

DRAFT ENVIRONMENTAL ASSESSMENT

**MAINTENANCE DREDGING AND DISPOSAL OF DREDGED MATERIAL
MISSISSIPPI AND LOUISIANA PORTIONS OF THE
GULF INTRACOASTAL WATERWAY
FEDERALLY AUTHORIZED NAVIGATION PROJECT**

**HANCOCK, HARRISON AND JACKSON COUNTIES, MISSISSIPPI
AND COASTAL LOUISIANA**

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1.0 INTRODUCTION

This Environmental Assessment (EA) presents the impacts that could potentially result from the maintenance dredging activities of the Gulf Intracoastal Waterway (GIWW) federally authorized navigation project in Mississippi and Coastal Louisiana, and the placement of the dredged material. The purpose of this EA is to determine whether or not the proposed action has the potential for creating significant impacts to the environment and would thereby warrant a more detailed study on possible impacts, mitigation, and alternative courses of action. The GIWW is a Federal shallow-draft navigation project which extends 1,115 miles along the Gulf of Mexico Coast from northern Florida to the southern tip of Texas. The many bays and sounds that indent and parallel the Gulf Coast have been used for transportation routes since the days of the first settlers. Since other modes of transportation along the coast were slow to develop, these waters were often the only means whereby commerce could be carried on between coastal settlements. Passage between the various bays could only be made through the often hazardous waters of the Gulf of Mexico, so the need for a sheltered inland connecting route was recognized by Congress. The GIWW has since been developed in segments, each section built to serve the needs of a specific local area. The first Federal act authorizing the construction of a segment was passed in 1828 (Corps 1976).

2.0 NATIONAL ENVIRONMENTAL POLICY ACT of 1969 CONSIDERATION

The National Environmental Policy Act (NEPA) and Title 40 of the Code of Federal Regulations (CFR), Parts 1500-1508 (40 CFR §§ 1500-1508) require Federal agencies to consider the potential environmental consequences of proposed actions and alternatives. If there is a substantial question whether an action may have a significant effect on the environment, then the agency must prepare an environmental impact statement (EIS). An EIS should contain a discussion of significant environmental impacts and alternatives to the proposed action. 40 C.F.R. §§ 1502.1, 1502.14, 1508.7. As a preliminary step, an agency may prepare an environmental assessment (EA) in order to determine whether a proposed action may significantly affect the environment and thereby trigger the requirement to prepare an EIS. 40 C.F.R. § 1508.9(a)(1) (2007). Further, Executive Order (EO) 11514, Protection and Enhancement of Environmental Quality (amended by EO 11991), provides policy directing the Federal government to take leadership in protecting and enhancing the environment.

In accordance with the requirements of NEPA, an Environmental Impact Statement (EIS) for the entire GIWW Navigation Project from the Pearl River, Louisiana-Mississippi to Apalachee Bay, Florida was completed and filed with the President's Council on Environmental Quality (CEQ) on December 17, 1976. The EIS was coordinated with all Federal, State and local agencies and the interested public; the document is on file at the Mobile District Office.

Since that time, a number of changes including physical changes to the overall project and changes in the environmental requirements have occurred which require additional environmental evaluation. The current EA was recently reviewed to determine if extraordinary circumstances existed that would warrant further review under the NEPA process. As a result of this review, the U.S. Army Corps of Engineers (Corps), Mobile District, determined that further assessment under the NEPA process was needed to address potential impacts to Essential Fish Habitat (EFH) and federally protected species; this assessment will determine whether the proposed action has the potential for creating significant impacts to the environment and would thereby warrant an EIS. Therefore, this EA has been prepared to address the potential impacts associated with maintenance dredging and disposal operations of the federally authorized GIWW navigation project within the State of Mississippi and Coastal Louisiana.

3.0 DESCRIPTION OF ENTIRE AUTHORIZED PROJECT

The existing Federal project under the auspices of the Corps, Mobile District, provides for a channel 12 feet deep, 125 feet wide at mean lower low water (MLLW) from Apalachee Bay, Florida to Mobile Bay, Alabama and a channel 12 feet deep and 150 feet wide from Mobile Bay, Alabama to the Rigolets, Louisiana (Lake Borgne Light No. 29), and for a tributary channel (the Gulf County Canal), 12 feet deep, and 125 feet wide, and about 6 miles long connecting the waterway at White City, Florida with St. Joseph Bay, Florida. The waterway between the 12 foot contours in Apalachee Bay and Lake Borgne Light No. 29 at The Rigolets is 379 miles long (**Figure 1**). The existing project was authorized by the 1966 Rivers and Harbors Act, (House Document 481, 89th Congress, 2nd Session) as amended and prior Acts.

4.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed action is to maintain the authorized depth of the Mississippi and Coastal Louisiana portions of the federally authorized GIWW Navigation Project. The channel is needed to provide for navigation by commercial and private vessels. The GIWW serves as a major waterway for the transport of fuel, and other commodities, to various military and civilian installations along the Gulf of Mexico.

5.0 DESCRIPTION OF THE PROPOSED ACTION

MISSISSIPPI:

The proposed action for the Mississippi portion of the GIWW would be the maintenance dredging and disposal activities as previously certified in the State of Mississippi. Approximately 3,000,000 cubic yards (CY) of sandy silt are proposed for removal by hydraulic pipeline dredge on an infrequent basis over a ten-year period.

The proposed action would involve maintenance dredging of the Mississippi portion of the GIWW, which is 65 miles in length, 150 feet in width, and with a maximum depth of -16 feet MLLW (authorized project depth of -12 feet MLLW, plus -2 feet of advanced maintenance and -2 feet of allowable over depth dredging). Maintenance dredging intervals typically occur once every three (3) to five (5) years, and for the current proposed action, the material would be removed by hydraulic pipeline dredge and placed in previously used and authorized open-water disposal areas using a thin layer technique of disposal (**Figure 2 & Table 1**).

Table 1

DA	CHANNEL	GIWW MILE	ACRES	DA TYPE
66	GIWW Louisiana	38.0	1593	Open Water Disposal Area
65A	GIWW Mississippi	51.0	1962	Open Water Disposal Area
65B	GIWW Mississippi	55.0	815	Open Water Disposal Area
65C	GIWW Mississippi	57.5	176	Open Water Disposal Area

In emergency conditions, a barge mounted dragline or snagboat may be used to remove rapidly formed or unexpected shoals or other hazards to navigation. This material would be placed to the side of the channel to allow for immediate passage of vessels until a hydraulic pipeline dredge could be dispatched to restore project dimensions. Emergency disposal needs are infrequent and usually the result of storm incidents or barge groundings. Past experiences have shown that only a few areas are likely to require such emergency action but such actions may be required at any location along the waterway. In the event of an emergency all necessary Federal and state agencies would be notified before commencement of work. The principal sediment type associated with the project is sandy silt.

LOUISIANA:

The proposed action for the Coastal Louisiana portion of the GIWW involves the continued maintenance dredging and disposal activities of dredged material associated with GIWW in the State of Louisiana. Approximately 250,000 CY of dredged material would be removed by hydraulic pipeline dredge on an as needed basis over a three (3) to five (5) year timeframe. It is anticipated that dredging and placement activities would be performed annually. The dredged material consists predominantly of silts and sandy silts. The material resulting from routine maintenance dredging would be placed in previously used and permitted, open-water disposal areas using a thin layer technique of disposal (**Figure 3**).

A barge –mounted dragline or snagboat may be utilized during emergency situations (i.e. hurricanes and large storm events) to remove rapidly formed, unexpected shoals or other hazards to navigation. This material would be placed directly adjacent to the channel. The proposed action would provide for immediate passage of vessels until a hydraulic dredge could be mobilized at the project site. Emergency placement needs are very infrequent and usually are the result of specific incidents such as storm events or barge groundings. Historical data indicates that only a few channel segments would require emergency action. However, emergency dredging and placement may be required at any location along the waterway. All necessary Federal, state and local agencies would be notified prior to commencement of emergency dredging and disposal activities.

6.0 ALTERNATIVES TO THE PROPOSED ACTION

6.1 No Action Alternative. The implementation of the "no action" alternative would result in the Mississippi and Coastal Louisiana portions of the GIWW not being dredged and maintained to the authorized project depth. This alternative would not provide the necessary conditions for safe navigation of commercial and recreational boats through the channel. Therefore, the "no action" alternative was deemed unacceptable and not considered further.

7.0 AFFECTED ENVIRONMENT

7.1 Climate. The project area is located in a humid subtropical climate region, characterized by temperate winters, long hot summers, and rainfall that is fairly evenly distributed throughout the year. The Gulf principally influences the year-round maritime tropical climate. Prevailing southerly winds provide moisture for high humidity from May through September. Temperatures are effectively moderated by the Gulf Waters which keeps the maximum temperature lower in the summer except for the rare occasion when offshore winds prevail throughout the day pushing afternoon highs to 90° Fahrenheit (F) or even above 100° F. The large surface of warm water makes generally mild winters except for the occasional cold front and high pressure system. An average winter will have less than 20 days below freezing with a normal mean annual temperature of 68°F along the coast. Normal precipitation ranges from about 50 to 65 inches per year.

7.2 Geology, Soils and Topography. The existing coastal features are always in a state of dynamic change, and their evolutionary directions depend on the supply of sediments, sea level, land structure movements, and supply of energy produced by waves and currents (Little, 1973). The present shorelines, estuaries, marshes, swamps, beaches lagoons, and deltas are ephemeral and have probably existed less than 6,000 years (Corps 1976). Most of the surficial rocks within the project area are Quaternary, which slope southward and for narrow bands of land characterized by low relief and elevation. Super-imposed on the gently-sloping rocks of the Gulf Coastal Plain are small domes, numerous fault systems, and other structures; some of which are related to the intrusion of salt (Little 1973). The average Holocene thickness is 10-20 feet with a maximum of 28 feet in some areas (Oivanki, 1994). The sediments along the Mississippi Sound are generally silt and clay with sand comprising between 25-30 percent of the material (United States Department of Agriculture (USDA) 1981). The Pleistocene units of the Mississippi and Louisiana coast are underlain by thick sequence of dominantly green and gray mud, clay, and sandy mud and clay beds. Mississippi Sound, which includes the Louisiana portion of the GIWW, sediments are composed mostly of fine silts and clay, with some areas of fine to medium grained sand. Medium and coarse sand dominate the mainland beaches east of the Pascagoula River and along barrier islands. In sandy areas near the coast, the forest is open consisting mainly of slash pine (*Pinus elliotti*) with an understory of saw palmetto (*Serenoa repens*) and wax myrtle (*Myrica cerifera*). Sedges, grasses, and rushes are typically the prevailing vegetation in the freshwater marshes including switch grass (*Panicum virgatum*), wild rice (*Zizania aquatica*), saw grass (*Cladium jamaicense*), black needlerush (*Juncus roemarianus*), and saltmarsh cordgrass (*Spartina alterniflora*) is locally dominant in the tidally influenced marshes.

7.3 Benthos, Motile Invertebrates, and Fishes. The benthic community in the Mississippi Sound was classified by Vittor and Associates (1982) in a study of the Mississippi Sound and selected sites in the Gulf of Mexico. In the Sound, a total of 437 taxa were collected at densities ranging from 1,097 to 35,537 individuals per square meter. Generally, densities increase from fall through the spring months since most of the dominant species exhibit a late winter to early spring peak in production. These species, though sometimes low to moderate in abundance, occur in a wide range of environmental conditions. They are usually the most successful at early colonization and thus tend to strongly dominate the sediment subsequent to disturbances such as dredging activities. These species include polychaetes *Mediomastus spp.*, *Paraprionospio pinnata*, *Myriochele oculata*, polychaete worm *Owenia fusiformis*, *Lumbrineris app.*, *Sigambra tentaculata*, the *Linopherus-Paraphinome* complex, and *Magelona cf. phyllisae*. The phoronid, *Phoronis ap.* and the cumacean *Oxyurostylis smith* also fit this category. *M. oculata* and *O. fusiformis* are predominate species in the Mississippi Sound. The project site lies within the area categorized by Vittor as the shallow coastal margin mud habitat. The numerically

dominant species collected during the study, polychaete worm *Mediomastus californiensis* and *Paraprionospio pinnata*, dominated the samples collected by Vittor and Associates, Inc. (1982).

Other benthos includes the clam (*Macoma mitchelli*), and the crustacean (*Ampelisca abdita*). Numerous fish species occur throughout the project, with the most common including: sheepshead (*Archosargus probatocephalus*), tarpon (*Megalops atlantica*), spotted gar (*Lepisosteus oculatus*), Atlantic croaker (*Micropogonias undulates*), Alabama Shad (*Alosa alabamae*), sea bass (*Centropristis striata*), spot (*Leiostomus xanthurus*), bay anchovy (*Anchoa mitchilli*), and Gulf menhaden (*Brevoortia patronus*). Common shellfish include the juvenile Brown shrimp (*Penaeus aztecus*), White shrimp (*Penaeus setiferus*), Blue crab (*Callinectes sapidus*), and oysters (*Crassostrea virginica*).

7.4 Submerged Aquatic Vegetation. Naturally high turbidity levels reduce necessary light at depths within the project area and immediate vicinity, making the area unsuitable for growth of submerged aquatic vegetation.

7.5 Essential Fish Habitat. EFH is defined in the Magnuson-Stevens Fishery Conservation and Management Act as...."those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity." The designation and conservation of EFH seeks to minimize adverse effects on habitat caused by fishing and non-fishing activities. The National Marine Fisheries Service (NMFS) has identified EFH habitats for the Gulf of Mexico in its Fishery Management Plan Amendments. These habitats include estuarine areas such as estuarine emergent wetlands, seagrass beds, algal flats, mud, sand, shell and rock substrates, and the estuarine water column. NMFS will be consulted regarding the Corps, Mobile District determination that the proposed activities would not adversely affect EFH in the project vicinity. NMFS has been coordinated by Public Notice for both the Mississippi and Louisiana portions of the GIWW as referenced by public notice numbers **FP08-IW01-14** and **FP08-IW02-14**, respectively.

Table 2

Fishery Management Plans and Managed Species for the Gulf of Mexico. (NMFS 1999)	
Shrimp Fishery Management Plan Brown shrimp (<i>Penaeus aztecus</i>) Pink shrimp (<i>P. duorarum</i>) Rock shrimp (<i>Sicyonia brevirostris</i>) Royal Red Shrimp (<i>Pleoticus robustus</i>) White Shrimp (<i>P. setiferus</i>)	Red Drum Fishery Management Plan Red drum (<i>Sciaenops ocellatus</i>) Golden Crab Fishery Management Plan Golden crab (<i>Chaceon fenneri</i>)
Snapper Grouper Fishery Management Plan	
Blackfin snapper (<i>Lutjanus buccanella</i>) Blueline tilefish (<i>Caulolatilus microps</i>) Gray snapper (<i>L. griseus</i>) Greater amberjack (<i>Seriola dumerili</i>) Jewfish (<i>Epinephelus itajara</i>) Mutton snapper (<i>L. analis</i>) Red porgy (<i>Pargrus pargrus</i>) Red snapper (<i>L. campechanus</i>) Vermillion snapper (<i>Rhomboplites aurorubens</i>)	Silk snapper (<i>L. vivanus</i>) Snowy grouper (<i>E. niveatus</i>) Speckled hind (<i>E. drummondhayi</i>) Yellowedge grouper (<i>E. flavolimbatus</i>) Warsaw grouper (<i>E. nigrurus</i>) White grunt (<i>Haemulon plumieri</i>) Wreckfish (Polyprion americanus) Scamp (<i>Mycteroperca phenax</i>)

Coastal Migratory Pelagics Fishery Management Plan

Dolphin (*Coryphaena hippurus*)
 Cobia (*Rachycentron canadum*)
 King mackerel (*Scomberomorus cavalla*)
 Spanish mackerel (*S. maculatus*)

Spiny Lobster Fishery Management Plan

Spiny lobster (*Panulirus argus*)

Calico Scallop Fishery Management Plan

Calico scallop (*Argopecten gibbus*)

Coral and Coral Reef Fishery Management Plan

Varied coral species and coral reef communities
 Comprised of several hundred species

Sargassum Habitat Fishery Management Plan

Sargassum (and associated fauna) where it
 occur in the EEZ and state waters

A number of species listed in **Table 2** may be found in the Mississippi Sound along with the Gulf of Mexico. The Mississippi Sound and Gulf of Mexico encompass both the Mississippi and Louisiana portions of the GIWW.

7.6 Esthetics. The project area along the Mississippi Sound and Coastal Louisiana is esthetically pleasing. The only impacts to esthetics would be physical presence of equipment during construction.

7.7 Water Quality. The surface water within the limits of the project is generally classified as brackish water that receives salt water from the Gulf of Mexico and fresh water inflows from area rivers. The water quality within the area is generally good. Increased turbidity is a common occurrence due to wave energy and the input from area rivers. Low dissolved oxygen levels in the project area have been documented during the hotter summer months. The states of Mississippi and Louisiana Departments of Environmental Quality will be coordinated with regarding water quality certification.

7.8 Noise. Noise levels in the area are typical of recreational boating and marina activities. Noise levels fluctuate with the highest levels usually occurring during the spring and summer months due to increased boating and coastal beach activities.

7.9 Navigation. The channel serves as the only deep-water access route from Florida to Coastal Louisiana. The authorized project provides for a channel 12 feet deep, 125 feet wide at MLLW from Apalachee Bay, Florida to Mobile Bay, Alabama and a channel 12 feet deep and 150 feet wide from Mobile Bay, Alabama to the Rigolets, Louisiana (Lake Borgne Light No. 29).

7.10 Air Quality. The Clean Air Act (CAA) established National Ambient Air Quality Standards (NAAQS); the primary standards are to protect public health and the secondary standards are to protect public welfare. The CAA Amendments of 1990 established classification designations based on regional monitored levels of ambient air quality. These designations

impose mandated timetables and other requirements necessary for attaining and maintaining healthful air quality in the U.S. based on the seriousness of the regional air quality problem. When measured concentrations of regulated pollutants exceed standards established by the NAAQS, an area may be designated as a nonattainment area for a regulated pollutant. The states of Mississippi and Louisiana are in attainment with the NAAQS of the CAA. Mississippi and Louisiana currently have approved State Implementation Plan (SIP) for the establishment, regulation, and enforcement of air pollution standards.

7.11 Hazardous Material. No known hazardous materials are present within the project area or immediate vicinity.

7.12 Cultural Resources. In compliance with the National Historic Preservation Act (NHPA), coordination with the Mississippi and Louisiana State Historic Preservation Officer's (SHPO's) concerning the proposed action has been conducted. The National Register of Historic Places (Register) has been consulted and no properties listed on, being nominated to or that have been determined eligible for the Register are located in the vicinity of the proposed work. Given the relatively recent maintenance dredging of the project, the potential for submerged cultural resources is low. The GIWW was authorized by Congress and completed more than 50 years ago. The existing channel and open-water disposal areas were constructed and operated prior to the enactment of the NHPA, which was signed into law in 1966. In 1979, the Corps, Mobile District, analyzed and considered the effect that continued use and maintenance of the waterway may have on historic properties as per regulations within 36-CFR-800, in order to ensure compliance with NHPA. This analysis was conducted as part of the aforementioned EIS from 1976. No cultural resources were found within the open-water disposal or channel areas. No sites listed on the Register were located within the project area. As the lead Federal agency the Corps, Mobile District, determined that the continued operation and maintenance activities would have no effect on historic properties. The effects determination was forwarded to the SHPO for review.

7.13 Threatened and Endangered Species. Preliminary review of this action to identify species on the Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) Fisheries and the Department of the Interior, U.S. Fish and Wildlife Service (USFWS) List of Endangered and Threatened Wildlife and Plants indicates the following species are found in coastal Mississippi and Louisiana:
T- Threatened E- Endangered P- Proposed C- Candidate

U.S. Fish and Wildlife Service

- E - Brown pelican *Pelecanus occidentalis*
- T - Gopher tortoise *Gopherus polyphemus*
- T - Louisiana black bear *Ursus a. luteolus*
- T - Piping Plover *Charadrius melodus*
- E - Least tern *Sternula antillarum*
- E - Kemp's ridley *Lepidochelys kempii*
- T - Green turtle *Chelonia mydas* (P)
- E - Leatherback sea turtle *Dermochelys coriacea*
- E - Hawksbill sea turtle *Eretmochelys imbricata*
- T - Loggerhead turtle *Caretta caretta*
- T - Gulf sturgeon *Acipenser oxyrhynchus desotoi*
- E - Louisiana quillwort *Isoetes louisianensis* (P)

T - Inflated heelsplitter *Potamilus inflatus*
 E - Red-cockaded woodpecker *Picoides borealis*
 T - Eastern indigo snake *Drymarchon corais couperi* (P)
 E - Mississippi gopher frog *Rana sevosa* (proposal under review) (P)
 C - Black pine snake *Pituophis melanoleucus ssp. Lodingi*
 E - Mississippi sandhill crane *Grus canadensis pulla* (CH)
 T - Yellow-blotched map turtle *Graptemys flavimaculata*
 C - Pearl darter *Percina aurora* (Pascagoula River System)
 Bald eagle *Haliaeetus leucocephalus* (Currently managed under the Bald & Golden Eagle Protection Act)

National Marine Fisheries Service

E- Blue whale *Balaenoptera musculus*
 E- Finback whale *Balaenoptera physalus*
 E- Humpback whale *Megaptera novaeangliae*
 E- Sei whale *Balaenoptera borealis*
 E- Sperm whale *Physeter macrocephalus*
 T- Green sea turtle *Chelonia mydas*
 E- Hawksbill sea turtle *Eretmochelys imbricata*
 E- Kemp's ridley sea turtle *Lepidochelys kempii*
 E- Leatherback sea turtle *Dermochelys coriacea*
 T- Loggerhead sea turtle *Caretta caretta*
 T- Gulf sturgeon *Acipenser oxyrinchus*

Federally protected species, such as gopher tortoise, Louisiana quillwort, red-cockaded woodpecker, inflated heelsplitter mussel, eastern indigo snake, Louisiana black bear, Mississippi gopher frog, Pearl darter, hawksbill sea turtle, leatherback sea turtle, black pine snake, blue whale, finback whale, humpback whale, sei whale, and sperm whale would not be affected because these species are not found in or near the project area. The Bald eagle (currently managed under the Bald & Golden Eagle Protection Act), least tern, piping plover, Mississippi sandhill crane, yellow blotched map turtle, and brown pelican are anticipated to avoid the area during disposal operations. All piping plovers are considered threatened species under the Endangered Species Act (ESA) when on their wintering grounds. Critical habitat identifies specific areas that are essential to the conservation of a listed species, and that may require special management considerations or protection. The primary constituent elements for the piping plover wintering habitat are those habitat components that are essential for the primary biological needs of foraging, sheltering, and roosting, and only those areas containing these primary constituent elements within the designated boundaries are considered critical habitat. The primary constituent elements are found in coastal areas that support intertidal beaches and flats (between annual low tide and annual high tide) and associated dune systems and flats above annual high tide. A map of Gulf sturgeon critical habitat (Unit 8) designations for the proposed project area may be found in **Figure 4**. Section 7 of the ESA requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to adversely modify designated critical habitat.

The brown pelican is a large brown and gray seabird with a characteristic long bill attached to an expandable pouch used for capturing prey. Brown pelicans can reach up to 8 pounds and have wingspans of more than 7 feet. These birds are known from marine environments in coastal areas of the U.S.; they feed by diving for small fish. Breeding pairs use small coastal islands for nesting, building nests in trees or on the ground. The brown pelican suffered dramatic population losses during the middle of the 20th century because DDT poisoning

impaired reproductive success. Since DDT use was banned in the U.S., brown pelican populations have increased or stabilized. In the Southeastern U.S., the brown pelican is considered endangered only in Mississippi and Louisiana. Threats to brown pelicans include disturbance of nesting colonies, entanglement in fishing gear, oil and toxic chemical spills, severe storms, heavy tick infestations, and unpredictable food availability.

The Kemp's ridley population has declined since 1947 (when an estimated 42,000 females nested in one day) to a nesting population of approximately 1,000 in the mid-1980s. The decline of this species was primarily due to human activities including collection of eggs, fishing for juveniles and adults, killing adults for meat and other products, and direct take for indigenous use. In addition to these sources of mortality, Kemp's ridley turtles have been subject to high levels of incidental take by shrimp trawlers. Kemp's ridley turtles are occasionally caught on fishing hooks and incidentally injured by recreational anglers and boaters (Mann, personal communication 2003). Today, under strict protection, the population appears to be in the earliest stages of recovery. The increase can be attributed to two primary factors: full protection of nesting females and their nests in Mexico, and the requirement to use turtle excluder devices (TEDs) in shrimp trawls both in the U.S. and Mexico. The major habitat for Kemp's ridley sea turtle is the nearshore and inshore waters of the northern Gulf of Mexico, especially Louisiana waters outside of the nesting season. Kemp's ridley sea turtles are usually found in water with low salinity, high turbidity, high organic content, and where shrimp are abundant. This species of sea turtle is the most commonly found species along the Mississippi and Louisiana coasts. The continual influx of freshwater and high organic content associated with the northern Gulf of Mexico provides ideal foraging habitat for this species.

The loggerhead sea turtle is widely distributed throughout its range and may be found hundreds of miles out to sea as well as in inshore areas such as bays, lagoons, salt marshes, creeks, ship channels, and the mouths of large rivers (Corps 2000). Loggerheads are seen annually inshore in the Mississippi Sound, but are more commonly seen offshore in the proximity of oil rigs (Mann, personal communication 2003). Most recent evidence suggests that the number of nesting females in South Carolina and Georgia may be declining, while the number of nesting females in Florida appears to be stable. Until the 1970s, loggerhead turtles were commercially harvested for their meat, eggs, leather, and fat. Because of their feeding behavior and their habit of wintering in shallow waters, loggerheads along with Kemp's ridley sea turtles, are more likely to be caught in large shrimp trawl nets and drown. Today, TEDs pulled by shrimp boats help reduce mortality from net entanglement by allowing turtles to escape from the nets. However, loggerhead turtles are hooked by recreational fishermen offshore near oil rigs and are frequently injured by being struck by boats and boat propellers (Mann, personal communication 2003). As of 1981, there was no record of loggerhead turtles nesting in Mississippi, although a small group of these turtles were seen swimming off the western end of Horn Island in 1976. Loggerheads are known to nest annually in small numbers on the Gulf Island National Seashore in Mississippi. Coastal Louisiana is also within the range of nesting loggerhead sea turtles. The turtles nest on the shorelines of coastal communities between the months of May and August, with the peak nesting time occurring in late June.

The piping plover is a small, stocky, sandy-colored bird resembling a sandpiper. The adult has yellow-orange legs, a black band across the forehead from eye to eye, and a black ring around the base of its neck. Like other plovers, it runs in short starts and stops. When still, the piping plover blends into the pale background of open, sandy habitat on outer beaches where it feeds and nests. The piping plover breeds on sandy or pebble coastal beaches of Newfoundland and southeastern Quebec to North Carolina. Decline in piping plover populations has been linked to loss of breeding habitat. Shoreline development, river flow alteration, river channelization, and

reservoir construction have all led to loss of breeding habitat. The piping plover winters along the Gulf coast but does not nest in Mississippi. Coastal Louisiana is also within the range of wintering piping plovers. The plovers winter on the shorelines of coastal communities in Louisiana and fall within critical habitat unit LA 6-7.

Piping plovers begin arriving on the wintering grounds in July, with some late-nesting birds arriving in September. Behavioral observations of piping plovers on the wintering grounds suggest that they spend the majority of their time foraging (Nicholls and Baldassarre 1990; Drake 1999a, 1999b). Of the birds located on the United States wintering grounds during these two censuses, 89 percent were found on the Gulf Coast and 8 percent were found on the Atlantic Coast.

On August 9, 2001, the USFWS designated 137 areas along the coasts of North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas as critical habitat for the wintering population of the piping plover. This includes approximately 1,798.3 miles of mapped shoreline and approximately 165,211 acres of mapped area along the Gulf and Atlantic coasts and along margins of interior bays, inlets, and lagoons.

The primary constituent elements for the piping plover wintering habitat are those habitat components that are essential for the primary biological needs of foraging, sheltering, and roosting, and only those areas containing these primary constituent elements within the designated boundaries are considered critical habitat. The primary constituent elements are found in coastal areas that support intertidal beaches and flats (between annual low tide and annual high tide) and associated dune systems and flats above annual high tide.

The Gulf sturgeon, considered a subspecies of the Atlantic sturgeon, is an anadromous fish, migrating from saltwater into large coastal rivers. Historically, the Gulf sturgeon occurred in rivers from the Mississippi River to the Suwanee River, and in bays and estuaries from Florida to Louisiana. Little is known about current population levels outside the Suwanee, Apalachicola and Pearl Rivers, but they are thought to have declined from historic levels (Corps 2000).

Adult fish spend 8 to 9 months each year in rivers and 3 to 4 of the coolest months in estuarine Gulf rivers. Adult fish tend to congregate in deeper waters of rivers with moderate currents and sandy and rocky bottoms. Seagrass beds with mud and sand substrates appear to be important marine habitats (Mason and Clugston 1993). The adult Gulf sturgeon is known to spend the fall and winter months in the estuary of the Mississippi Sound and migration routes extend from the Sound to the Back Bay of Biloxi. Occurrences of the Gulf sturgeon have been documented by the Mississippi Natural Heritage Program (MSNHP) database within the Mississippi Sound, Biloxi River, and Pascagoula River area. The Gulf sturgeon is known to spawn in the Pearl River system. Major threats to this rare, primitive species include physical barriers (e.g., locks and dams) to spawning grounds, habitat loss, and poor water quality.

On March 19, 2003, USFWS and NOAA Fisheries designated 14 geographic areas among the Gulf of Mexico river and tributary systems as critical habitat for the Gulf sturgeon (FR Vol. 68, No. 53). These 14 geographic areas encompass approximately 2,783 river kilometers (1,739 river miles) and 6,042 square kilometers (2,333 square miles) of estuarine and marine habitat.

On March 22, 2007 the Corps, Mobile District, submitted a Biological Assessment (BA) for the entire GIWW to the USFWS and NOAA Fisheries regarding Section 7 consultation under the ESA. The USFWS, Mississippi has concurred with our not likely to adversely affect

determination by letter dated 30 May 2007. The State of Louisiana has yet to respond to the BA but is expected to concur with the Corps, Mobile District's, determination. NOAA Fisheries has concurred with our determination, by letter dated 23 October 2007, that the proposed action is not likely to adversely affect threatened and endangered species or their critical habitat.

7.14 Environmental Justice. EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations* (February 11, 1994) requires that Federal agencies conduct their programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under such programs, policies, and activities because of their race, color, or national origin. On February 11, 1994, the President also issued a memorandum for heads of all departments and agencies, directing that Environmental Protection Agency, whenever reviewing environmental effects of proposed actions pursuant to its authority under Section 309 of the CAA, ensure that the involved agency has fully analyzed environmental laws, regulations, and policies.

7.15 Protection of Children. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (April 21, 1997), recognizes a growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because children's bodily systems are not fully developed; because children eat, drink, and breathe more in proportion to their body weight; because their behavior patterns may make them more susceptible to accidents. Based on these factors, the President directed each Federal agency to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. The President also directed each Federal agency to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

7.16 Coastal Zone Consistency. The Corps, Mobile District, has determined that the proposed maintenance dredging of the GIWW is consistent with the Louisiana and Mississippi Coastal Programs. The Mississippi Department of Marine Resources (DMR) is expected to concur with Mobile District's determination. The Louisiana Department of Natural Resources is expected to concur with Mobile District's determination.

8.0 ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

8.1 Climate. No climatic changes will occur as a result of this localized project.

8.2 Geology and Soils. The proposed action will result in the relocation of material dredged from the channel to the previously authorized open-water disposal areas. This action is not likely to result in significant impacts to the local area as the dredged material is similar in composition to that found in the open-water disposal areas. The material will be placed in a relatively thin layer over the bottom of the previous authorized disposal areas.

8.3 Benthos, Motile Invertebrates, and Fishes. There would be temporary disruption of the aquatic community. Non-motile benthic fauna within the project area will be lost due to the proposed operations, but should repopulate within several months after dredging completion. Some of the motile benthic and pelagic fauna, such as crabs, shrimp, and fish are able to avoid the disturbed area and should return shortly after the activity is completed. Larval and juvenile stages

of these forms may not be able to avoid the activity due to limited mobility. The overall impact to these organisms is expected to be temporary and insignificant.

8.4 Submerged Aquatic Vegetation. There will be no impacts to submerged aquatic vegetation since none are found in the project area.

8.5 Essential Fish Habitat. The proposed project would not adversely alter the present EFH designations as disposal activities would utilize previously authorized open-water disposal areas. No current sea grass beds would be adversely affected by the proposed maintenance dredging and disposal activities.

8.6 Esthetics. Presence of dredge equipment within the existing navigation channel will have no significant impact to the area esthetics. The equipment will be there for a relatively short period of time. No permanent visible effects to local estuaries will result from this project.

8.7 Water Quality. Water quality in the immediate vicinity of the dredge and open-water disposal areas would be slightly impaired for a short period of time due to slight increases in turbidity. Best management practices (BMP) would be implemented to reduce disturbance to the area. The dredging and disposal would be controlled and monitored so that no part of these operations would cause an increase in turbidity of more than 50 nephelometric turbidity units (NTU's) above background levels outside a 750-foot mixing zone. The proposed action will comply with conditions of the State Water Quality Certifications.

8.8 Noise. Noise from the dredge equipment and other job-related equipment is expected to increase during the proposed operations in the project vicinity. Noise levels will resume to prior conditions once the dredging and disposal operations are complete. Noise levels will blend with those from adjacent activities and are not significant.

8.9 Navigation. Navigation would be temporarily affected due to the associated dredging and disposal activities at the dredging site. The restricted maneuverability of the dredging equipment may result in vessels waiting for short periods of time. While the presence of the dredge is expected to be a slight inconvenience, no significant adverse impacts are expected to occur to navigation due to these operations being of a short duration. After completion of the dredging activities, navigation would be improved due to increased navigational depths within the channel.

8.10 Air Quality. The proposed action would have no significant long-term effect on air quality. Air quality in the immediate vicinity of the dredge and other equipment would be slightly affected for a short period of time by the fuel combustion and resulting engine exhausts. The exhaust emissions are considered insignificant in light of prevailing breezes and when compared to the existing exhaust fumes from other vessels using the project and adjacent vehicular traffic on roadways. The States of Mississippi and Louisiana are in attainment with NAAQS parameters. These Standards would not be violated by the implementation of the proposed action. The proposed action would not affect the attainment status of the project area or region.

8.11 Hazardous Materials. The contractor would be responsible for proper storage and disposal of any hazardous material such as oils and fuels used during the dredging and disposal operation.

8.12 Cultural Resources. In compliance with the NHPA the proposed action has been coordinated with the Mississippi and Louisiana SHPO's. No cultural resources have been identified to exist in the project area. The footprint of the project has not changed since this prior consultation. Furthermore, if any items having apparent historical or archeological significance are discovered in the course of any activity associated with the proposed action, work would immediately cease, all items would be carefully preserved, and the proper authorities would be notified.

8.13 Threatened and Endangered Species. No Federally-protected species would be adversely impacted as a result of the proposed project. Coordination with the USFWS and NOAA Fisheries has been conducted regarding this project.

No federally-protected species would be adversely impacted as a result of the proposed project. The proposed action has been coordinated with NOAA Fisheries and USFWS. NOAA Fisheries has been consulted with by letter dated 19 April 2007 and NOAA has concurred with our determination, by letter dated 23 October 2007, that the proposed action is not likely to adversely affect threatened and endangered species or their critical habitat. The State of Mississippi has concurred with our not likely to adversely affect determination by letter dated 30 May 2007. The State of Louisiana has yet to respond to the BA but is expected to concur with the Corps, Mobile District's, determination. Based on our review of the listings of threatened and endangered species that could occur within the project area, the continued maintenance of the GIWW in the States of Louisiana and Mississippi would not affect any listed species or their critical habitat.

8.14 Environmental Justice. The proposed action is not designed to create a benefit for any group or individual. The dredging and disposal of the GIWW project does not create disproportionately high or adverse human health or environmental impacts on minority or low-income populations of the surrounding community. Review and evaluation of the proposed action have not disclosed the existence of identifiable minority or low-income communities that would be adversely affected by the proposed action.

8.15 Protection of Children. No changes in demographics, housing, or public services would occur as a result of the proposed action. The proposed action does not involve activities that would pose any disproportionate environmental health risk or safety risk to children because it will occur in the channel of the GIWW away from children.

8.16 Coastal Zone Consistency. The Corps, Mobile District, has determined that the proposed maintenance dredging of the GIWW is consistent with the Louisiana and Mississippi Coastal Programs. Louisiana Department of Natural Resources, Coastal Resources Division and Mississippi DMR are expected to concur with Mobile District's determination.

9.0 CUMULATIVE EFFECTS SUMMARY

Cumulative impacts are those impacts on the environment that result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions. This section analyzes the proposed actions as well as any connected, cumulative, and similar existing and potential actions occurring in the area surrounding the site. The potential adverse direct environmental and socioeconomic impacts associated with the proposed action are insignificant. In general, the proposed dredging and disposal operations would have no significant adverse cumulative effects.

The dredging and disposal operations of the GIWW, past, present and for the reasonably foreseeable future, will not cause changes in the current activities of the Mississippi Sound and vicinity. Recreational and commercial boaters that presently use the navigation project will likely remain unchanged. Therefore, no significant cumulative impacts are expected from this proposed action.

10.0 CONCLUSION

The proposed action would have no significant environmental impacts on the existing environment. The implementation of the proposed action would not have a significant adverse impact on the quality of the environment and an EIS is not required. No mitigation actions are required for the proposed project. BMP's would be employed during the proposed actions to minimize any identified adverse impacts.

11.0 LIST OF AGENCIES, INTERESTED GROUPS, AND PUBLIC CONSULTED

U.S. Department of Commerce, National Marine Fisheries Service, Panama City and St. Petersburg, Florida

Department of the Interior, U.S. Fish and Wildlife Service, Jackson, Mississippi

Department of the Interior, U.S. Fish and Wildlife Service, Lafayette, Louisiana

Mississippi Department of Marine Resources

Mississippi Department of Environmental Quality

Louisiana Department of Environmental Quality

Mississippi State Historic Preservation Officer

Louisiana State Historic Preservation Officer

Mississippi Secretary of State Office

Louisiana Secretary of State Office

Louisiana Department of Natural Resources, Coastal Resources Division

Also, the general public will be notified of the proposed action via public notices **FP08-IW01-14** (Mississippi) and **FP08-IW02-14** (Louisiana). The public notice will be mailed to Federal and state agencies and the interested public for a 30-day review period. All relevant comments will be considered prior to a decision on the action.

12.0 LIST OF PREPARERS

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13.0 REFERENCES

Gulf Coast Research Laboratory. 1973. *Cooperative Gulf of Mexico Estuarine Inventory and Study - Mississippi.* Ocean Springs, Mississippi.

U.S. Department of Agriculture. 1975. *Soil Survey of Harrison County, Mississippi.* Prepared by the United States Department of Agriculture, Soil Conservation Service and Forest Service, in cooperation with the Mississippi Agricultural and Forestry Experiment Station, June 1975.

U.S. Department of Agriculture. 1981. *Soil Survey of Hancock County, Mississippi.* Prepared by the United States Department of Agriculture, Soil Conservation Service and Forest Service, in cooperation with the Mississippi Agricultural and Forestry Experiment Station, November 1981.

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Figures

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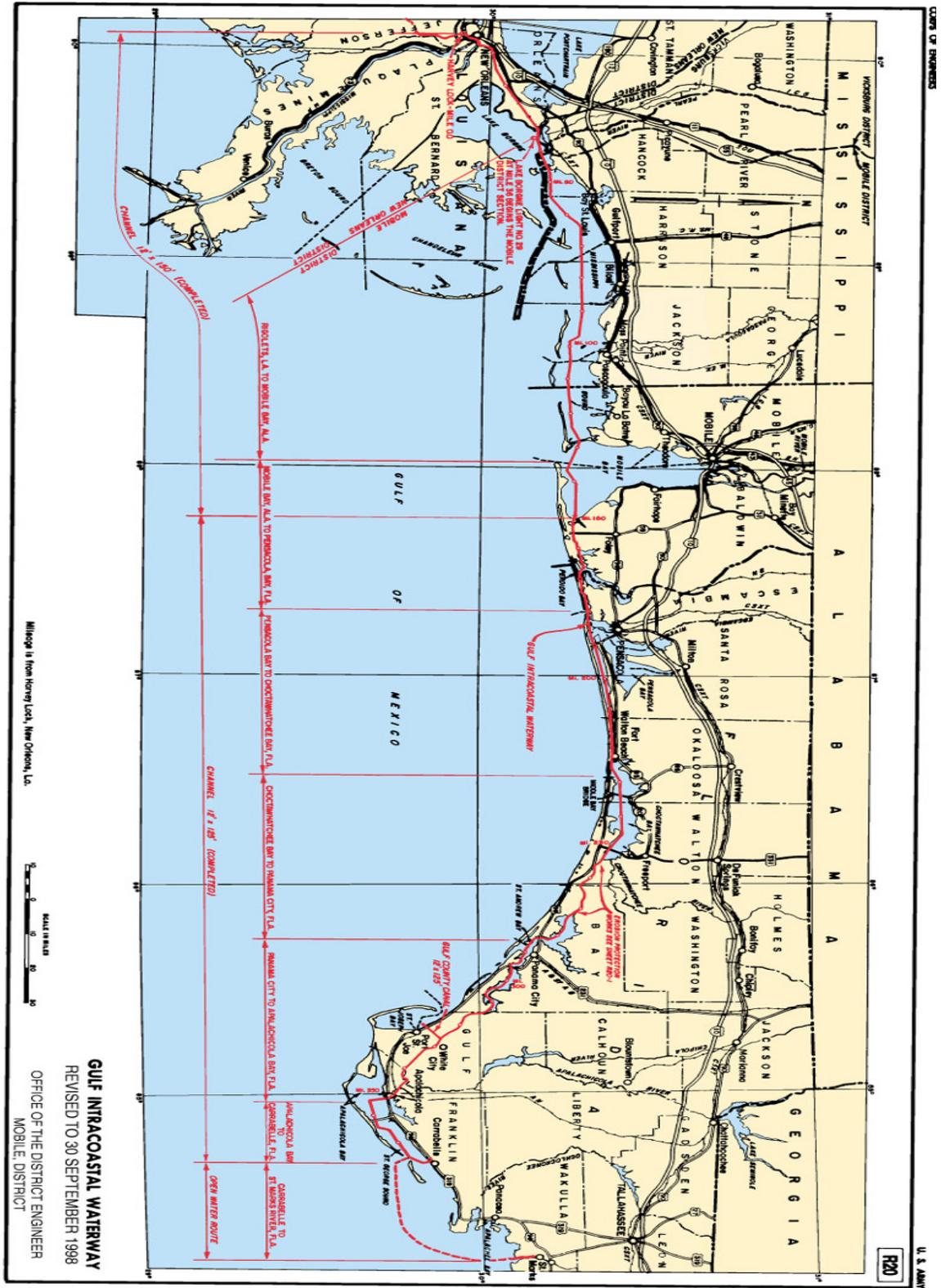


Figure 1: Entire GIWW Authorized Project Map

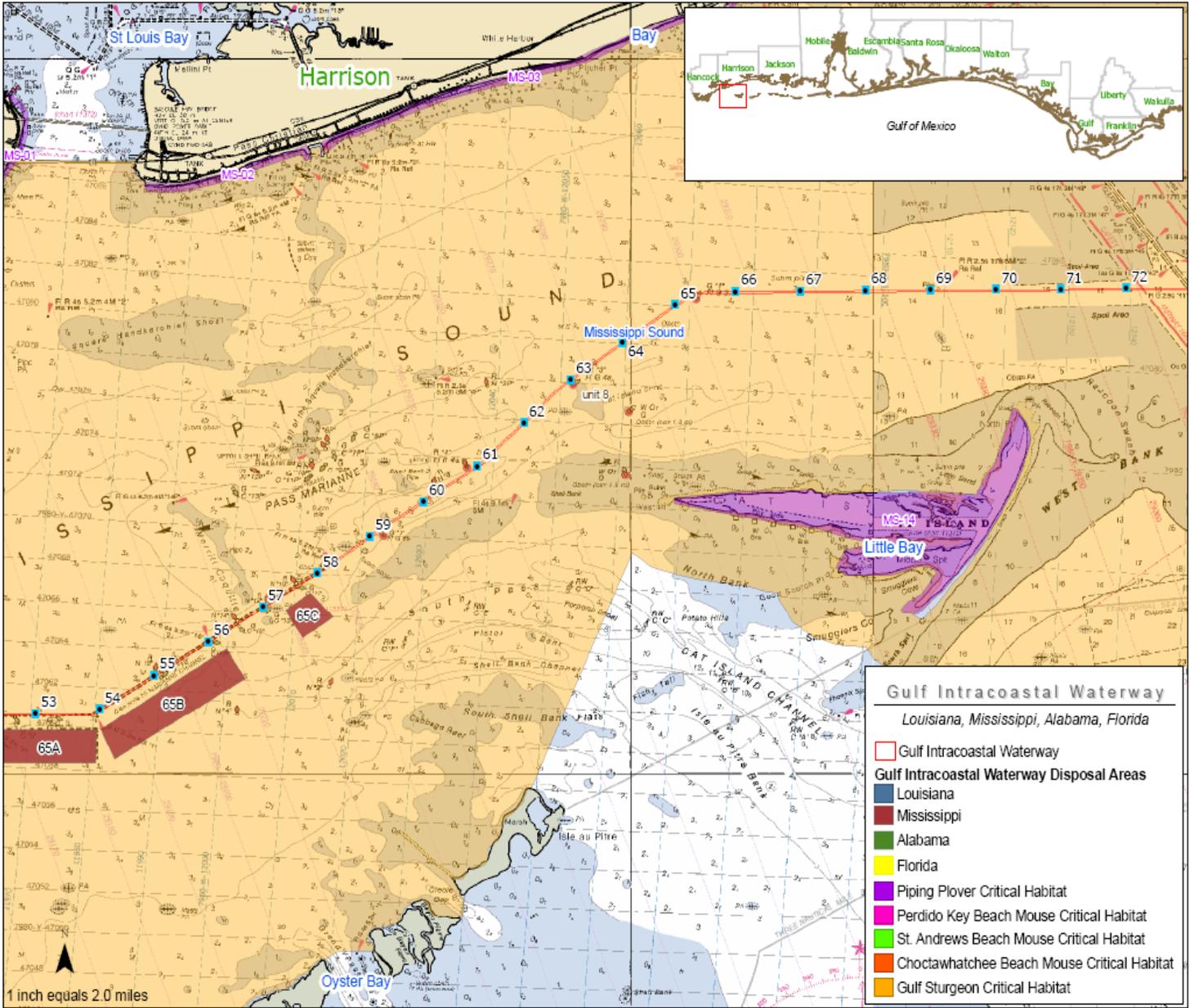


Figure 2: Open-Water Disposal Areas 65 A-C

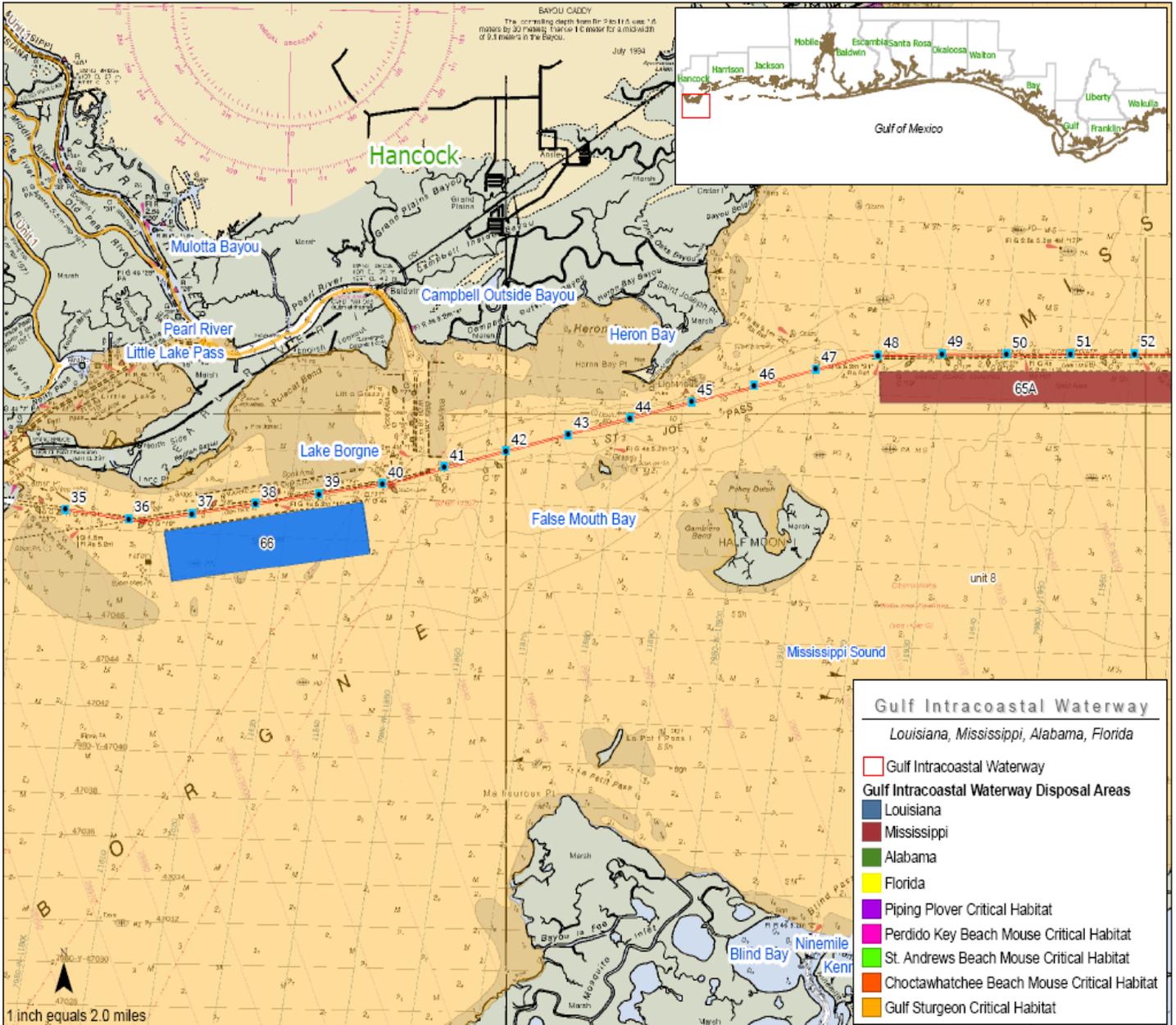


Figure 3: Open-Water Disposal Area 66

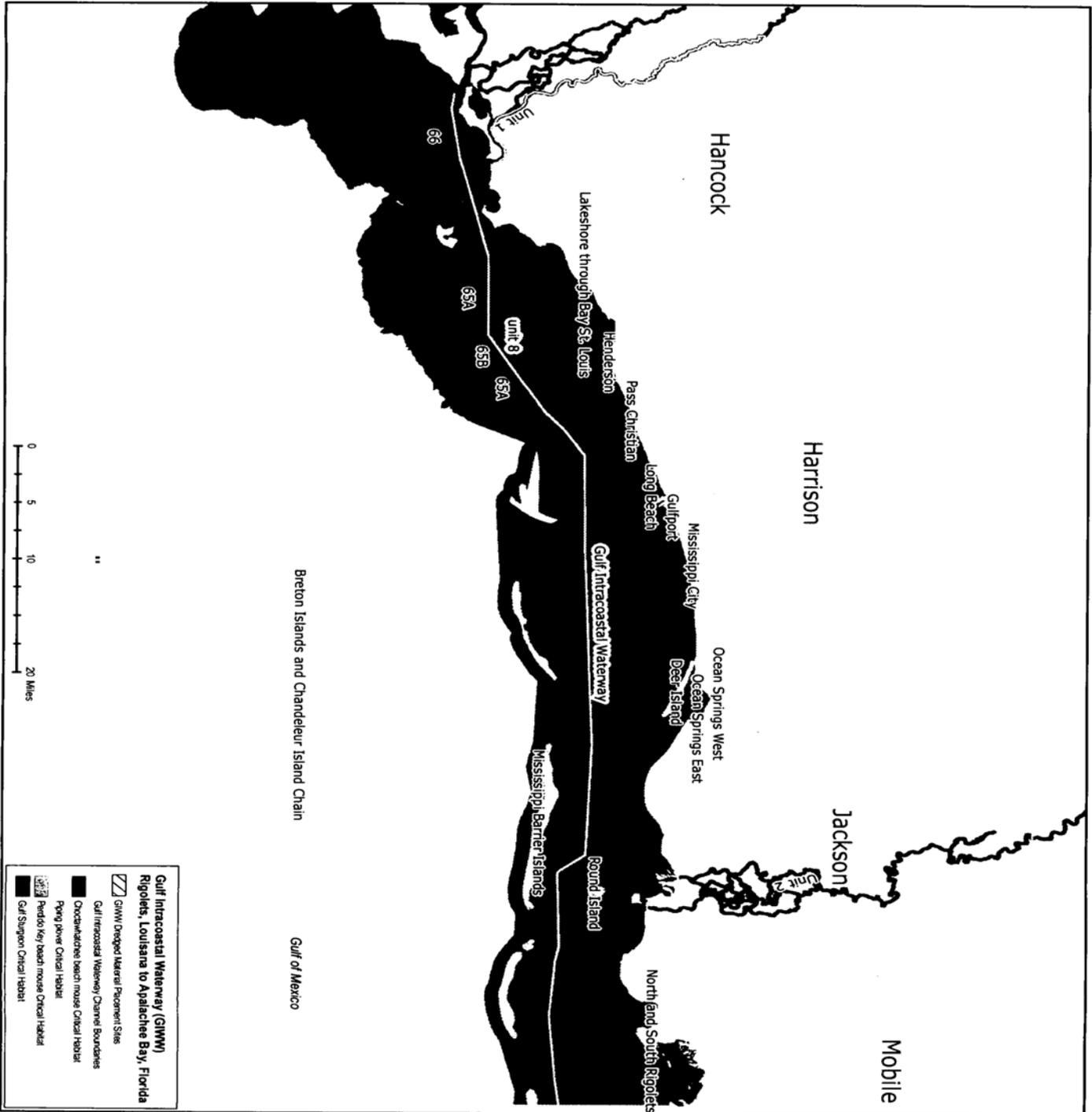


Figure 4 – Critical habitat for Gulf sturgeon in the project area

Enclosures

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