITY	SOUTH ATLANTIC FACILITY	PLANT ENGINEER
8	EPA FACILITY	MEADWESTVACO S. CAROLINA, LLC -CHAS. CHEM. PLANT	SH&E MANAGER
9	EPA FACILITY	HANAHAN WATER TREATMENT PLANT	DIRECTOR OF WATER TREATMENT
10	EPA FACILITY	BORDEN DAIRY COMPANY OF SOUTH CAROLINA LLC.	SAFETY AND ENVIRONMENTAL MANAGER
11	EPA FACILITY	SOLVAY USA INC. - CHARLESTON, SC PLANT	PLANT MANAGER
12	EPA FACILITY	COOPER RIVER PARTNERS, LLC	VICE PRESIDENT
13	EPA FACILITY	LANXESS BUSHY PARK PLANT	HESQ COORDINATOR
14	EPA FACILITY	BRENNTAG MID-SOUTH INC.	OPERATIONS MANAGER
15	HELIPORT	EAST COOPER MEDICAL CENTER	
16	MARINA	MARINA	
17	RENEWABLE ENERGY	CHARLESTON RESOURCE RECOVERY FACILITY	
18	RENEWABLE ENERGY	COGEN SOUTH	
19	REPEATED MEASUREMENT SITE	PORTS - DON HOLT BRIDGE AIR GAP	CENTER FOR OPERATIONAL OCEANOGRAPHIC PROD
20	WATER INTAKE	CHARLESTON CPW	301-713-4392

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Contact Phone
21	CRITICAL HABITAT	FROSTED FLATWOODS SALAMANDER CRIT HAB	US FISH AND WILDLIFE SERVICE
22	MANAGEMENT AREA	PATRIOTS POINT	
23	MILITARY	NAVAL WEAPONS STATION CHARLESTON	BASE OPERATOR 843-963-1110
24	NATIONAL FOREST	FRANCIS MARION & SUMTER NTL FORESTS	FOREST SUPERVISOR'S OFFICE 803-561-4000
25	PARK	CHARLES TOWN LANDING STATE HISTORIC SITE	

ALSO PRESENT IN MAPPED AREA (POINTS)			
Type	Name	Contact	Phone
COAST GUARD	CGC DALLAS (WHEC 716)		843-308-9636
COAST GUARD	CGC GALLATIN (WHEC 721)		843-308-9662
COAST GUARD	CGC OAK (WLB-211)		
COAST GUARD	ESD CHARLESTON		
COAST GUARD	MLE ACADEMY		
COAST GUARD	NESU CHARLESTON		843-554-1145
COAST GUARD	TRAINING TEAMS/CENTERS		843-308-0160

ALSO PRESENT IN MAPPED AREA (POLYGONS)		
Type	Name	Contact Phone

ESSENTIAL HABITAT	SHRIMP HAPC	SOUTH ATLANTIC FMC	866-723-6210
ESSENTIAL HABITAT	SNAPPER/GROUPER HAPC	SOUTH ATLANTIC FMC	866-723-6210

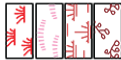
JURISDICTIONS

COUNTY:	BERKELEY COUNTY, CHARLESTON COUNTY	FEMA:	REGION IV
COAST GUARD:	DISTRICT 7, SECTOR CHARLESTON	EPA:	REGION 4
USACE:	SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT		

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	11,807.60	18.45
10B	Freshwater Marshes	5,670.47	8.86
10C	Swamps	3,883.58	6.07
10D	Scrub and Shrub Wetlands	933.42	1.46



ESI SHORELINE HABITAT TYPES

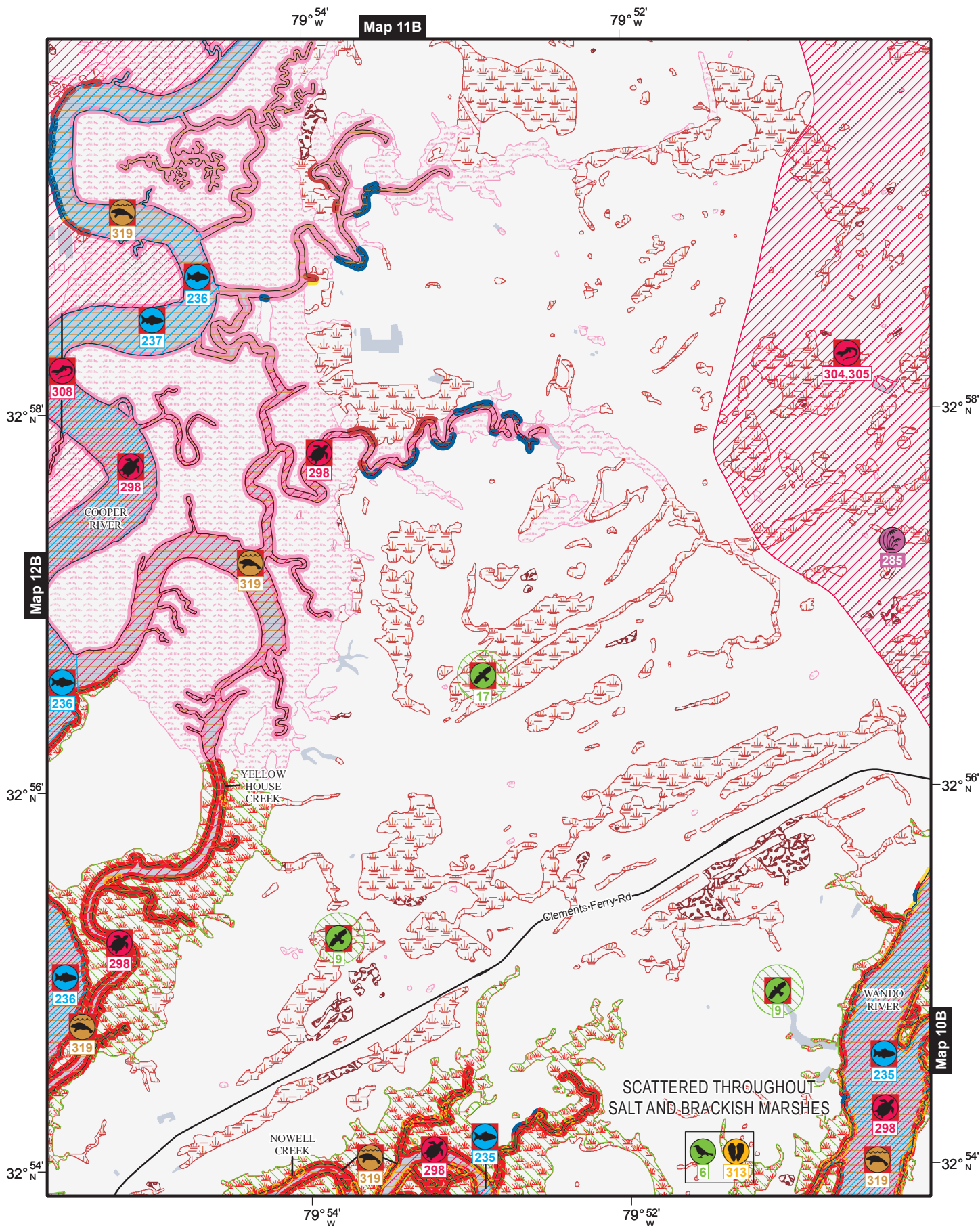
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	337,479.09	209.70	60%
10B	Freshwater Marshes	143,735.45	89.31	25%
10C	Swamps	1,993.53	1.24	< 1%
10D	Scrub and Shrub Wetlands	3,410.41	2.12	1%
9A	Sheltered Tidal Flats	5,443.67	3.38	1%
9B	Vegetated Low Banks	5,363.66	3.33	1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	579.08	0.36	< 1%
8B	Sheltered, Solid Man-Made Structures	23,992.14	14.91	4%
8C	Sheltered Riprap	8,682.52	5.40	2%
7	Exposed Tidal Flats	6,817.67	4.24	1%
6A	Gravel Beaches	3,537.44	2.20	1%
6B	Riprap	4,891.92	3.04	1%
5	Mixed Sand and Gravel Beaches	186.99	0.12	< 1%
3A	Fine to Medium Grained Sand Beaches	294.30	0.18	< 1%
3B	Scarps and Steep Slopes (Sand)	15,131.41	9.40	3%
1B	Exposed, Solid Man-Made Structures	3,708.90	2.30	1%

Total ESI Shoreline:	565,248.18	Total ESI Shoreline:	351.23
Total Shoreline:	541,360.73	Total Shoreline:	336.39

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

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





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				
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
9	Raptor	Bald eagle	Nesting	T		Possible													Oct-May	-	-	-
17	Raptor	Bald eagle	Nesting	T		Present													Oct-May	-	-	-

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					
235	Diadromous	Atlantic sturgeon	General Distribution		E	Rare													-	-	-	Jan-Dec	Jan-Dec
236	Diadromous	Shortnose sturgeon	General Distribution	E	E	Rare													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	American shad	Migration			High													-	-	-	-	Jan-May
	Diadromous	Atlantic sturgeon	General Distribution		E	Low													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Blueback herring	Migration			High													-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May
237	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	Concentration Area	E	E	High													-	-	-	-	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					
285	Plant	Incised groovebur	Vulnerable Occurrence			-													-	-	-	-	-

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					
298	Turtle	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
	Turtle	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
304	Turtle	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-
	Amphibian	Flatwoods salamander	Vulnerable Occurrence	E	T	-													-	-	-	-	-
	Amphibian	Gopher frog	Vulnerable Occurrence	E		-													-	-	-	-	-
305	Snake	Diamondback rattlesnake	Vulnerable Occurrence	C		-													-	-	-	-	-
308	Amphibian	Northern dwarf siren	General Distribution	T		Possible													-	-	-	-	-

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence	Spawn	Eggs	Larvae	Juveniles	Adults
313	Bivalve	Eastern oyster	Concentration Area			Reef	J F M A M J J A S O N D	May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec
MARINE MAMMALS												
Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence	Mating	Calving	Pupping	Molt	
319	Manatee	West Indian manatee	General Distribution	E	E	-	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
Wading	Wading birds	Nesting			3 Rookeries	J F M A M J J A S O N D	Feb-Sep	-	-	-
Waterfowl	American black duck	Wintering			10S	J F M A M J J A S O N D	-	-	-	-
	American coot	Wintering			10,000S	J F M A M J J A S O N D	-	-	-	-
	Blue-winged teal	Wintering			10S	J F M A M J J A S O N D	-	-	-	-
	Bufflehead	Wintering			100S	J F M A M J J A S O N D	-	-	-	-
	Gadwall	Wintering			100S	J F M A M J J A S O N D	-	-	-	-
	Green-winged teal	Wintering			100S	J F M A M J J A S O N D	-	-	-	-
	Hooded merganser	Nesting			Possible	J F M A M J J A S O N D	Feb-Jun	-	-	-
	Hooded merganser	Wintering			10S	J F M A M J J A S O N D	-	-	-	-
	Mergansers	Wintering			10S	J F M A M J J A S O N D	-	-	-	-
	Mottled duck	Nesting			Possible	J F M A M J J A S O N D	Feb-May	-	-	-
	Northern shoveler	Wintering			10S	J F M A M J J A S O N D	-	-	-	-
	Redhead	Wintering			10S	J F M A M J J A S O N D	-	-	-	-
	Ring-necked duck	Wintering			1,000S	J F M A M J J A S O N D	-	-	-	-
	Wood duck	Nesting			100S	J F M A M J J A S O N D	Feb-Jun	-	-	-
	Wood duck	Wintering			10S	J F M A M J J A S O N D	-	-	-	-




REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence	Nest	Hatch	Internest	Juveniles	Adults
Amphibian	Flatwoods salamander	General Distribution	E	T	Possible	J F M A M J J A S O N D	-	-	-	-	-
	Gopher frog	General Distribution	E		Possible	J F M A M J J A S O N D	-	-	-	-	-
Snake	Diamondback rattlesnake	General Distribution	C		Rare	J F M A M J J A S O N D	-	-	-	-	-

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Seaside sparrow													-	-	-	-
	Clapper rail													Mar-Sep	-	-	-
	King rail													Feb-Aug	-	-	-
	Least bittern													May-Aug	-	-	-
	Mallard													-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	American eel													-	-	-	Jan-May	Jan-Dec
	American shad													-	-	-	Jan-Dec	-
	Blueback herring													-	-	-	Jan-Dec	-
	Hickory shad													-	-	-	Jan-Dec	-
	Striped bass													-	-	-	Jan-Dec	Jan-Dec
	Atl. sharpnose shark													-	-	-	-	-
	Atlantic croaker													-	-	Nov-Apr	Jun-Oct	Jun-Oct
	Atlantic croaker													-	-	Nov-Apr	Jun-Sep	Jun-Sep
	Atlantic croaker													-	-	Nov-Apr	Jan-May*	Jan-May*
	Atlantic menhaden													-	-	-	Feb-Oct	Mar-Oct
	Black drum													-	-	-	Jan-Dec	Jan-Dec
	Bluefish													-	-	-	-	-
	Gray snapper													-	-	-	Oct	-
	Ladyfish													-	-	-	-	-
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead													-	-	May-Oct*	May-Oct*	May-Oct*
	Southern flounder													-	-	-	Mar-Dec	Mar-Dec
	Southern flounder													-	-	-	Jan-Dec	Jan-Dec
	Spot													-	-	-	Mar-Jan*	Mar-Jan*
	Spot													-	-	-	Feb-Dec	Feb-Dec
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Spotted seatrout													-	-	-	Jan-Dec	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	Dec-Apr	Jan-Dec	Mar-Dec
	Blue catfish													-	-	-	Mar-Nov*	Mar-Nov*
	Largemouth bass													-	-	-	-	-
	Redbreast sunfish													-	-	-	-	-

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Blue crab													-	-	May-Nov	Apr-Nov	Apr-Nov
	Blue crab													-	-	May-Nov	May-Nov	May-Nov
	Brown shrimp													-	-	Mar-Jun	Apr-Oct	Jun-Nov
	White shrimp													-	-	Jun-Sep	Jan-Dec	Jan-Dec

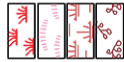
MARINE MAMMALS

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

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	1,378.78	2.15
10B	Freshwater Marshes	3,546.39	5.54
10C	Swamps	2,726.40	4.26
10D	Scrub and Shrub Wetlands	178.05	0.28

ESI SHORELINE HABITAT TYPES

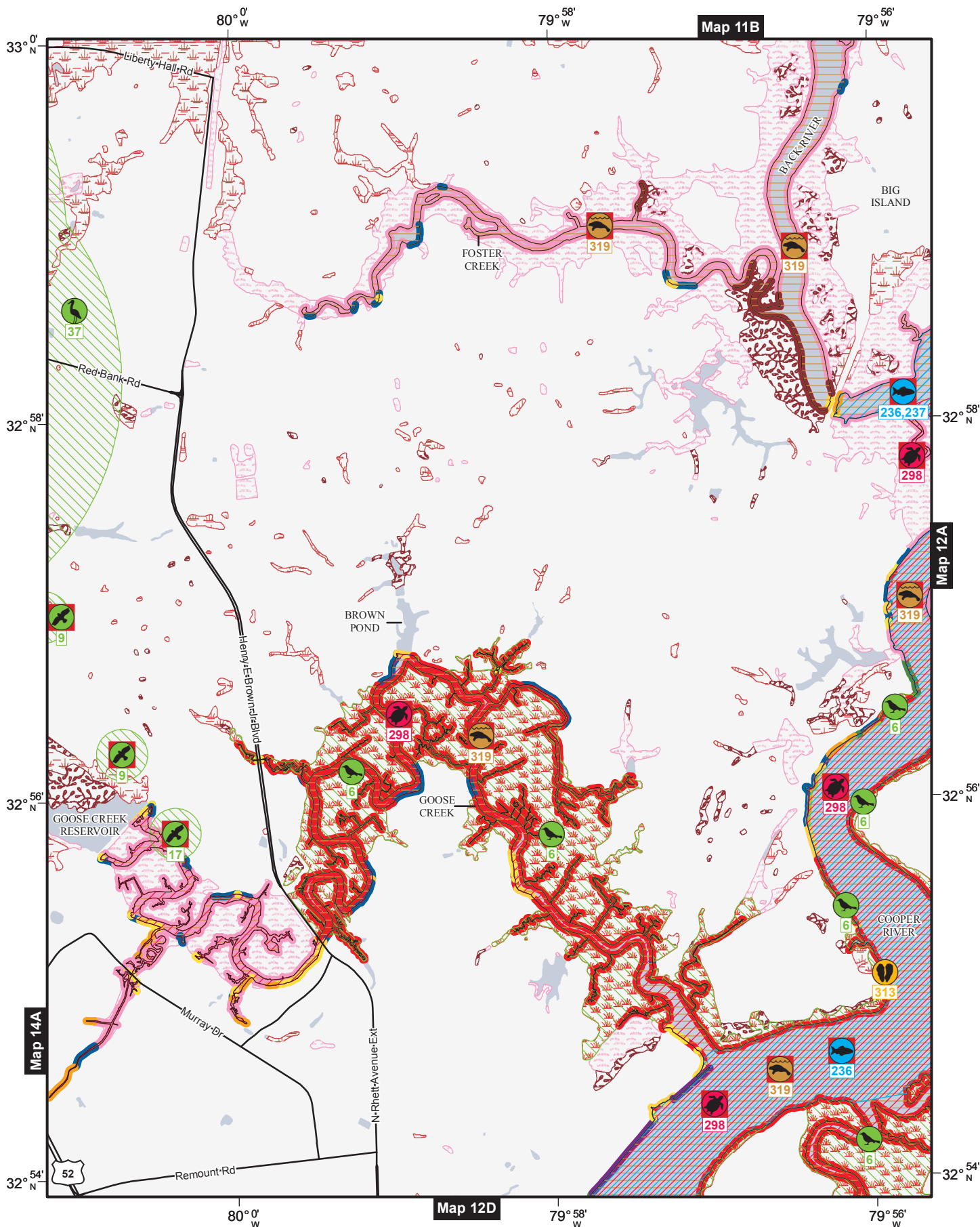


ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	39,510.88	24.55	29%
10B	Freshwater Marshes	89,515.95	55.62	66%
10C	Swamps	1,651.17	1.03	1%
9B	Vegetated Low Banks	34.56	0.02	< 1%
8B	Sheltered, Solid Man-Made Structures	419.67	0.26	< 1%
8C	Sheltered Riprap	40.16	0.02	< 1%
7	Exposed Tidal Flats	456.29	0.28	< 1%
3B	Scarps and Steep Slopes (Sand)	4,114.10	2.56	3%
Total ESI Shoreline:		135,742.79	84.35	
Total Shoreline:		135,108.32	83.95	

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

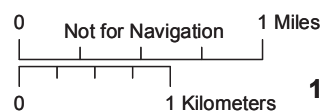




Map 12B
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



Map 12B
South Carolina

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				
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
9	Raptor	Bald eagle	Nesting	T		Possible													Oct-May	-	-	-
17	Raptor	Bald eagle	Nesting	T		Present													Oct-May	-	-	-
37	Wading	Wading birds	Nesting			3 Rookeries													Feb-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					
236	Diadromous	American shad	Migration			High													-	-	-	-	Jan-May
	Diadromous	Atlantic sturgeon	General Distribution		E	Low													-	-	-	-	Jan-Dec
	Diadromous	Blueback herring	Migration			High													-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	-	Jan-Dec
237	Diadromous	Shortnose sturgeon	Concentration Area	E	E	High													-	-	-	-	Jan-Dec

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					
298	Turtle	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
	Turtle	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Turtle	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-


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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	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				
319	Manatee	West Indian manatee	General Distribution	E	E	-													-	-	-	-

BIRDS

Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
						J	F	M	A	M	J	J	A	S	O	N	D					
	Waterfowl	American black duck	Wintering		10S													-	-	-	-	-
		American coot	Wintering		10,000S													-	-	-	-	-
		Blue-winged teal	Wintering		10S													-	-	-	-	-
		Bufflehead	Wintering		100S													-	-	-	-	-
		Gadwall	Wintering		100S													-	-	-	-	-
		Green-winged teal	Wintering		100S													-	-	-	-	-
		Hooded merganser	Nesting		Possible													Feb-Jun	-	-	-	-
		Hooded merganser	Wintering		10S													-	-	-	-	-
		Mergansers	Wintering		10S													-	-	-	-	-
		Mottled duck	Nesting		Possible													Feb-May	-	-	-	-
		Northern shoveler	Wintering		10S													-	-	-	-	-
		Redhead	Wintering		10S													-	-	-	-	-
		Ring-necked duck	Wintering		1,000S													-	-	-	-	-
		Wood duck	Nesting		100S													Feb-Jun	-	-	-	-
		Wood duck	Wintering		10S													-	-	-	-	-

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					
	Amphibian	Flatwoods salamander	General Distribution	E	Possible													-	-	-	-	-
		Gopher frog	General Distribution	E	Possible													-	-	-	-	-
		Northern dwarf siren	General Distribution	T	Possible													-	-	-	-	-
	Snake	Diamondback rattlesnake	General Distribution	C	Rare													-	-	-	-	-

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	Seaside sparrow												Mar-Sep	-	-	-
		Clapper rail												Feb-Aug	-	-	-
		King rail												May-Aug	-	-	-
	Waterfowl	Least bittern												-	-	-	-
		Mallard												-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Diadromous													-	-	-	-	-
		American shad												-	-	-	-	-
		Blueback herring												-	-	-	-	-
		Hickory shad												-	-	-	-	-
		Striped bass												-	-	-	-	-
														-	-	-	-	-



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													-	-	Nov-Apr	Jun-Oct	Jun-May*
	Atlantic croaker													-	-	Nov-Apr	Jan-May*	Jan-May*
	Atlantic croaker													-	-	Nov-Apr	Jan-May*	Jan-May*
	Atlantic menhaden													-	-	-	Feb-Oct	Mar-Oct
	Black drum													-	-	-	Jan-Dec	Jan-Dec
	Gray snapper													-	-	-	Oct	-
	Ladyfish													-	-	-	-	-
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	May-Oct*	May-Oct*
	Southern flounder													-	-	-	Jan-Dec	Jan-Dec
	Spot													-	-	-	Feb-Dec	Feb-Dec
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Spotted seatrout													-	-	-	Jan-Dec	-
	Striped mullet													-	-	-	Jan-Dec	-
	Summer flounder													-	-	-	-	-
	Blue catfish													-	-	Dec-Apr	Jan-Dec	Mar-Dec
	Largemouth bass													-	-	-	Mar-Nov*	Mar-Nov*
	Redbreast sunfish													-	-	-	-	-
														-	-	-	-	-
														-	-	-	-	-

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Crab													-	-	May-Nov	Apr-Nov	Apr-Nov
	Shrimp													-	-	Mar-Jun	Apr-Oct	Jun-Nov
	Brown shrimp													-	-	Jun-Sep	Jan-Dec	Jan-Dec
	White shrimp													-	-	-	-	-

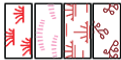
MARINE MAMMALS

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

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

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,593.34	2.49
10B	Freshwater Marshes	1,746.31	2.73
10C	Swamps	652.67	1.02
10D	Scrub and Shrub Wetlands	434.04	0.68



ESI SHORELINE HABITAT TYPES

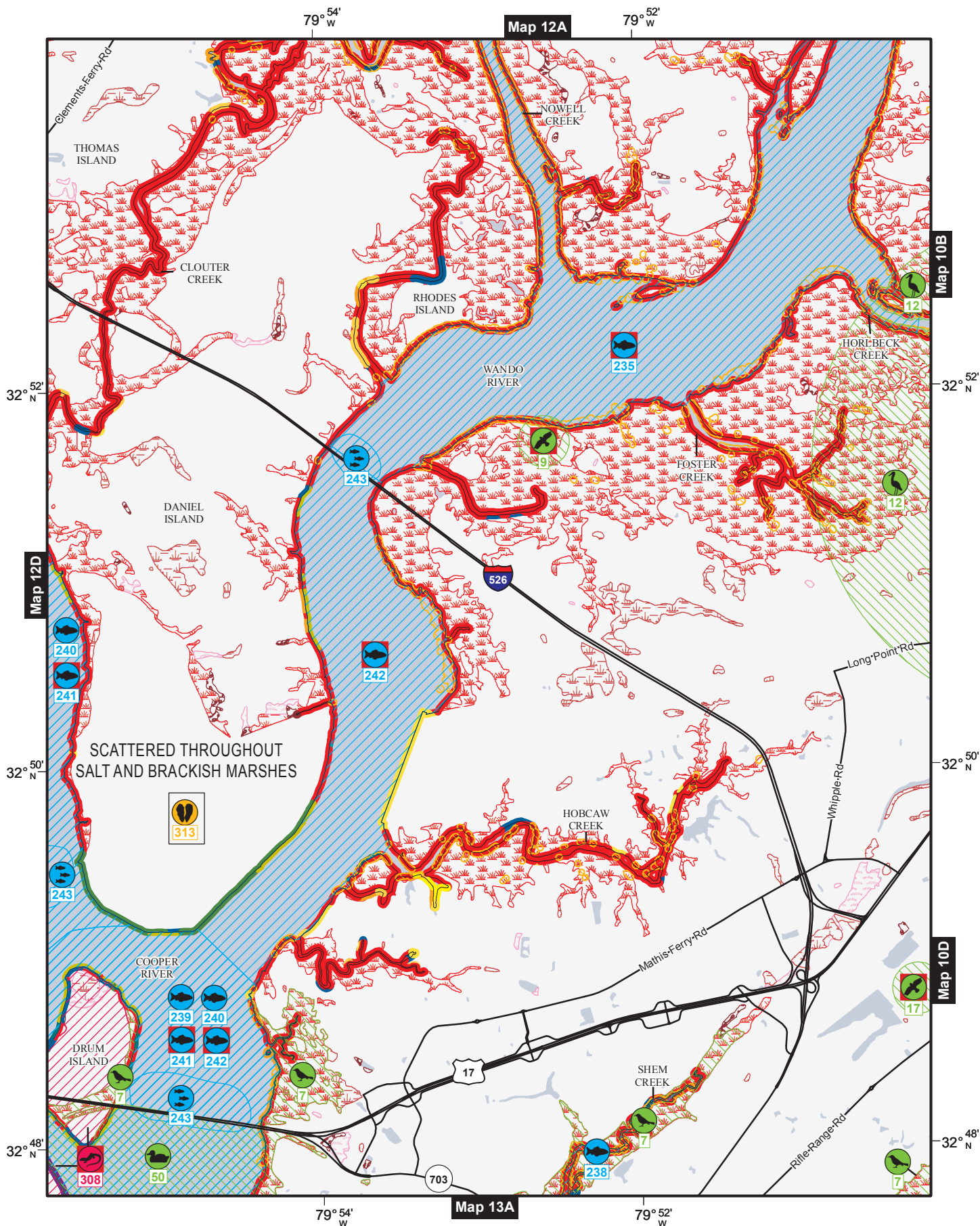
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	90,579.33	56.28	55%
10B	Freshwater Marshes	54,243.75	33.71	33%
10C	Swamps	306.38	0.19	< 1%
10D	Scrub and Shrub Wetlands	2,992.38	1.86	2%
9A	Sheltered Tidal Flats	1,092.96	0.68	1%
9B	Vegetated Low Banks	1,903.32	1.18	1%
8B	Sheltered, Solid Man-Made Structures	2,523.65	1.57	2%
8C	Sheltered Riprap	2,613.00	1.62	2%
7	Exposed Tidal Flats	691.06	0.43	< 1%
6B	Riprap	528.37	0.33	< 1%
3B	Scarps and Steep Slopes (Sand)	6,805.87	4.23	4%
1B	Exposed, Solid Man-Made Structures	1,463.14	0.91	1%

Total ESI Shoreline: 165,743.21 Total ESI Shoreline: 102.99
 Total Shoreline: 162,305.00 Total Shoreline: 100.85

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 12C
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 12C
South Carolina

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	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
9	Raptor	Bald eagle	Nesting	T		Possible												Oct-May				-
12	Wading	Wading birds	Nesting			1 Rookery												Feb-Sep				-
17	Raptor	Bald eagle	Nesting	T		Present												Oct-May				-
50	Waterfowl	Scaup	Rafting			100S													-	-	-	-
	Waterfowl	Scoters	Migration			100S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			1,000S													-	-	-	-

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					
235	Diadromous	Atlantic sturgeon	General Distribution		E	Rare													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	General Distribution	E	E	Rare													-	-	-	Jan-Dec	Jan-Dec
238	Diadromous	American eel	Migration			-													-	-	-	Jan-May	Sep-Jan
	Diadromous	American shad	Migration			-													-	-	-	-	Jan-May
	Diadromous	Blueback herring	Migration			-													-	-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May
239	Diadromous	American eel	Migration			-													-	-	-	Jan-May	Sep-Jan
	Diadromous	American shad	Migration			-													-	-	-	-	Jan-May
	Diadromous	Blueback herring	Migration			-													-	-	-	-	Jan-May
240	Diadromous	Hickory shad	Migration			-													-	-	-	-	Jan-May
241	Diadromous	American shad	Migration			High													-	-	-	-	Jan-May
	Diadromous	Atlantic sturgeon	General Distribution	E	E	Low													-	-	-	-	Jan-Dec
	Diadromous	Blueback herring	Migration			High													-	-	-	-	Jan-May
242	Diadromous	Atlantic sturgeon	General Distribution	E	E	Present													-	-	-	-	Jan-Dec
243	Estuarine Nursery	Spotted seatrout	Spawning Area			Aggregation													May-Aug	-	-	-	-




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					
308	Amphibian	Northern dwarf siren	General Distribution	T		Possible													-	-	-	-	-

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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec




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	Nesting			-													Apr-Aug	-	-	-
 Wading	Wading birds	Nesting			2 Rookeries													Feb-Sep	-	-	-
 Waterfowl	American black duck	Wintering			10S														-	-	-
	American coot	Wintering			10,000S														-	-	-
	Blue-winged teal	Wintering			10S														-	-	-
	Bufflehead	Wintering			100S														-	-	-
	Gadwall	Wintering			100S														-	-	-
	Green-winged teal	Wintering			100S														-	-	-
	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Hooded merganser	Wintering			10S														-	-	-
	Mergansers	Wintering			10S														-	-	-
	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Northern shoveler	Wintering			10S														-	-	-
	Redhead	Wintering			10S														-	-	-
	Ring-necked duck	Wintering			1,000S														-	-	-
	Wood duck	Nesting			100S													Feb-Jun	-	-	-
	Wood duck	Wintering			10S														-	-	-

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
 Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	Jan-Dec	Jan-Dec




REPTILES & AMPHIBIANS

Subelement	Species	Mapping Qualifier	S	F	Concentration	J	F	M	A	M	J	J	A	S	O	N	D	Nest	Hatch	Internest	Juveniles	Adults
 Amphibian	Flatwoods salamander	General Distribution	E	T	Possible													-	-	-	-	-
	Gopher frog	General Distribution	E		Possible													-	-	-	-	-
 Snake	Diamondback rattlesnake	General Distribution	C		Rare													-	-	-	-	-
	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
 Turtle	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-




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
 Manatee	West Indian manatee	General Distribution	E	E	-													-	-	-	-

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Brown pelican													-	-	Jul-Oct	-	-
	D. crested cormorant													-	-	-	-	-
	Diving birds													-	-	-	-	-
	Loons													-	-	-	-	-
	Gulls													-	-	-	-	-
	Terns													-	-	-	-	-
	Seaside sparrow													-	-	-	-	-
	Northern gannet													-	-	-	-	-
	Clapper rail													Mar-Sep	-	-	-	-
	Mallard													-	-	-	-	-



FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	American eel													-	-	-	Jan-May	Jan-Dec
	American shad													-	-	-	Jan-Dec	-
	Blueback herring													-	-	-	Jan-Dec	-
	Hickory shad													-	-	-	Jan-Dec	-
	Striped bass													-	-	-	Jan-Dec	Jan-Dec
	Atl. sharpnose shark													-	-	-	-	-
	Atlantic croaker													-	-	Nov-Apr	Jun-Sep	Jun-Sep
	Atlantic croaker													-	-	Nov-Apr	Jun-Oct	Jun-Oct
	Atlantic menhaden													-	-	-	Jul-Sep	Jul-Sep
	Atlantic menhaden													-	-	-	Feb-Oct	Mar-Oct
	Black drum													-	-	-	Jan-Dec	Jan-Dec
	Bluefish													-	-	-	-	-
	Ladyfish													-	-	-	-	-
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	Apr-Dec	Apr-Dec
	Sheepshead													-	-	-	May-Oct*	May-Oct*
	Southern flounder													-	-	-	Jan-Dec	Jan-Dec
	Southern flounder													-	-	-	Mar-Dec	Mar-Dec
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	Mar-Jan*	Mar-Jan*
	Spot													-	-	-	Feb-Dec	Feb-Dec
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	Jan-Dec	Mar-Dec
	Blue catfish													-	-	-	Mar-Nov*	Mar-Nov*
	Largemouth bass													-	-	-	-	-
	Cobia													-	-	-	Apr-Nov	-

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Crab	Blue crab													-	-	May-Nov	May-Nov	May-Nov
	Blue crab													-	-	May-Nov	Apr-Nov	Apr-Nov
 Shrimp	Brown shrimp													-	-	Mar-Jun	Apr-Oct	Jun-Nov
	White shrimp													-	-	Jun-Sep	Jan-Dec	Jan-Dec

MARINE MAMMALS

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


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

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

	<i>ESI Rank</i>	<i>Habitat Classification</i>	<i>Area (Acres)</i>	<i>Area (Sq. Miles)</i>
	10A	Salt and Brackish Water Marshes	5,209.15	8.14
	10B	Freshwater Marshes	83.17	0.13
	10C	Swamps	336.68	0.53
	10D	Scrub and Shrub Wetlands	62.88	0.10

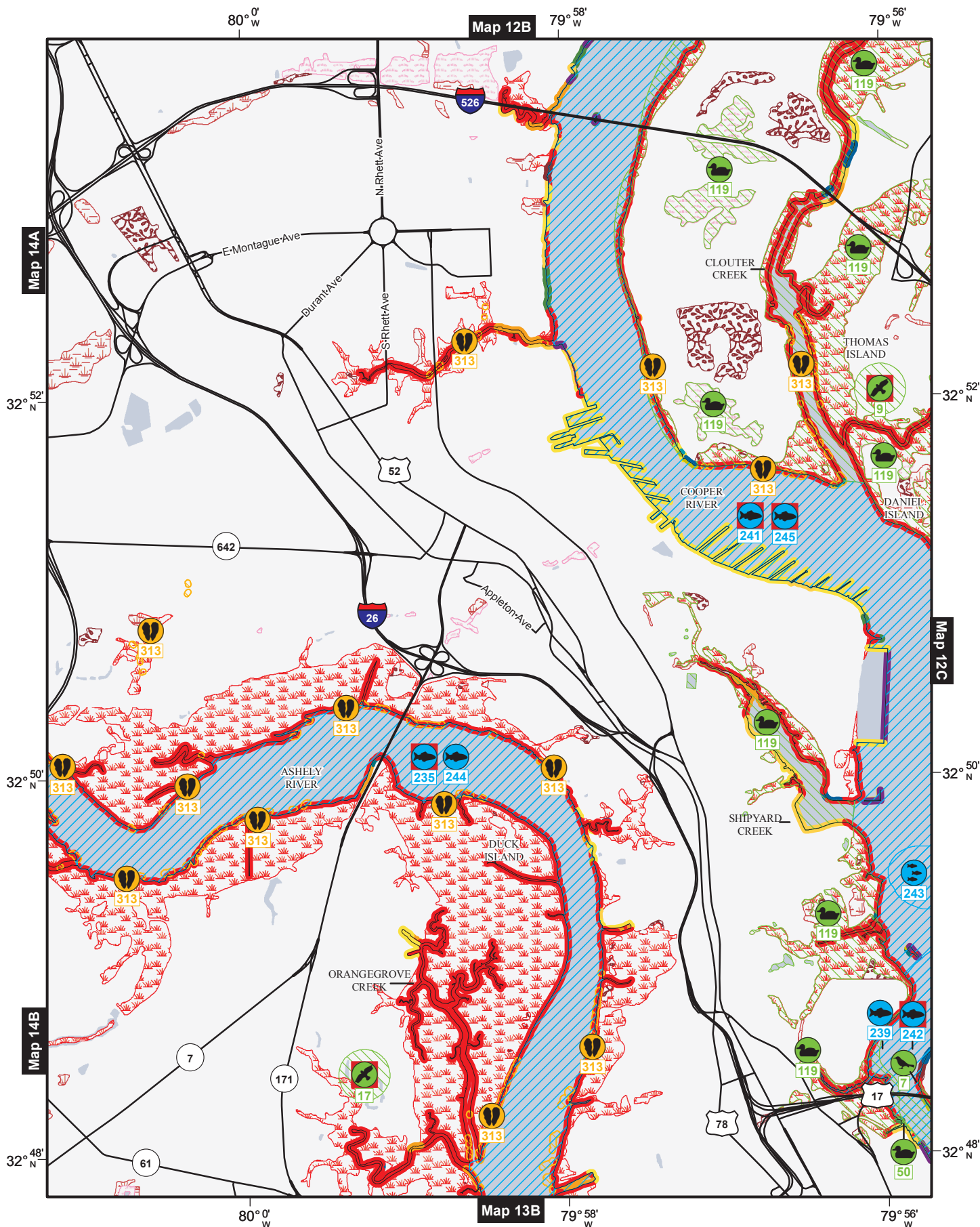
ESI SHORELINE HABITAT TYPES

	<i>ESI Rank</i>	<i>Shoreline Habitat Classification</i>	<i>Length (Meters)</i>	<i>Length (Miles)</i>	<i>% of ESI Shoreline</i>
	10A	Salt and Brackish Water Marshes	113,110.35	70.28	83%
	10C	Swamps	24.28	0.02	< 1%
	10D	Scrub and Shrub Wetlands	75.26	0.05	< 1%
	9A	Sheltered Tidal Flats	1,593.91	0.99	1%
	9B	Vegetated Low Banks	1,403.51	0.87	1%
	8A	Sheltered Scarps (Bedrock/Mud/Clay)	579.08	0.36	< 1%
	8B	Sheltered, Solid Man-Made Structures	2,864.97	1.78	2%
	8C	Sheltered Riprap	1,225.49	0.76	1%
	7	Exposed Tidal Flats	5,232.64	3.25	4%
	6A	Gravel Beaches	3,002.47	1.87	2%
	6B	Riprap	3,199.98	1.99	2%
	5	Mixed Sand and Gravel Beaches	155.42	0.10	< 1%
	3A	Fine to Medium Grained Sand Beaches	152.64	0.09	< 1%
	3B	Scarps and Steep Slopes (Sand)	3,455.33	2.15	3%
	1B	Exposed, Solid Man-Made Structures	403.80	0.25	< 1%
Total ESI Shoreline:			136,479.13	84.80	
Total Shoreline:			124,979.95	77.66	

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 12D South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015

0 Not for Navigation 1 Miles
0 1 Kilometers

1:50,000



Map 12D
South Carolina

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	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
9	Raptor	Bald eagle	Nesting	T		Possible													Oct-May			-
17	Raptor	Bald eagle	Nesting	T		Present													Oct-May			-
50	Waterfowl	Scaup	Rafting			100S													-			-
	Waterfowl	Scoters	Migration			100S													Apr-Jun			-
	Waterfowl	Scoters	Rafting			1,000S													-			-
119	Waterfowl	American black duck	Wintering			10S													-			-
	Waterfowl	American coot	Wintering			10,000S													-			-
	Waterfowl	Blue-winged teal	Wintering			10S													-			-
	Waterfowl	Gadwall	Wintering			100S													-			-
	Waterfowl	Green-winged teal	Wintering			100S													-			-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun			-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May			-
	Waterfowl	Northern shoveler	Wintering			10S													-			-
	Waterfowl	Ring-necked duck	Wintering			1,000S													-			-
	Waterfowl	Wood duck	Nesting			100S													Feb-Jun			-
	Waterfowl	Wood duck	Wintering			10S													-			-

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					
235	Diadromous	Atlantic sturgeon	General Distribution		E	Rare													-	-	-	Jan-Dec	Jan-Dec
239	Diadromous	Shortnose sturgeon	General Distribution	E	E	Rare													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	American eel	Migration			-													-	-	-	Jan-May	Sep-Jan
	Diadromous	American shad	Migration			-													-	-	-	Jan-May	Jan-May
	Diadromous	Blueback herring	Migration			-													-	-	-	Jan-May	Jan-May
241	Diadromous	American shad	Migration			High													-	-	-	Jan-May	Jan-May
	Diadromous	Atlantic sturgeon	General Distribution		E	Low													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Blueback herring	Migration			High													-	-	-	Jan-May	Jan-May
242	Diadromous	Atlantic sturgeon	General Distribution	E		Present													-	-	-	Jan-Dec	Jan-Dec
243	Estuarine Nursery	Spotted seatrout	Spawning Area			Aggregation													May-Aug	-	-	-	-
244	Diadromous	American shad	Migration			-													-	-	-	Jan-May	Jan-May
	Diadromous	Blueback herring	Migration			-													-	-	-	Jan-May	Jan-May
245	Diadromous	Shortnose sturgeon	General Distribution	E	E	Present													-	-	-	Jan-Dec	Jan-Dec

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				
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	Jun-Dec	Jan-Dec	Jan-Dec

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				
	Passerine	Nesting			-													Apr-Aug	-	-	-
	Waterfowl	Wintering			100S													-	-	-	-
	Hooded merganser	Wintering			10S													-	-	-	-
	Mergansers	Wintering			10S													-	-	-	-
	Redhead	Wintering			10S													-	-	-	-

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 Hickory shad	Migration			-													-	-	-	-	Jan-May

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					
	Flatwoods salamander	General Distribution	E	T	Possible													-	-	-	-	-
	Gopher frog	General Distribution	E		Possible													-	-	-	-	-
	Northern dwarf siren	General Distribution	T		Possible													-	-	-	-	-
	Diamondback rattlesnake	General Distribution	C		Rare													-	-	-	-	-
	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-

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				
	Manatee	General Distribution	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				
	Brown pelican																	-	-	Jul-Oct	-
	D. crested cormorant																	-	-	-	-
	Diving birds																	-	-	-	-
	Loons																	-	-	-	-

BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Gull/Tern													-	-	-	-
	Terns													-	-	-	-
	Seaside sparrow													-	-	-	-
	Northern gannet													-	-	-	-
	Clapper rail													Mar-Sep	-	-	-
	Mallard													-	-	-	-



FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	American eel													-	-	-	Jan-May	Jan-Dec
	American shad													-	-	-	Jan-Dec	-
	Blueback herring													-	-	-	Jan-Dec	-
	Hickory shad													-	-	-	Jan-Dec	-
	Striped bass													-	-	-	Jan-Dec	Jan-Dec
	Atl. sharpnose shark													-	-	-	-	-
	Atlantic croaker													-	-	Nov-Apr	Jun-Oct	Jun-Oct
	Atlantic croaker													-	-	Nov-Apr	Jun-Sep	Jun-Sep
	Atlantic menhaden													-	-	-	Feb-Oct	Mar-Oct
	Atlantic menhaden													-	-	-	Jul-Sep	Jul-Sep
	Black drum													-	-	-	Jan-Dec	Jan-Dec
	Bluefish													-	-	-	-	-
	Ladyfish													-	-	-	-	-
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	May-Oct*	May-Oct*
	Sheepshead													-	-	-	Apr-Dec	Apr-Dec
	Southern flounder													-	-	-	Jan-Dec	Jan-Dec
	Southern flounder													-	-	-	Mar-Dec	Mar-Dec
	Southern flounder													-	-	-	Feb-Dec	Feb-Dec
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	Mar-Nov	Mar-Nov
	Spot													-	-	-	Feb-Dec	Feb-Dec
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	Dec-Apr	Jan-Dec	Mar-Dec
	Blue catfish													-	-	-	Mar-Nov*	Mar-Nov*
	Largemouth bass													-	-	-	-	-
	Cobia													-	-	-	Apr-Nov	-

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence											
		J	F	M	A	M	J	J	A	S	O	N	D
	Blue crab												
	Blue crab												
	Brown shrimp												
	White shrimp												

MARINE MAMMALS

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

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	3,625.36	5.66
10B	Freshwater Marshes	296.52	0.46
10C	Swamps	169.01	0.26
10D	Scrub and Shrub Wetlands	258.47	0.40

ESI SHORELINE HABITAT TYPES

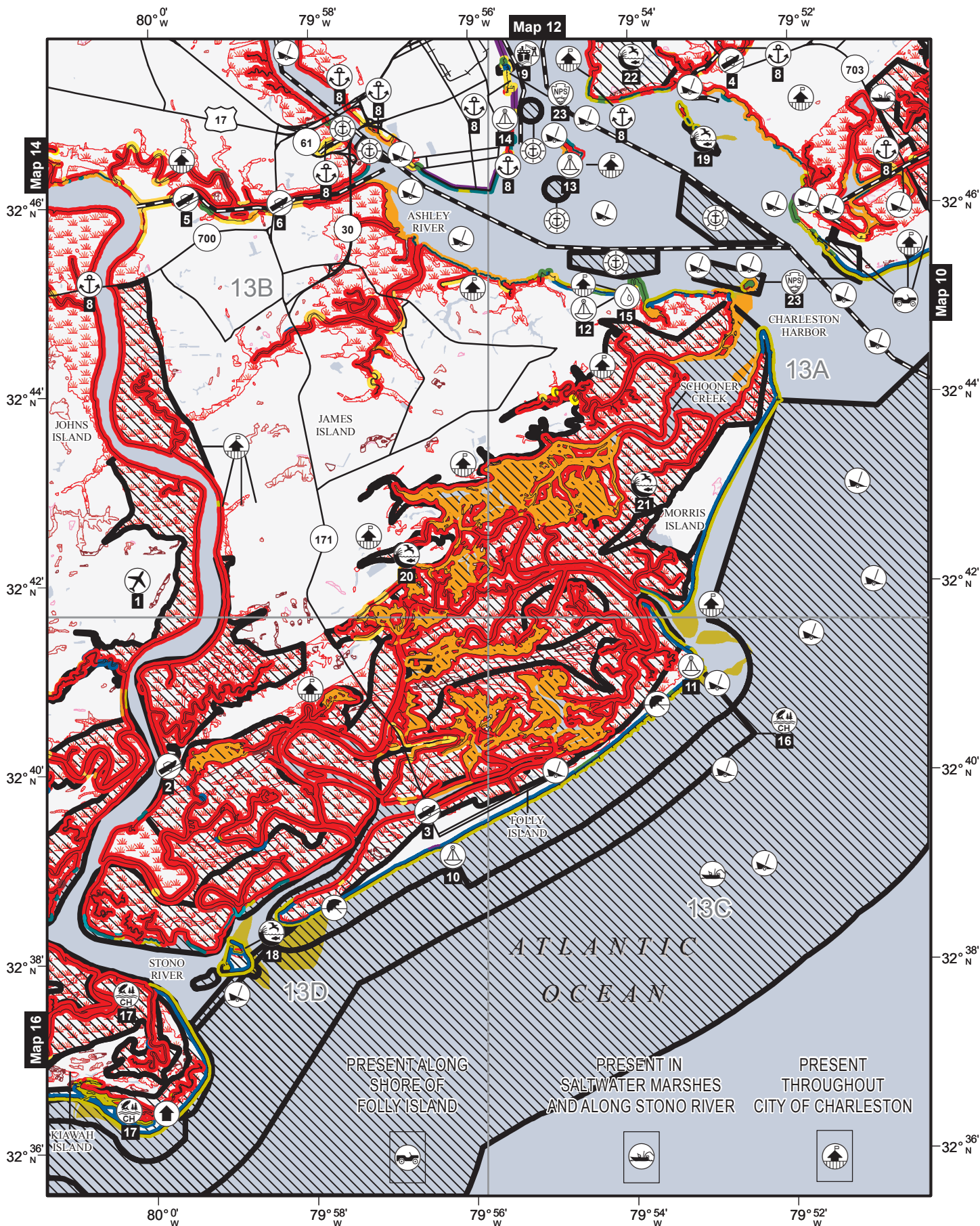
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	94,265.50	58.57	74%
10C	Swamps	11.71	0.01	< 1%
10D	Scrub and Shrub Wetlands	342.78	0.21	< 1%
9A	Sheltered Tidal Flats	2,756.80	1.71	2%
9B	Vegetated Low Banks	2,022.27	1.26	2%
8B	Sheltered, Solid Man-Made Structures	18,182.88	11.30	14%
8C	Sheltered Riprap	4,803.88	2.98	4%
7	Exposed Tidal Flats	437.69	0.27	< 1%
6A	Gravel Beaches	534.97	0.33	< 1%
6B	Riprap	1,163.57	0.72	1%
5	Mixed Sand and Gravel Beaches	31.57	0.02	< 1%
3A	Fine to Medium Grained Sand Beaches	141.66	0.09	< 1%
3B	Scarps and Steep Slopes (Sand)	754.19	0.47	1%
1B	Exposed, Solid Man-Made Structures	1,838.02	1.14	1%

Total ESI Shoreline: 127,287.48 Total ESI Shoreline: 79.09
Total Shoreline: 118,971.88 Total Shoreline: 73.93

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 13
South Carolina



SEE BACK OF MAP
for details about mapped resources and
other resources that occur in mapped area.
Data Published: August 2015

0 Not for Navigation 2 Miles
0 2 Kilometers

1:100,000



Map 13
South Carolina

HUMAN USE RESOURCES

DISPLAYED ON MAP (POINTS)			
Map ID	Type	Name	Phone
1	AIRPORT	CHARLESTON EXECUTIVE AIRPORT	
2	BOAT RAMP	BATTERY ISLAND	CHARLESTON COUNTY
3	BOAT RAMP	FOLLY RIVER	CHARLESTON COUNTY
4	BOAT RAMP	HARRY M. HALLMAN, JR.	CHARLESTON COUNTY
5	BOAT RAMP	RIVERLAND TERRACE	CHARLESTON COUNTY
6	BOAT RAMP	WAPPOO CUT	CHARLESTON COUNTY
7	HELIPORT	MEDICAL UNIVERSITY OF SOUTH CAROLINA	
8	MARINA	MARINA	
9	PORT	PORT OF CHARLESTON	
10	REPEATED MEASUREMENT SITE	DB - FOLLY BEACH PIER, SC	
11	REPEATED MEASUREMENT SITE	DB - FOLLY ISLAND, SC	
12	REPEATED MEASUREMENT SITE	MWS - CHFJ	
13	REPEATED MEASUREMENT SITE	MWS - CHSF	
14	REPEATED MEASUREMENT SITE	NWLON - CHARLESTON	NATIONAL WATER LEVEL PROGRAM
15	WATER INTAKE	HOLLINGS MARINE LABORATORY	301-713-2815

DISPLAYED ON MAP (POLYGONS)			
Map ID	Type	Name	Phone
16	CRITICAL HABITAT	LOGGERHEAD SEA TURTLE CRITICAL HABITAT	
17	CRITICAL HABITAT	PIPING PLOVER CRITICAL HABITAT	US FISH AND WILDLIFE SERVICE
18	MANAGEMENT AREA	BIRD KEY-STONO HERITAGE PRESERVE	
19	MANAGEMENT AREA	CRAB BANK HERITAGE PRESERVE	
20	MANAGEMENT AREA	FORT LAMAR HERITAGE PRESERVE	
21	MANAGEMENT AREA	MORRIS ISLAND	
22	MANAGEMENT AREA	PATRIOTS POINT	
23	NATIONAL PARK	FORT SUMTER NATIONAL MONUMENT	NATIONAL PARK SERVICE
			843-883-3123

ALSO PRESENT IN MAPPED AREA (POINTS)			
Type	Name	Contact	Phone
COAST GUARD	AIRFAC CHARLESTON		843-559-9033
COAST GUARD	FLT TRACEN CHARLESTON		
COAST GUARD	GRP CHARLESTON(I)		843-724-7600
COAST GUARD	STA CHARLESTON		843-724-7629

ALSO PRESENT IN MAPPED AREA (POLYGONS)			
Type	Name	Contact	Phone
ESSENTIAL HABITAT	SHRIMP HAPC	SOUTH ATLANTIC FMC	866-723-6210
ESSENTIAL HABITAT	SNAPPER/GROUPER HAPC	SOUTH ATLANTIC FMC	866-723-6210

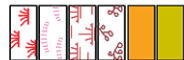
JURISDICTIONS

COUNTY: CHARLESTON COUNTY **FEMA:** REGION IV
COAST GUARD: DISTRICT 7, SECTOR CHARLESTON **EPA:** REGION 4
USACE: SOUTH ATLANTIC DIVISION, CHARLESTON DISTRICT

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	19,413.17	30.33
10B	Freshwater Marshes	72.55	0.11
10C	Swamps	317.08	0.50
10D	Scrub and Shrub Wetlands	382.89	0.60
9A	Sheltered Tidal Flats	1,922.53	3.00
7	Exposed Tidal Flats	668.25	1.04



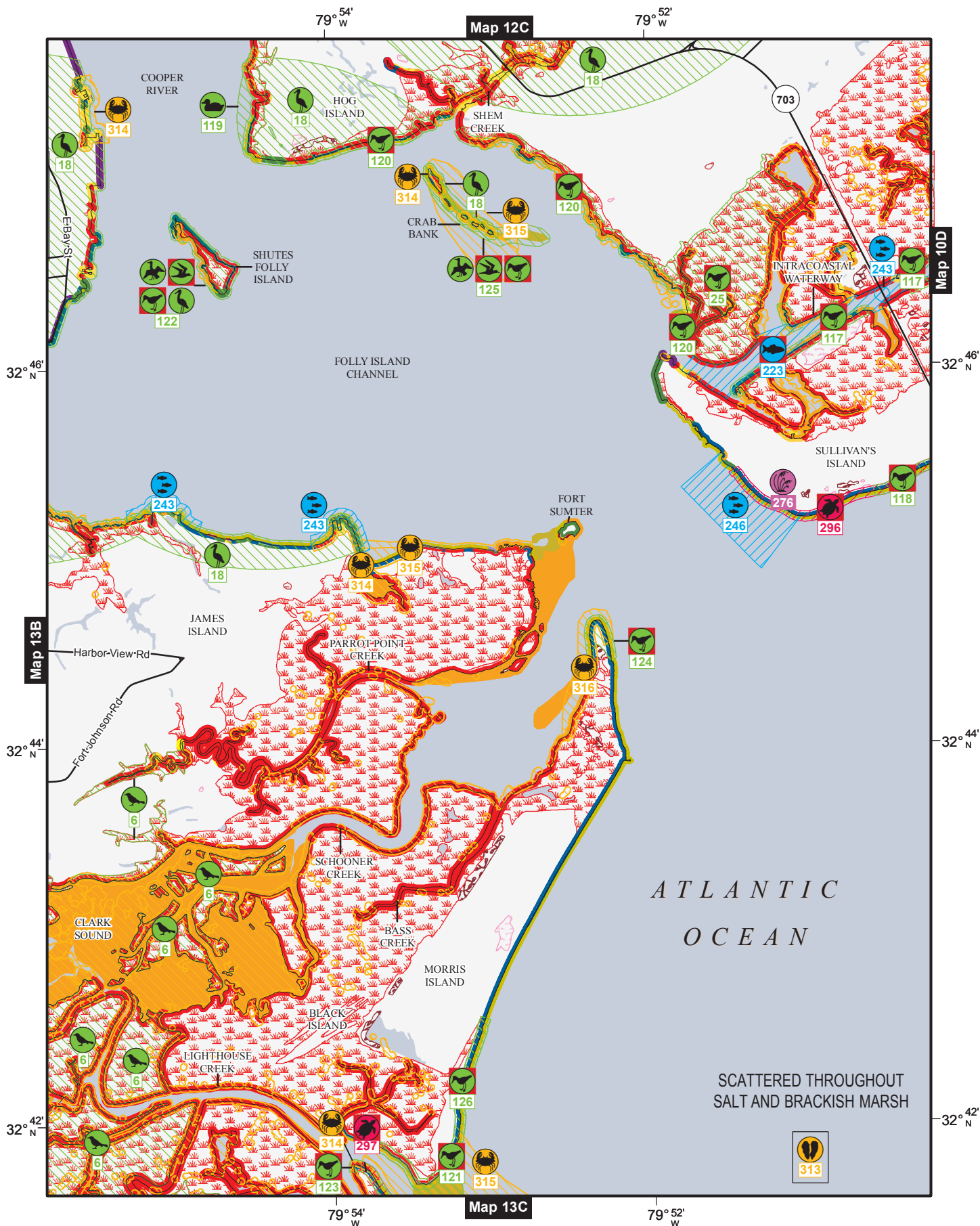
ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	517,551.42	321.59	65%
10C	Swamps	312.66	0.19	< 1%
10D	Scrub and Shrub Wetlands	1,265.03	0.79	< 1%
9A	Sheltered Tidal Flats	136,335.20	84.71	17%
9B	Vegetated Low Banks	5,820.41	3.62	1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	422.81	0.26	< 1%
8B	Sheltered, Solid Man-Made Structures	11,838.44	7.36	1%
8C	Sheltered Riprap	8,601.15	5.34	1%
7	Exposed Tidal Flats	49,775.55	30.93	6%
6A	Gravel Beaches	12,691.66	7.89	2%
6B	Riprap	8,744.12	5.43	1%
5	Mixed Sand and Gravel Beaches	2,483.70	1.54	< 1%
3A	Fine to Medium Grained Sand Beaches	33,484.14	20.81	4%
3B	Scarps and Steep Slopes (Sand)	5,991.40	3.72	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	163.18	0.10	< 1%
1B	Exposed, Solid Man-Made Structures	3,956.95	2.46	< 1%
Total ESI Shoreline:		799,437.82	496.75	
Total Shoreline:		577,306.40	358.72	

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

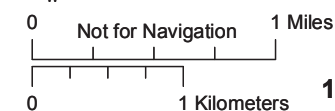




Map 13A
South Carolina



SEE BACK OF MAP
for details about mapped species and other
species that occur in the mapped area.
Data Published: August 2015



1:50,000



Map 13A
South Carolina

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				
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
18	Wading	Wading birds	Nesting			2 Rookeries													Feb-Sep	-	-	-
25	Shorebird	American oystercatcher	Wintering	C		10S													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
117	Shorebird	American oystercatcher	Nesting	C		9 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		2 Birds													-	-	-	-
118	Shorebird	Piping plover	Wintering	E	T	-													-	-	-	-
	Shorebird	Red knot	Migration	T		1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering	T		100S													-	-	-	-
	Shorebird	Shorebirds	Migration			100S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			100S													-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		2 Pairs													Mar-Jul	-	-	-
119	Waterfowl	American black duck	Wintering			10S													-	-	-	-
	Waterfowl	American coot	Wintering			10,000S													-	-	-	-
	Waterfowl	Blue-winged teal	Wintering			10S													-	-	-	-
	Waterfowl	Gadwall	Wintering			100S													-	-	-	-
	Waterfowl	Green-winged teal	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun	-	-	-
	Waterfowl	Mottled duck	Nesting			Possible													Feb-May	-	-	-
	Waterfowl	Northern shoveler	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			1,000S													-	-	-	-
	Waterfowl	Wood duck	Nesting			100S													Feb-Jun	-	-	-
	Waterfowl	Wood duck	Wintering			10S													-	-	-	-
	Shorebird	American oystercatcher	Nesting	C		2 Pairs													Apr-Aug	-	-	-
120	Shorebird	American oystercatcher	Wintering	C		28 Birds													-	-	-	-
	Shorebird	American oystercatcher	Wintering	C		-													-	-	-	-
121	Shorebird	Red knot	Migration	T		1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering	T		100S													-	-	-	-
	Shorebird	Shorebirds	Migration			100S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			100S													-	-	-	-
122	Diving	Brown pelican	Nesting			335 Nests													Mar-Sep	-	-	-
	Gull/Tern	Black skimmer	Nesting	C		58 Nests													May-Aug	-	-	-
	Gull/Tern	Gull-billed tern	Nesting	C		47 Nests													May-Aug	-	-	-
	Shorebird	American oystercatcher	Nesting	C		20 Pairs													Apr-Aug	-	-	-
	Shorebird	American oystercatcher	Wintering	C		11 Birds													-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-

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	Shorebirds	Wintering			1,000S													-	-	-	-
	Wading	Wading birds	Nesting			2 Rookeries												Feb-Sep	-	-	-	-
123	Shorebird	Shorebirds	Migration			1,000S												-	Mar-Jun	Jul-Oct	-	-
	Shorebird	Shorebirds	Wintering			1,000S												-	-	-	-	-
124	Shorebird	Wilson's plover	Nesting	T		8 Pairs												Mar-Jul	-	-	-	-
	Shorebird	Shorebirds	Migration			1,000S												-	Mar-Jun	Jul-Oct	-	-
	Shorebird	Shorebirds	Wintering			1,000S												-	-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		2 Pairs												Mar-Jul	-	-	-	-
125	Diving	Brown pelican	Nesting			722 Nests												Mar-Sep	-	-	-	-
	Gull/Tern	Black skimmer	Nesting	C		79 Nests												May-Aug	-	-	-	-
	Gull/Tern	Gull-billed tern	Nesting	C		43 Nests												May-Aug	-	-	-	-
	Gull/Tern	Royal tern	Nesting			2,261 Nests												May-Aug	-	-	-	-
	Gull/Tern	Sandwich tern	Nesting			475 Nests												May-Aug	-	-	-	-
	Shorebird	American oystercatcher	Nesting	C		22 Pairs												Apr-Aug	-	-	-	-
	Shorebird	American oystercatcher	Wintering	C		5 Birds												-	Mar-Jun	Jul-Oct	-	-
126	Shorebird	Shorebirds	Migration			1,000S												-	-	-	-	-
	Shorebird	Shorebirds	Wintering			1,000S												-	-	-	-	-
	Shorebird	Wilson's plover	Nesting	T		33 Pairs												Mar-Jul	-	-	-	-

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					
223	Diadromous	Atlantic sturgeon	Migration		E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shortnose sturgeon	Migration	E	E	Present													-	-	-	Jan-Dec	Jan-Dec
243	Estuarine Nursery	Spotted seatrout	Spawning Area			Aggregation													May-Aug	-	-	-	-
246	Estuarine Nursery	Black drum	Spawning Area			-													Mar-Apr	-	-	-	-
	Estuarine Nursery	Red drum	Spawning Area			-													Aug-Sep	-	-	-	-
	Estuarine Nursery	Spotted seatrout	Spawning Area			-													May-Aug	-	-	-	-

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
276	Wetland	Carolinian lilaepsis	Vulnerable Occurrence			-												

REPTILES & AMPHIBIANS



Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Nest	Hatch	Interneest	Juveniles	Adults
							J	F	M	A	M	J	J	A	S	O	N	D					
296	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Low													-	-	-	-	-
297	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Medium													-	-	-	-	-

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				
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	Jun-Dec	Jan-Dec	Jan-Dec
314	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul	May-Aug	Jan-Dec	Apr-Jul
315	Crab	Horseshoe crab	Nursery Area			-													-	-	Jan-Dec	-
316	Crab	Horseshoe crab	Nursery Area			-													-	-	Jan-Dec	-
	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul	May-Aug	-	Apr-Jul

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				
	Passerine	Nelson's sparrow	Wintering			-												-	-	-	-
		Saltmarsh sparrow	Wintering			-												-	-	-	-
	Waterfowl	Bufflehead	Wintering			100S												-	-	-	-
		Hooded merganser	Wintering			10S												-	-	-	-
		Mergansers	Wintering			10S												-	-	-	-
		Redhead	Wintering			10S												-	-	-	-
		Scaup	Rafting			100S												-	-	-	-
		Scaup	Rafting			1,000S												-	-	-	-
		Scoters	Migration			1,000S												-	Apr-Jun	-	-
		Scoters	Migration			100S												-	Apr-Jun	-	-
		Scoters	Rafting			10,000S												-	-	-	-
		Scoters	Rafting			1,000S												-	-	-	-



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	American eel	Migration			-												-	-	-	Jan-May	Sep-Jan
		American shad	Migration			-												-	-	-	Aug-Dec	Jan-May
		American shad	Migration			-												-	-	-	-	Jan-May
		Atlantic sturgeon	General Distribution			E												-	-	-	Jan-Dec	Jan-Dec
		Atlantic sturgeon	General Distribution			E												-	-	-	-	Jan-Dec
		Blueback herring	Migration			-												-	-	-	-	Jan-May
		Blueback herring	Migration			-												-	-	-	Aug-Dec	Jan-May
		Hickory shad	Migration			-												-	-	-	-	Jan-May
		Hickory shad	Migration			-												-	-	-	Aug-Dec	Jan-May
		Shortnose sturgeon	General Distribution			E												-	-	-	-	Jan-Dec
		Shortnose sturgeon	General Distribution			E												-	-	-	-	Jan-Dec

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					
	Amphibian	Flatwoods salamander	General Distribution			Possible												-	-	-	-	-
		Gopher frog	General Distribution			Possible												-	-	-	-	-

REPTILES & AMPHIBIANS (continued)









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					
 	Northern dwarf siren	General Distribution	T		Possible													-	-	-	-	-
	Diamondback rattlesnake	General Distribution	C		Rare													-	-	-	-	-
	Green sea turtle	General Distribution	T	T	-													-	-	-	-	-
	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-

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				
 	West Indian manatee	General Distribution	E	E	-													-	-	-	-
	Humpback whale	General Distribution	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				
 	Alcids														-	-	-
	Brown pelican														-	Jul-Oct	-
	D. crested cormorant														-	-	-
	Diving birds														-	-	-
	Loons														-	-	-
	Gulls														-	-	-
	Terns														-	-	-
	Seaside sparrow														-	-	-
 	Black-capped petrel														-	-	-
	Jaegers														-	-	-
	Northern gannet														-	-	-
	Shearwaters														-	-	-
  	Storm-petrels														-	-	-
	Phalaropes														-	-	-
	Clapper rail														-	-	-
	Mallard														-	-	-


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					
	American shad																	-	-	-	Jan-Dec	-
	Blueback herring																	-	-	-	Jan-Dec	-
	Hickory shad																	-	-	-	Jan-Dec	-
	Striped bass																	-	-	-	Jan-Dec	-
	Atl. sharpnose shark																	-	-	-	Apr-Nov	-
	Atl. sharpnose shark																	-	-	-	-	-

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atl. sharpnose shark													-	-	-	Feb-Dec	
	Atlantic croaker													-	-	Nov-Apr	May-Sep	May-Sep
	Atlantic croaker													-	-	Nov-Apr	Jun-Nov	Jun-Nov
	Atlantic croaker													-	-	Nov-Apr	Apr-Oct	Apr-Oct
	Atlantic menhaden													-	-	Nov-Apr	Jun-Oct	Jun-Oct
	Atlantic menhaden													-	-	-	Jul-Sep	Jul-Sep
	Atlantic menhaden													-	-	Dec-May	Sep-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	-	Jul-Sep
	Atlantic menhaden													-	-	-	Jul-Oct	Jul-Oct
	Black drum													-	-	-	Jan-Dec	Jan-Dec
	Black drum													-	-	-	Apr-Jan*	Apr-Jan*
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	-	-
	Bonnethead shark													-	-	-	-	-
	Bonnethead shark													-	-	-	-	-
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Red drum													Aug-Sep	-	Aug-Nov	-	Aug-Nov
	Sheepshead													-	-	-	May-Nov	May-Nov
	Sheepshead													-	-	-	Apr-Dec	Apr-Dec
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Jan*	Mar-Jan*
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Nov	Mar-Nov
	Southern flounder													-	-	-	Mar-Dec	Mar-Dec
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spot													-	-	-	-	-
	Spot													-	-	-	Apr-Dec	Apr-Dec
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Summer flounder													-	-	Dec-Apr	Jan-Dec	Mar-Dec
	Weakfish													-	-	-	-	-
Fish	Great hammerhead													-	-	-	Apr-Oct	Apr-Oct
Marine Benthic	Atlantic spadefish													-	-	-	-	-
	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	-	Dec-Apr
	Spotted hake													-	-	-	-	-





FISH (continued)

Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Marine Pelagic																
	Anchovies																
	Blacknose shark																
	Blacktip shark																
	Blacktip shark																
	Cobia																
	Cobia																
	Finetooth shark																
	Giant manta																
	King mackerel																
	Sandbar shark																
	Scalloped hammerhead																
	Spanish mackerel																
	Spinner shark																
	Spiny dogfish																
	Tiger shark																
	White shark																

REPTILES & AMPHIBIANS

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

INVERTEBRATES

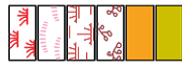
Subelement	Species	Monthly Presence												Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D				
	Cephalopod																
	Crab																
	Atlantic brief squid																
	Blue crab																
	Blue crab																
	Blue crab																
	Cannonball jellyfish																
	Invertebrate																
	Shrimp																
	Brown shrimp																
	Brown shrimp																
	Brown shrimp																
	Brown shrimp																
	White shrimp																
	White shrimp																
	White shrimp																
	White shrimp																
	White shrimp																
	White shrimp																

MARINE MAMMALS

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

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	5,136.23	8.03
10B	Freshwater Marshes	39.12	0.06
10C	Swamps	6.71	0.01
10D	Scrub and Shrub Wetlands	45.94	0.07
9A	Sheltered Tidal Flats	744.93	1.16
7	Exposed Tidal Flats	65.84	0.10

ESI SHORELINE HABITAT TYPES

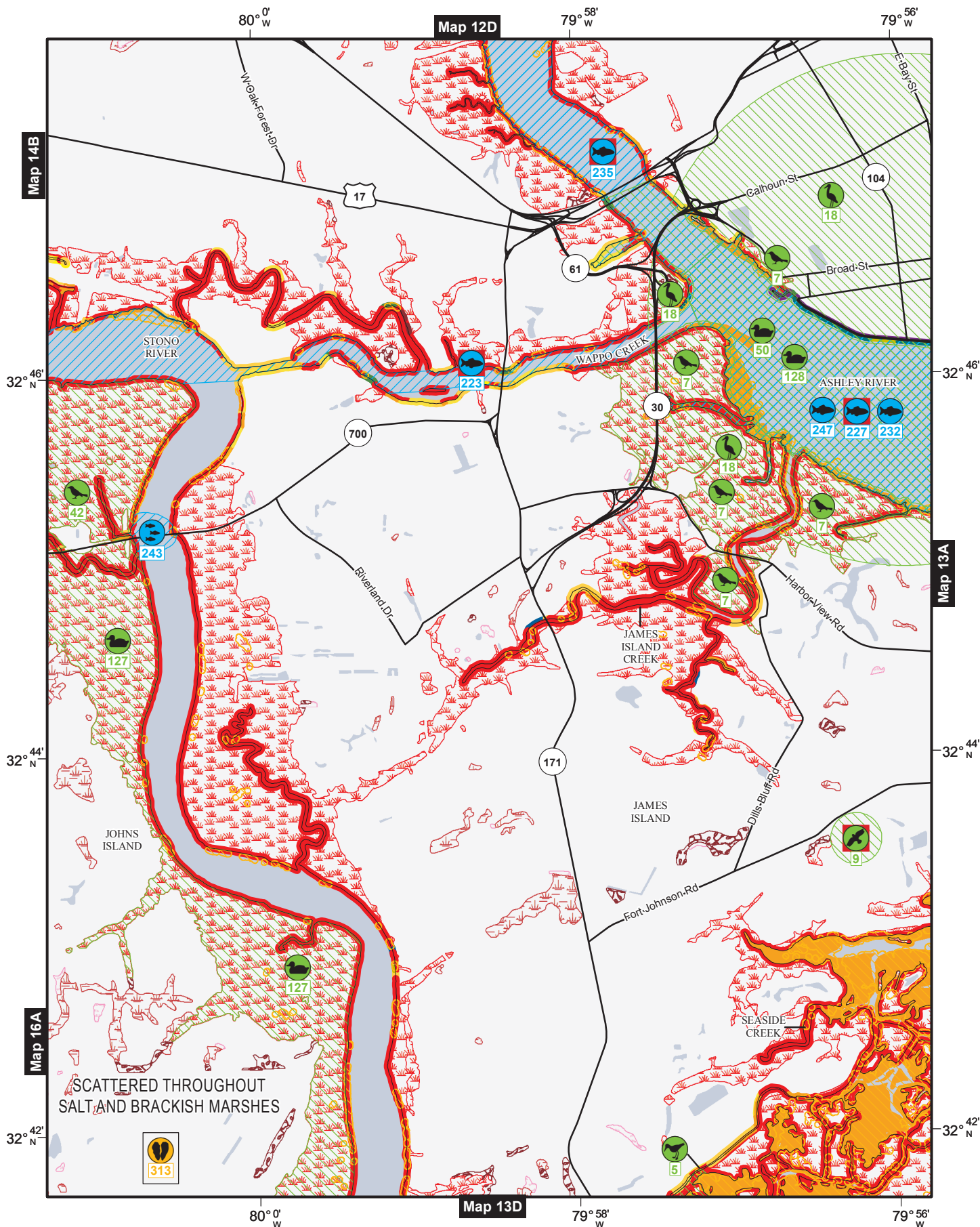
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	143,879.71	89.40	58%
9A	Sheltered Tidal Flats	49,302.27	30.64	20%
9B	Vegetated Low Banks	842.59	0.52	< 1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	127.35	0.08	< 1%
8B	Sheltered, Solid Man-Made Structures	4,130.75	2.57	2%
8C	Sheltered Riprap	1,234.96	0.77	< 1%
7	Exposed Tidal Flats	19,236.80	11.95	8%
6A	Gravel Beaches	7,676.28	4.77	3%
6B	Riprap	4,759.32	2.96	2%
5	Mixed Sand and Gravel Beaches	1,192.22	0.74	< 1%
3A	Fine to Medium Grained Sand Beaches	10,979.87	6.82	4%
3B	Scarps and Steep Slopes (Sand)	3,295.32	2.05	1%
2A	Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)	163.18	0.10	< 1%
1B	Exposed, Solid Man-Made Structures	1,843.39	1.15	1%

Total ESI Shoreline: 248,664.02 Total ESI Shoreline: 154.51
 Total Shoreline: 165,646.02 Total Shoreline: 102.93

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 13B
South Carolina

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				
5	Shorebird	Shorebirds	Migration			1,000S													-		Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-		-	-
7	Passerine	Nelson's sparrow	Wintering			-													-		-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-		-	-
9	Raptor	Bald eagle	Nesting		T	Possible													Oct-May		-	-
18	Wading	Wading birds	Nesting			2 Rookeries													Feb-Sep		-	-
42	Passerine	Seaside sparrow	Nesting			High													Apr-Aug		-	-
50	Waterfowl	Scaup	Rafting			100S													-		-	-
	Waterfowl	Scoters	Migration			100S													-	Apr-Jun	-	-
	Waterfowl	Scoters	Rafting			1,000S													-	-	-	-
127	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Dabbling ducks	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun		-	-
	Waterfowl	Hooded merganser	Wintering			100S													-	-	-	-
	Waterfowl	Red-breasted merganser	Wintering			10S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-
	Waterfowl	Ring-necked duck	Wintering			10S													-	-	-	-
	Waterfowl	Scaup	Wintering			1,000S													-	-	-	-
	Waterfowl	Scoters	Wintering			10S													-	-	-	-
	Waterfowl	Wood duck	Nesting			Possible													Feb-Jun		-	-
	Waterfowl	Wood duck	Wintering			10S													Feb-Jun		-	-
128	Waterfowl	Bufflehead	Wintering			100S													-	-	-	-
	Waterfowl	Hooded merganser	Wintering			10S													-	-	-	-
	Waterfowl	Mergansers	Wintering			10S													-	-	-	-
	Waterfowl	Redhead	Wintering			10S													-	-	-	-

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					
223	Diadromous	Atlantic sturgeon	Migration		E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shorfnose sturgeon	Migration		E	Present													-	-	-	Jan-Dec	Jan-Dec
227	Diadromous	Atlantic sturgeon	General Distribution		E	Present													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shorfnose sturgeon	General Distribution		E	Present													-	-	-	Jan-Dec	Jan-Dec
232	Diadromous	American eel	Migration		-	-													-	-	-	Jan-May	Sep-Jan
235	Diadromous	Atlantic sturgeon	General Distribution		E	Rare													-	-	-	Jan-Dec	Jan-Dec
	Diadromous	Shorfnose sturgeon	General Distribution		E	Rare													-	-	-	Jan-Dec	Jan-Dec
243	Estuarine Nursery	Spotted seatrout	Spawning Area			Aggregation													May-Aug	-	-	-	-

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				
247	Diadromous	American shad	Migration			-													-	-	-	Jan-May
	Diadromous	Blueback herring	Migration			-													-	-	-	Jan-May
	Diadromous	Hickory shad	Migration			-													-	-	-	Jan-May

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				
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	Jun-Dec	Jan-Dec	Jan-Dec

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				
	Passerine	Seaside sparrow	Nesting			-												Apr-Aug	-	-	-
	Wading	Wading birds	Nesting			3 Rookeries												Feb-Sep	-	-	-
		Wood stork	Nesting	E	T	1 Rookery												Mar-Sep	-	-	-




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					
	Amphibian	Flatwoods salamander	General Distribution	E	T	Possible												-	-	-	-	-
		Gopher frog	General Distribution	E		Possible												-	-	-	-	-
		Northern dwarf siren	General Distribution	T		Possible												-	-	-	-	-
	Snake	Diamondback rattlesnake	General Distribution	C		Rare												-	-	-	-	-
	Turtle	Green sea turtle	General Distribution	T	T	-												-	-	-	-	-
		K. ridley sea turtle	General Distribution	E	E	-												-	-	-	-	-
		Leatherback sea turtle	General Distribution	E	E	-												-	-	-	-	-
		Loggerhead sea turtle	General Distribution	T	T	-												-	-	-	-	-




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				
	Manatee	West Indian manatee	General Distribution	E	E	-												-	-	-	-

BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Brown pelican													-	-	Jul-Oct	-
	D. crested cormorant													-	-	-	-
	Diving birds													-	-	-	-
	Loons													-	-	-	-
	Gulls													-	-	-	-
	Terns													-	-	-	-
	Seaside sparrow													-	-	-	-
	Northern gannet													-	-	-	-
	Clapper rail													Mar-Sep	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	American eel													-	-	-	Jan-May	Jan-Dec
	American shad													-	-	-	Jan-Dec	-
	Blueback herring													-	-	-	Jan-Dec	-
	Hickory shad													-	-	-	Jan-Dec	-
	Striped bass													-	-	-	Jan-Dec	Jan-Dec
	Atl. sharpnose shark													-	-	-	-	-
	Atlantic croaker													-	-	Nov-Apr	Jun-Oct	Jun-Oct
	Atlantic croaker													-	-	Nov-Apr	Jun-Sep	Jun-Sep
	Atlantic croaker													-	-	Nov-Apr	Apr-Oct	Apr-Oct
	Atlantic menhaden													-	-	-	Jul-Sep	Jul-Sep
	Atlantic menhaden													-	-	-	-	Jul-Sep
	Black drum													-	-	-	Jan-Dec	Jan-Dec
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	-	-
	Bonnethead shark													-	-	-	-	Jun-Aug
	Ladyfish													-	-	-	-	-
	Red drum													-	-	Aug-Nov	Jan-Dec	Jan-Dec
	Sheepshead													-	-	-	Apr-Dec	Apr-Dec
	Southern flounder													-	-	-	Mar-Dec	Mar-Dec
	Southern flounder													-	-	-	Feb-Dec	Feb-Dec
	Southern flounder													-	-	-	Mar-Jan*	Mar-Jan*
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	Mar-Nov	Mar-Nov
	Spot													-	-	-	Jan-Dec	Jan-Dec
	Spot													-	-	-	Apr-Dec	Apr-Dec
	Spotted seatrout													May-Aug	-	May-Aug	-	Jan-Dec
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	Dec-Apr	Jan-Dec	Mar-Dec
	Cobia													-	-	-	Apr-Nov	-

REPTILES & AMPHIBIANS

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

INVERTEBRATES

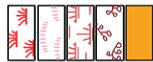
Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
 Crab	Blue crab													-	-	May-Nov	Apr-Nov	Apr-Nov
	Blue crab													-	-	May-Nov	Jan-Dec	Jan-Dec
	Blue crab													-	-	May-Nov	May-Nov	May-Nov
 Shrimp	Brown shrimp													-	-	Mar-Jun	Mar-Nov	-
	Brown shrimp													-	-	Mar-Jun	Apr-Oct	Jun-Nov
	White shrimp													-	-	Jun-Sep	Jan-Dec	Apr-Jun
	White shrimp													-	-	Jun-Sep	Jan-Dec	Jan-Dec

MARINE MAMMALS

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

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	5,331.38	8.33
10B	Freshwater Marshes	31.19	0.05
10C	Swamps	231.75	0.36
10D	Scrub and Shrub Wetlands	104.69	0.16
9A	Sheltered Tidal Flats	385.65	0.60

ESI SHORELINE HABITAT TYPES

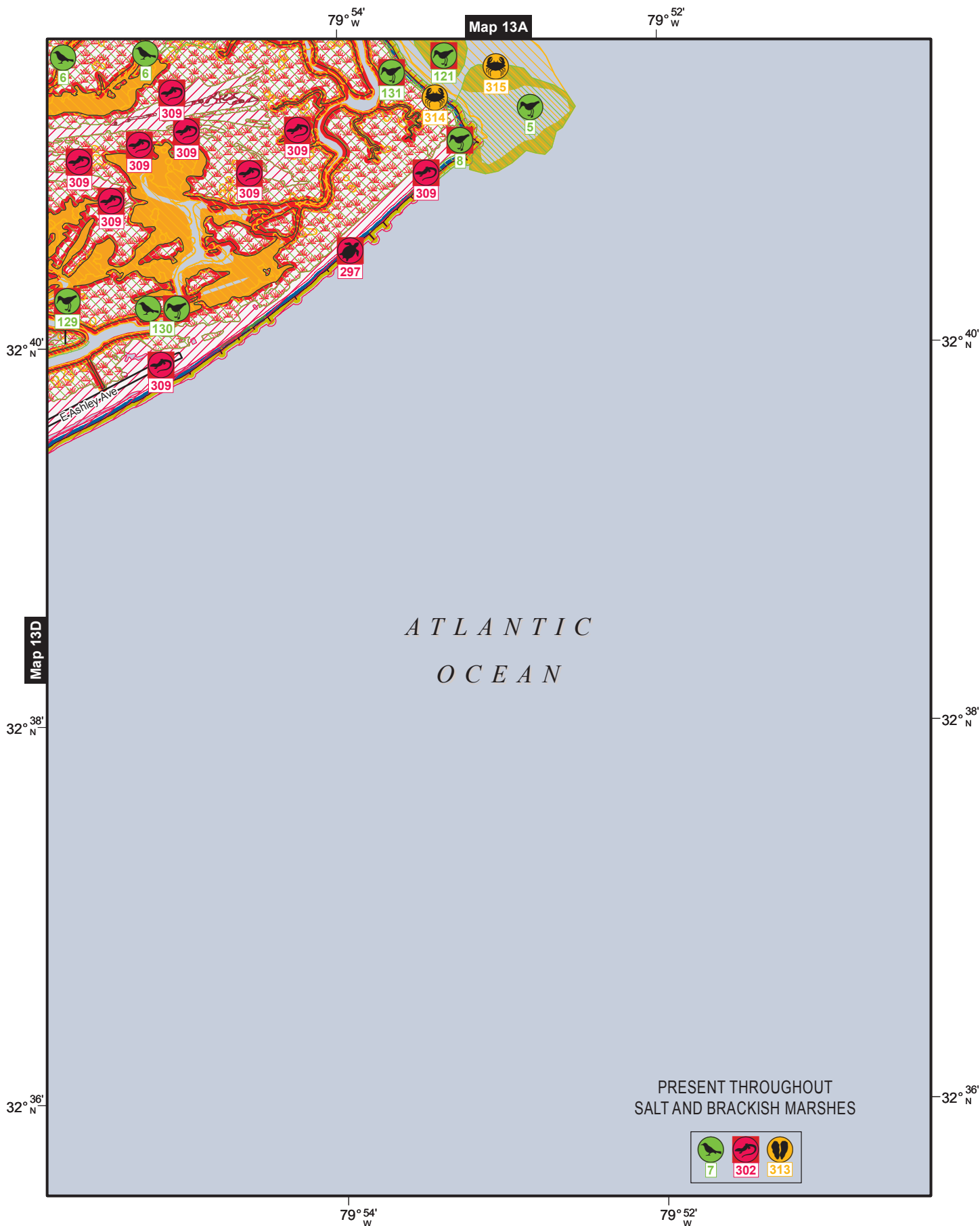
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	127,905.65	79.48	71%
10D	Scrub and Shrub Wetlands	174.98	0.11	< 1%
9A	Sheltered Tidal Flats	32,134.22	19.97	18%
9B	Vegetated Low Banks	1,798.04	1.12	1%
8A	Sheltered Scarps (Bedrock/Mud/Clay)	295.46	0.18	< 1%
8B	Sheltered, Solid Man-Made Structures	5,657.02	3.52	3%
8C	Sheltered Riprap	5,937.08	3.69	3%
7	Exposed Tidal Flats	484.63	0.30	< 1%
6A	Gravel Beaches	2,514.57	1.56	1%
6B	Riprap	1,909.45	1.19	1%
5	Mixed Sand and Gravel Beaches	54.74	0.03	< 1%
3B	Scarps and Steep Slopes (Sand)	484.46	0.30	< 1%
1B	Exposed, Solid Man-Made Structures	1,679.69	1.04	1%

Total ESI Shoreline: 181,029.98 Total ESI Shoreline: 112.49
 Total Shoreline: 139,241.88 Total Shoreline: 86.52

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

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





Map 13C
South Carolina

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				
5	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-	-	-	-
6	Passerine	Seaside sparrow	Nesting			-													Apr-Aug	-	-	-
7	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
8	Shorebird	Wilson's plover	Nesting	T		8 Pairs													Mar-Jul	-	-	-
121	Shorebird	American oystercatcher	Wintering	C		-													-	-	-	-
	Shorebird	Red knot	Migration		T	1,000S													-	Mar-May	Jul-Oct	-
	Shorebird	Red knot	Wintering		T	100S													-	-	-	-
	Shorebird	Shorebirds	Migration			100S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			100S													-	-	-	-
129	Shorebird	American oystercatcher	Wintering	C		213 Birds													-	-	-	-
130	Passerine	Nelson's sparrow	Wintering			-													-	-	-	-
	Passerine	Saltmarsh sparrow	Wintering			-													-	-	-	-
	Shorebird	American oystercatcher	Wintering	C		213 Birds													-	-	-	-
131	Shorebird	American oystercatcher	Wintering	C		-													-	-	-	-
	Shorebird	Piping plover	Wintering	E	T	-													-	-	Jul-Oct	-

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					
297	Turtle	Green sea turtle	Nesting	T	T	Low													-	-	-	-	-
	Turtle	Leatherback sea turtle	Nesting	E	E	Low													-	-	-	-	-
	Turtle	Loggerhead sea turtle	Nesting	T	T	Medium													-	-	-	-	-
302	Snake	Diamondback rattlesnake	General Distribution	C		Rare													-	-	-	-	-
309	Amphibian	Flatwoods salamander	General Distribution	E	T	Possible													-	-	-	-	-
	Amphibian	Gopher frog	General Distribution	E		Possible													-	-	-	-	-
	Amphibian	Northern dwarf siren	General Distribution	T		Possible													-	-	-	-	-

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					
313	Bivalve	Eastern oyster	Concentration Area			Reef													May-Nov	May-Nov	Jun-Dec	Jan-Dec	Jan-Dec
314	Crab	Horseshoe crab	Spawning Area			High													Apr-Jul	Apr-Jul	May-Aug	-	Apr-Jul
315	Crab	Horseshoe crab	Nursery Area			-													-	-	-	Jan-Dec	-

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				
	Scaup	Rafting			1,000S													-	-	-	-
	Scoters	Migration			1,000S													-	Apr-Jun	-	-
	Scoters	Rafting			10,000S													-	-	-	-



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					
	American eel	Migration			-													-	-	-	Jan-May	Sep-Jan
	American shad	Migration			-													-	-	-	Aug-Dec	Jan-May
	Atlantic sturgeon	General Distribution		E	Present													-	-	-	-	Jan-Dec
	Blueback herring	Migration			-													-	-	-	Aug-Dec	Jan-May
	Hickory shad	Migration			-													-	-	-	Aug-Dec	Jan-May
	Shortnose sturgeon	General Distribution	E	E	Low													-	-	-	-	Jan-Dec

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	-													-	-	-	-	-
	K. ridley sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Leatherback sea turtle	General Distribution	E	E	-													-	-	-	-	-
	Loggerhead sea turtle	General Distribution	T	T	-													-	-	-	-	-

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				
 	West Indian manatee	General Distribution	E	E	-													-	-	-	-
	Humpback whale	General Distribution	E	E	-													-	-	-	-
	N.A. right whale	Migration	E	E	-													-	Oct-Mar	-	-

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				
 	Alcids																	-	-	-	-
	Brown pelican																	-	-	Jul-Oct	-
	D. crested cormorant																	-	-	-	-
	Diving birds																	-	-	-	-
	Loons																	-	-	-	-


BIRDS (continued)

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Gulls													-	-	-	-
	Terns													-	-	-	-
	Seaside sparrow													-	-	-	-
	Black-capped petrel													-	-	-	-
	Jaegers													-	-	-	-
	Northern gannet													-	-	-	-
	Shearwaters													-	-	-	-
	Storm-petrels													-	-	-	-
	Phalaropes													-	-	-	-
	Clapper rail													Mar-Sep	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atl. sharpnose shark													-	-	-	-	-
	Atl. sharpnose shark													-	-	-	-	-
	Atlantic croaker													-	-	-	-	-
	Atlantic croaker													-	-	-	-	-
	Atlantic menhaden													-	-	-	-	-
	Atlantic menhaden													-	-	-	-	-
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	-	-
	Bonnethead shark													-	-	-	-	-
	Bull shark													-	-	-	-	-
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													-	-	-	-	-
	Red drum													-	-	-	-	-
	Red drum													-	-	-	-	-
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	-	-
	Spot													-	-	-	-	-
	Spotted seatrout													-	-	-	-	-
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
	Great hammerhead													-	-	-	-	-
	Atlantic spadefish													-	-	-	-	-
	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-

FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Lemon shark													-	-	-	Apr-Nov	Apr-Nov
	Smooth dogfish													-	-	-	-	Dec-Apr
	Spotted hake													-	-	-	-	-
	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	Apr-Oct	Apr-Oct
	Blacktip shark													-	-	-	Apr-Oct	Apr-Oct
	Cobia													-	-	-	Apr-Nov	Apr-Sep
	Finetooth shark													-	-	-	May-Oct	May-Oct
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	Sep-Nov	Sep-Nov
	Sandbar shark													-	-	-	Apr-Oct	Apr-Oct
	Scalloped hammerhead													-	-	-	May-Oct	May-Oct
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	Oct-Dec	Oct-Dec
	Spiny dogfish													-	-	-	-	-
	Tiger shark													-	-	-	Apr-Nov	Apr-Nov
	White shark													-	-	-	Dec-Apr	Dec-Apr



REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic brief squid													-	-	-	-	-
	Blue crab													Apr-Sep	Apr-Sep	May-Nov	Jan-Dec	Jan-Dec
	Blue crab													-	-	May-Nov	-	Apr-Sep
	Blue crab													-	-	May-Nov	-	-
	Cannonball jellyfish													-	-	-	-	-
	Brown shrimp													-	-	Jan-Mar	-	Jun-Nov
	Brown shrimp													-	-	Mar-Jun	Mar-Nov	-
	White shrimp													-	-	Jun-Sep	Jan-Dec	Apr-Jun
	White shrimp													May-Sep	May-Sep	Jun-Sep	-	Mar-Nov

MARINE MAMMALS

Subelement	Species	Monthly Presence												Mating	Calving	Pupping	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
	Atl. spotted dolphin													-	-	-	-
	Bottlenose dolphin													-	-	-	-
	Pygmy sperm whale													-	-	-	-
	S.finned pilot whale													-	-	-	-

SHORELINE RESOURCES

ESI POLYGON HABITAT TYPES

ESI Rank	Habitat Classification	Area (Acres)	Area (Sq. Miles)
10A	Salt and Brackish Water Marshes	1,501.02	2.35
10D	Scrub and Shrub Wetlands	17.91	0.03
9A	Sheltered Tidal Flats	363.75	0.57
7	Exposed Tidal Flats	118.13	0.18



ESI SHORELINE HABITAT TYPES

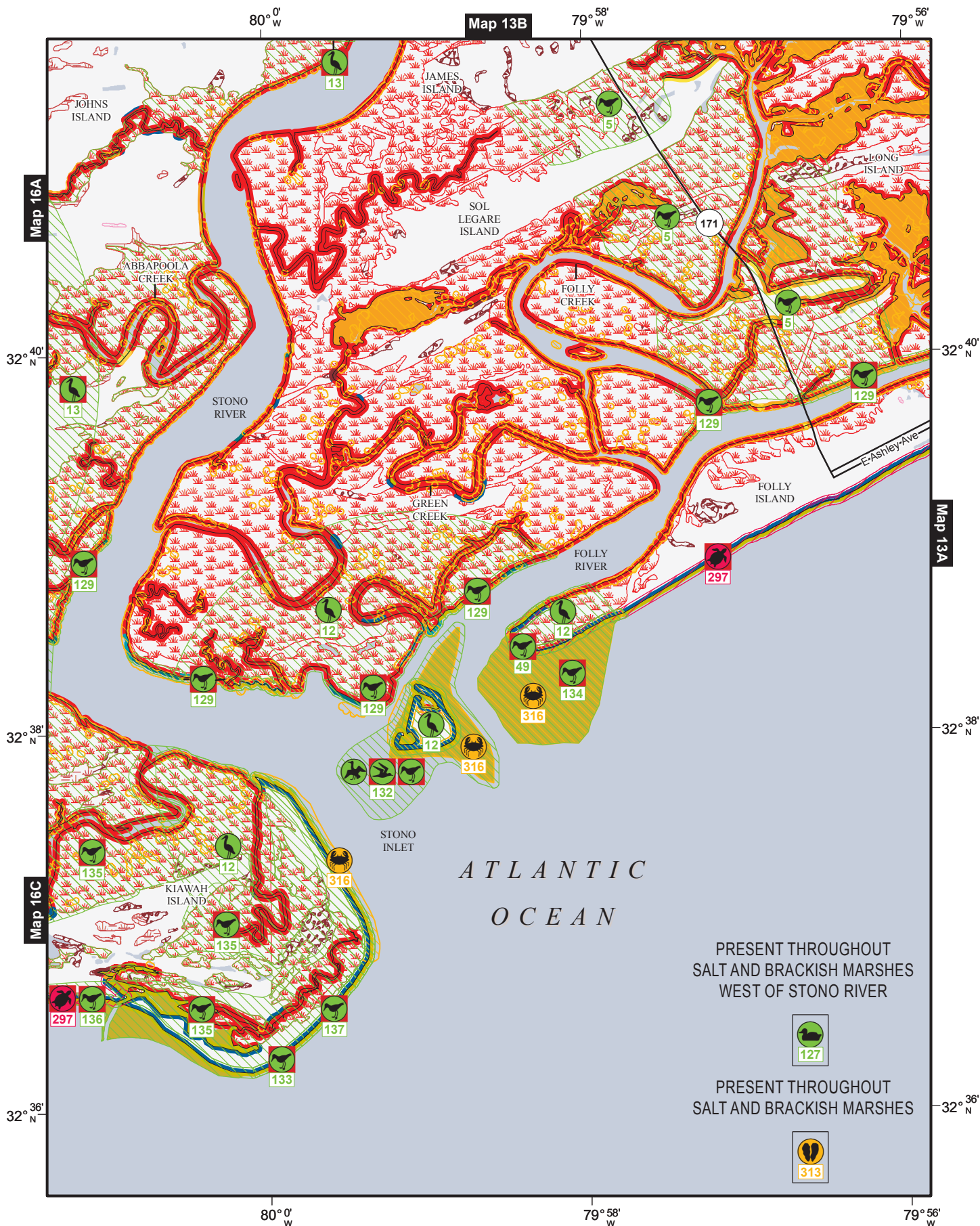
ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	46,928.41	29.16	55%
10D	Scrub and Shrub Wetlands	324.93	0.20	< 1%
9A	Sheltered Tidal Flats	21,435.72	13.32	25%
9B	Vegetated Low Banks	53.92	0.03	< 1%
8B	Sheltered, Solid Man-Made Structures	121.29	0.08	< 1%
8C	Sheltered Riprap	38.25	0.02	< 1%
7	Exposed Tidal Flats	7,613.71	4.73	9%
6A	Gravel Beaches	27.58	0.02	< 1%
6B	Riprap	2,075.35	1.29	2%
3A	Fine to Medium Grained Sand Beaches	5,922.25	3.68	7%
3B	Scarps and Steep Slopes (Sand)	257.24	0.16	< 1%

Total ESI Shoreline: 84,798.64 Total ESI Shoreline: 52.69
Total Shoreline: 54,667.53 Total Shoreline: 33.97

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 13D
South Carolina

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				
5	Shorebird	Shorebirds	Migration			1,000S													-	Mar-Jun	Jul-Oct	-
	Shorebird	Shorebirds	Wintering			1,000S													-			-
12	Wading	Wading birds	Nesting			1 Rookery													Feb-Sep			-
13	Wading	Wood stork	Nesting	E	T	1 Rookery													Mar-Sep			-
49	Shorebird	Wilson's plover	Nesting	T		2 Pairs													Mar-Jul			-
127	Waterfowl	Bufflehead	Wintering			100S													-			-
	Waterfowl	Dabbling ducks	Wintering			100S													-			-
	Waterfowl	Hooded merganser	Nesting			Possible													Feb-Jun			-
	Waterfowl	Hooded merganser	Wintering			100S													-			-
	Waterfowl	Red-breasted merganser	Wintering			10S													-			-
	Waterfowl	Redhead	Wintering			10S													-			-
	Waterfowl	Ring-necked duck	Wintering			10S													-			-
	Waterfowl	Scaup	Wintering			1,000S													-			-
	Waterfowl	Scoters	Wintering			10S													-			-
	Waterfowl	Wood duck	Nesting			Possible													Feb-Jun			-
	Waterfowl	Wood duck	Wintering			10S													Feb-Jun			-
129	Shorebird	American oystercatcher	Wintering			213 Birds													-			-
132	Diving	Brown pelican	Nesting	C		1,478 Nests													Mar-Sep			-
	Gull/Tern	Black skimmer	Nesting	C		54 Nests													May-Aug			-
	Gull/Tern	Gull-billed tern	Nesting	C		18 Nests													May-Aug			-
	Gull/Tern	Least tern	Nesting	T		31 Nests													May-Aug			-
	Gull/Tern	Royal tern	Nesting			1,750 Nests													May-Aug			-
	Gull/Tern	Sandwich tern	Nesting			1,125 Nests													May-Aug			-
	Shorebird	American oystercatcher	Nesting	C		9 Pairs													Apr-Aug			-
	Shorebird	American oystercatcher	Wintering	C		10S													-			-
	Shorebird	Marbled godwit	Wintering			-													-			-
	Shorebird	Piping plover	Wintering	E	T	High													-			-
	Shorebird	Red knot	Migration	T		1,000S													Mar-May	Jul-Oct		-
	Shorebird	Red knot	Wintering	T		100S													-			-
	Shorebird	Shorebirds	Migration			1,000S													Mar-Jun	Jul-Oct		-
	Shorebird	Shorebirds	Wintering			1,000S													-			-
	Shorebird	Willet	Nesting			-													Apr-Jun			-
	Shorebird	Wilson's plover	Nesting	T		12 Pairs													Mar-Jul			-
	Shorebird	Wilson's plover	Wintering	T		100S													-			-
133	Shorebird	American oystercatcher	Wintering	C		-													-			-
	Shorebird	Marbled godwit	Wintering			-													-			-
	Shorebird	Piping plover	Wintering	E	T	10S													-			-

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	
	Shorebird	Red knot	Migration		T	8,000 Birds													
	Shorebird	Red knot	Wintering		T	1,000S													
	Shorebird	Shorebirds	Migration			100S													
	Shorebird	Shorebirds	Wintering			100S													
	Shorebird	Wilson's plover	Wintering	T		10S													
134	Shorebird	American oystercatcher	Wintering	C		-													
	Shorebird	Piping plover	Wintering	E	T	-													
	Shorebird	Red knot	Migration		T	1,000S													
	Shorebird	Red knot	Wintering		T	100S													
	Shorebird	Shorebirds	Migration			100S													
	Shorebird	Shorebirds	Wintering			100S													
	Shorebird	Wilson's plover	Wintering	T		10S													
135	Shorebird	Piping plover	Wintering	E	T	Possible													
136	Shorebird	Shorebirds	Migration			100S													
	Shorebird	Shorebirds	Wintering			100S													
	Shorebird	Wilson's plover	Nesting	T		23 Pairs													
137	Shorebird	American oystercatcher	Nesting	C		1 Pair													
	Shorebird	Wilson's plover	Nesting	T		1 Pair													




REPTILES & AMPHIBIANS

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
							J	F	M	A	M	J	J	A	S	O	N	D	
297	Turtle	Green sea turtle	Nesting	T		Low													
	Turtle	Leatherback sea turtle	Nesting	E		Low													
	Turtle	Loggerhead sea turtle	Nesting	T		Medium													

INVERTEBRATES

Map ID	Subelement	Species	Mapping Qualifier	S	F	Concentration	Monthly Presence												Adults
							J	F	M	A	M	J	J	A	S	O	N	D	
313	Bivalve	Eastern oyster	Concentration Area			Reef													
316	Crab	Horseshoe crab	Nursery Area			-													
	Crab	Horseshoe crab	Spawning Area			High													


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	Nelson's sparrow			-													-	-	-	-
		Saltmarsh sparrow			-													-	-	-	-
	Wading	Seaside sparrow			-													Apr-Aug	-	-	-
		Wading birds			3 Rookeries													Feb-Sep	-	-	-
	Waterfowl	Scaup			1,000S													-	-	-	-
		Scoters			1,000S													Apr-Jun	-	-	-
	Scoters	Scoters			10,000S													-	-	-	-

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	American eel			-													-	-	-	Jan-May	Sep-Jan
		American shad			-													-	-	-	Aug-Dec	Jan-May
		Atlantic sturgeon			Present													-	-	-	-	Jan-Dec
		Blueback herring			-													-	-	-	Aug-Dec	Jan-May
		Hickory shad			-													-	-	-	Aug-Dec	Jan-May
		Shortnose sturgeon			Low													-	-	-	-	Jan-Dec

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					
	Amphibian	Flatwoods salamander			Possible													-	-	-	-	-
		Gopher frog			Possible													-	-	-	-	-
		Northern dwarf siren			Possible													-	-	-	-	-
	Snake	Diamondback rattlesnake			Rare													-	-	-	-	-
	Turtle	Green sea turtle			-													-	-	-	-	-
		K. ridley sea turtle			-													-	-	-	-	-
		Leatherback sea turtle			-													-	-	-	-	-
		Loggerhead sea turtle			-													-	-	-	-	-

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				
	Manatee	West Indian manatee			-													-	-	-	-
	Whale	Humpback whale			-													-	-	-	-




BIRDS

Subelement	Species	Monthly Presence												Nest	Mig.(S)	Mig.(F)	Molt
		J	F	M	A	M	J	J	A	S	O	N	D				
Alcid	Alcids													-	-	-	-
	Brown pelican													-	-	Jul-Oct	-
	D. crested cormorant													-	-	-	-
	Diving birds													-	-	-	-
Gull/Tern	Loons													-	-	-	-
	Gulls													-	-	-	-
	Terns													-	-	-	-
	Seaside sparrow													-	-	-	-
Passerine	Black-capped petrel													-	-	-	-
	Jaegers													-	-	-	-
	Northern gannet													-	-	-	-
	Shearwaters													-	-	-	-
Shorebird	Storm-petrels													-	-	-	-
	Phalaropes													-	-	-	-
	Clapper rail													-	-	-	-
	Wading													-	-	-	-

FISH

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
Diadromous	Striped bass													-	-	-	Jan-Dec	Jan-Dec
	Atl. sharpnose shark													-	-	-	-	-
	Atl. sharpnose shark													-	-	-	Feb-Dec	Feb-Dec
	Atlantic croaker													-	-	-	Mar-Nov	Mar-Nov
Estuarine Nursery	Atlantic croaker													-	-	-	Jun-Nov	Jun-Nov
	Atlantic croaker													-	-	-	Apr-Oct	Apr-Oct
	Atlantic menhaden													-	-	-	Mar-Nov	Mar-Nov
	Atlantic menhaden													-	-	-	Jul-Sep	Jul-Sep
	Bluefish													-	-	-	-	-
	Bonnethead shark													-	-	-	Apr-Nov	Apr-Nov
	Bonnethead shark													-	-	-	Jun-Aug	Jun-Aug
	Bull shark													-	-	-	Apr-Oct	Apr-Oct
	Ladyfish													-	-	-	-	-
	Porgies													-	-	-	-	-
	Red drum													-	-	-	Aug-Nov	Aug-Nov
	Red drum													-	-	-	Jan-Dec	Jan-Dec
	Silver seatrout													-	-	-	-	-
	Southern flounder													-	-	-	-	-
	Southern flounder													-	-	-	Mar-Jan*	Mar-Jan*
	Southern kingfish													-	-	-	-	-
	Spot													-	-	-	-	-
	Spot													-	-	-	Apr-Dec	Apr-Dec
	Spotted seatrout													-	-	-	-	-
	Spotted seatrout													-	-	-	May-Aug	May-Aug


FISH (continued)

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Star drum													-	-	-	-	-
	Striped mullet													-	-	-	-	-
	Summer flounder													-	-	-	-	-
	Weakfish													-	-	-	-	-
	Great hammerhead													-	-	-	-	-
	Atlantic spadefish													-	-	-	-	-
	Florida pompano													-	-	-	-	-
	Fringed flounder													-	-	-	-	-
	Lemon shark													-	-	-	-	-
	Smooth dogfish													-	-	-	-	-
	Spotted hake													-	-	-	-	-
	Anchovies													-	-	-	-	-
	Blacknose shark													-	-	-	-	-
	Blacktip shark													-	-	-	-	-
	Cobia													-	-	-	-	-
	Finetooth shark													-	-	-	-	-
	Giant manta													-	-	-	-	-
	King mackerel													-	-	-	-	-
	Sandbar shark													-	-	-	-	-
	Scalloped hammerhead													-	-	-	-	-
	Spanish mackerel													-	-	-	-	-
	Spinner shark													-	-	-	-	-
	Spiny dogfish													-	-	-	-	-
	Tiger shark													-	-	-	-	-
	White shark													-	-	-	-	-

REPTILES & AMPHIBIANS

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

INVERTEBRATES

Subelement	Species	Monthly Presence												Spawn	Eggs	Larvae	Juveniles	Adults
		J	F	M	A	M	J	J	A	S	O	N	D					
	Atlantic brief squid													-	-	-	-	-
	Blue crab													-	-	-	-	-
	Blue crab													-	-	-	-	-
	Cannonball jellyfish													-	-	-	-	-
	Brown shrimp													-	-	-	-	-
	Brown shrimp													-	-	-	-	-
	White shrimp													-	-	-	-	-
	White shrimp													-	-	-	-	-

MARINE MAMMALS

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

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	7,445.48	11.63
10B	Freshwater Marshes	2.26	0.00
10C	Swamps	78.68	0.12
10D	Scrub and Shrub Wetlands	214.36	0.33
9A	Sheltered Tidal Flats	428.19	0.67
7	Exposed Tidal Flats	484.28	0.76

ESI SHORELINE HABITAT TYPES

ESI Rank	Shoreline Habitat Classification	Length (Meters)	Length (Miles)	% of ESI Shoreline
10A	Salt and Brackish Water Marshes	198,849.65	123.56	70%
10C	Swamps	312.66	0.19	< 1%
10D	Scrub and Shrub Wetlands	765.12	0.48	< 1%
9A	Sheltered Tidal Flats	33,463.04	20.79	12%
9B	Vegetated Low Banks	3,126.09	1.94	1%
8B	Sheltered, Solid Man-Made Structures	1,929.50	1.20	1%
8C	Sheltered Riprap	1,391.14	0.86	< 1%
7	Exposed Tidal Flats	22,440.34	13.94	8%
6A	Gravel Beaches	2,473.35	1.54	1%
5	Mixed Sand and Gravel Beaches	1,236.74	0.77	< 1%
3A	Fine to Medium Grained Sand Beaches	16,581.94	10.30	6%
3B	Scarps and Steep Slopes (Sand)	1,956.48	1.22	1%
1B	Exposed, Solid Man-Made Structures	437.81	0.27	< 1%
Total ESI Shoreline:		284,963.86	Total ESI Shoreline:	177.07
		217,769.26	Total Shoreline:	135.32







































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






















LEGEND: SOUTH CAROLINA

Human-Use Features

-  Abandoned Vessel
-  Access
-  Airport
-  Anchorage
-  Artificial Reef
-  Beach
-  Boat Ramp
-  Commercial Fishing
-  Critical Habitat
-  EPA Facility
-  Heliport
-  Historical Site
-  Lock and Dam
-  Management Area
-  Marina
-  Military
-  National Estuarine Research Reserve
-  National Forest
-  National Park
-  Nature Conservancy
-  Park
-  Port
-  Recreational Fishing
-  Renewable Energy
-  Repeated Measurement Site
-  Tribal Land
-  Washover
-  Water Intake
-  Wildlife Refuge
-  Pipeline
-  Rail Route
-  Road
-  Shipping Lane
-  Interstate
-  US Highway
-  State Highway or Route
-  Management Area
-  Map ID

ESI Shoreline and Habitat Ranking

-  1B) Exposed, Solid Man-Made Structures
-  2A) Exposed Wave-Cut Platforms (Bedrock/Mud/Clay)
-  2B) Exposed Scarps and Steep Slopes (Clay)
-  3A) Fine to Medium Grained Sand Beaches
-  3B) Scarps and Steep Slopes (Sand)
-  4) Coarse-Grained Sand Beaches
-  5) Mixed Sand and Gravel Beaches
-  6A) Gravel Beaches
-  6B) Riprap
-  7) Exposed Tidal Flats
-  8A) Sheltered Scarps (Bedrock/Mud/Clay)
-  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: SOUTH CAROLINA

Sensitive Biological Resources

	Birds		Invertebrates		Habitats
	Birds		Bivalve/Barnacle/Chordate		Upland/Wetland/Plant
	Alcid/Pelagic		Cephalopod		
	Diving		Crab/Invertebrate/Shellfish		
	Gull/Tern/Bird		Shrimp		
	Passerine				Threatened or Endangered Species
	Raptor		Marine Mammals		
	Shorebird		Dolphin		
	Wading		Manatee		Map ID
	Waterfowl		Whale		
	Fish		Reptiles & Amphibians		
	Fish		Amphibian/Frog/Lizard/Snake/Reptile		
	Nursery		Turtle		

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.

