

DRAFT
SECTION 404(b)(1) EVALUATION REPORT

**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**

I. PROJECT DESCRIPTION:

A. **Location:** The proposed action area is the coastal Mississippi and Louisiana portions of the Gulf Intracoastal Waterway (GIWW). The entire authorized project extends from Apalachee Bay, Florida to the Rigolets, Louisiana (Lake Borgne Light No. 29).

B. **General Description:** The proposed action addressed in this Section 404(b)(1) evaluation report 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**).

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.

C. **Authority and Purpose:** The existing federal project under the auspices of the U.S. Army Corps of Engineers (Corps), Mobile District, provides for a channel 12 feet deep, 125 feet wide at mean lower low water (MLLW) from Apalachee Bay, Florida to the Rigolets, Louisiana (Lake Borgne Light No. 29). The existing project was authorized by the 1966 Rivers and Harbors Act, (House Document 481, 89th Congress, 2nd Session) as amended and prior Acts.

D. General Description of Dredged or Fill Material:

(1) **General Characteristics of Material:** The material being proposed for placement from coastal Mississippi and Louisiana portions of the GIWW consists of silty/sandy material that would be placed in previously authorized open-water disposal areas adjacent to the channel.

(2) **Quantity of Material:** 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 CY of sandy silt are proposed for removal by hydraulic pipeline dredge on an infrequent basis over a ten year period.

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.

(3) **Source of Material:** The material proposed for disposal would be obtained by the maintenance dredging activities associated with the coastal Mississippi and Louisiana portions of the GIWW.

E. Description of the Proposed Discharge Site:

(1) **Location:** The designated open-water disposal areas are located in both the states of Mississippi and Louisiana, oriented to the south of the GIWW channel (**Figures 2 & 3**). Removed sediment will be disposed of using the thin layer technique.

(2) **Size:** The open-water disposal areas, and their approximate acreages, are listed in **Table 1**.

(3) **Type of Site:** The disposal sites are previously authorized open-water disposal areas that consist of sandy bottoms which have been previously utilized for disposal of similar material as to what is being currently proposed for removal.

(4) **Type of Habitat:** The disposal sites are open-water habitats, adjacent to Mississippi Sound shorelines and Gulf of Mexico tidal influences. No submerged aquatic vegetation is present at the sites.

(5) **Timing and Duration of Discharge:** No schedule for the proposed action has been set, as the work will be completed on an as needed basis.

F. Description of the Disposal Method: The disposal method used will be a thin-layer placement of material in the previously authorized open-water sites. The contractor will use a hydraulic pipeline dredge and the dredged material would be pumped via pipeline to the open-water disposal areas. The dredged material will be placed in a thin-layer not to exceed 12 inches.

II. Factual Determinations (Section 230.11):

A. Physical Substrate Determinations:

(1) **Substrate Elevation and Slope:** Existing conditions and thin layer technique for the disposal of dredged material will be utilized. Dredged material would not significantly exceed present depths. Mounding is not expected to occur in the open-channel disposal site, as the larger material will flow into deeper areas and seek slopes reflective of existing bottom conditions. Placement of Operations & Maintenance dredged material would not occur outside of the existing previously authorized disposal areas.

(2) **Sediment Type:** The dredged material proposed for disposal is composed of primarily sandy silt.

(3) **Dredged/Fill Material Movement.** Initially the thin layer placement of material, which would not exceed 1 inch in depth, is anticipated to stay within the limits of the designated

open-water sites. However, after placement the material may move under storm events outside of the designated area.

(4) **Physical Effects on Benthos.** Disruption in the benthic community is expected to be temporary and minimal. Immobile benthic fauna within the proposed project area may be destroyed, but should repopulate within several months of completion. Some of the benthos will be able to migrate up through the thin layer. Other mobile benthic fauna will avoid the disturbed area and return upon project completion.

(5) **Other effects.** No other effects are anticipated.

(6) **Actions Taken to Minimize Impacts (Subpart H).** The thin-layer dredged material disposal is a minimization technique that will be used to lessen impacts caused by the disposal. No other actions to minimize impacts are deemed appropriate for this project.

B. Water Column Determinations:

(1) **Salinity.** There would be no change in salinity gradients or patterns.

(2) **Water Chemistry (pH, etc.).** No effect.

(3) **Clarity.** Minor increases in turbidity may be experienced in the immediate vicinity of the project during disposal operations. However, these increases will be temporary and would return to pre-project conditions shortly after completion. The Corps, Mobile District, will adhere to the Mississippi and Louisiana state requirements in regard to turbidity issues.

(4) **Color.** No effect.

(5) **Odor.** No effect.

(6) **Taste.** No effect.

(7) **Dissolved Gas Levels.** Temporary decreases in dissolved oxygen could likely result from the operations depending on timing of discharge. If decreases occur, they will be of a short duration. No significant effect to the water column is anticipated.

(8) **Nutrients.** Slight increases in nutrient concentrations may occur; however, these would rapidly return to normal. These described increases would have no significant effect to the water column.

(9) **Eutrophication.** No effect.

C. Water Circulation, Fluctuation, and Salinity Gradient Determinations:

(1) **Current Patterns and Circulation.**

(a) **Current Patterns and Flow.** Placement of dredged material into the open-water disposal sites would have no effect on current patterns and flow in the vicinity of the project area.

(b) **Velocity.** No effect.

- (2) **Stratification.** No effect.
- (3) **Hydrologic Regime.** No effect.
- (4) **Normal Water Level Fluctuations.** No effect.

(5) **Salinity Gradient.** The salinities in Mississippi Sound and the Lake Borgne area of Louisiana are highly variable due to the inflow of freshwater from surrounding rivers and the tidal influence from the Gulf of Mexico. No effect on the salinity gradient is anticipated.

D. Suspended Particulate/Turbidity Determination:

(1) **Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Placement Site:** Dredged material consists of fine silt and sandy particles. Turbidity during disposal is not expected to violate the states water quality certification conditions.

(2) **Effects on Chemical and Physical Properties of the Water Column:**

- (a) **Light Penetration.** No significant effects.
- (b) **Dissolved Oxygen.** No significant effects.
- (c) **Toxic Metals and Organics.** No effects.
- (d) **Pathogens.** No effect.
- (e) **Esthetics.** No effect.

(3) **Effects on Biota:**

- (a) **Primary Production Photosynthesis.** No significant effects.
- (b) **Suspension/Filter Feeders.** No significant effects.
- (c) **Sight Feeders.** Shorebirds tend to be attracted to dredging sites in open-water and associated placement activities due to the presence of food items in the sediment. This is a temporary benefit that would revert back to a more normal condition once the proposed action was to cease.

(4) **Actions Taken to Minimize Impacts (Subpart H).** No further actions are deemed appropriate.

E. Contaminant Determinations. The materials proposed for placement are naturally occurring materials. There is no reason to believe that the materials are unsuitable for placement. Therefore, the materials are excluded from testing under Section 404(b)(1)(d).

F. Aquatic Ecosystem and Organism Determinations:

- (1) **Effects on Plankton.** No significant effects.
- (2) **Effects on Benthos.** No significant effects would occur to the benthos.

- (3) **Effects on Nekton.** No significant effects.
- (4) **Effects on Aquatic Food Web.** No significant effects.
- (5) **Effects on Special Aquatic Sites.** No effect.
 - (a) **Sanctuaries and Refuges.** Not applicable.
 - (b) **Wetlands.** Not applicable.
 - (c) **Mud Flats.** Not applicable.
 - (d) **Vegetated Shallows.** Not applicable.
 - (e) **Coral Reefs.** Not applicable.
 - (f) **Riffle and Pool Complexes.** Not applicable.
- (6) **Effects on Threatened and Endangered Species.** No federally-protected species or associated critical habitat would be adversely impacted by the proposed restoration projects.

No federally-protected species would be adversely impacted as a result of the proposed project. The proposed action has been coordinated with the National Oceanic and Atmospheric Administration (NOAA) Fisheries and the U.S. Fish and Wildlife Service (USFWS) by Biological Assessment (BA) dated 22 March 2007. The USFWS, Mississippi has concurred with our not likely to adversely affect determination by letter dated 30 May 2007. 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. The State of Louisiana has yet to respond to the BA but is expected to concur with the Corps, Mobile District's, determination.

- (7) **Effects on Other Wildlife.** No significant effects.
- (8) **Actions to Minimize Impacts.** No other actions to minimize impacts on the aquatic ecosystem are deemed appropriate.

G. Proposed Disposal Site Determinations:

(1) **Mixing Zone Determination.** The States of Mississippi and Louisiana will specify a mixing zone for turbidity compliance. The Corps, Mobile District, will adhere to that turbidity requirement.

- (a) **Depth of water at the disposal site.** Depths of water at the site vary from 10 to 15 feet.
- (b) **Current velocity, direction, and variability at the disposal site.** Not significant.
- (c) **Degree of turbulence.** Not significant.

(d) **Stratification attributable to causes such as obstructions, salinity or density profiles at the disposal site.** No effect.

(e) **Discharge vessel speed and direction, if appropriate.** No effect.

(f) **Rate of discharge.** Rate of discharge will vary according to the particular size of the hydraulic dredge disposing of the material.

(g) **Ambient concentrations of constituents of interest.** Not applicable.

(h) **Dredged material characteristics, particularly concentrations of constituents, amount of material, type of material (sand, silt, clay, etc.) and settling velocities.** Approximately 3 million CY of material will be dredged and placed by a hydraulic pipeline dredge in the State of Mississippi and approximately 250,000 CY of material would be dredged and placed via a hydraulic pipeline dredge in the State of Louisiana. Material will consist primarily of silty sands. Settling of particles is anticipated due to the material size.

(i) **Number of discharge actions per unit of time.** The number of discharge actions per unit of time will vary depending upon the particular disposal activity.

(2) **Determination of Compliance with Applicable Water Quality Standards.** The proposed activity is in compliance with all applicable water quality standards.

(3) **Potential Effects on Human Use Characteristics.**

(a) **Municipal and Private Water Supply.** No effect.

(b) **Recreational and Commercial Fisheries.** Recreational and commercial fishing would be temporarily impacted primarily as a result of the physical presence of heavy equipment during operation activities.

(c) **Water Related Recreation.** No significant effects.

(d) **Esthetics.** No significant effects.

(e) **Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves.** No effect.

(f) **Other Effects.** No effect.

H. **Determination of Cumulative Effects on the Aquatic Ecosystem.** The proposed action is not expected to have significant cumulative adverse impacts.

I. **Determination of Secondary Effects of the Aquatic Ecosystem.** The proposed action is not expected to have any significant secondary adverse effects on the aquatic ecosystem.

III. **Finding of Compliance With the Restrictions on Discharge:**

A. No significant adaptations of the Section 404(b)(1) guidelines were made relative to this evaluation.

B. The proposed discharge represents the least environmentally damaging practicable alternative.

C. The planned placement of dredged materials would not violate any applicable State water quality standards; nor will it violate the Toxic Effluent Standard of Section 307 of the Clean Water Act (CWA).

D. Use of the previously authorized open-water disposal sites will not jeopardize the continued existence of any Federally-listed endangered or threatened species or their critical habitat.

E. The proposed placement of fill material will not contribute to significant degradation of waters of the United States, nor will it result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing; life stages of organisms dependent upon the aquatic ecosystem; ecosystem diversity, productivity and stability; or recreational, aesthetic or economic values.

F. Appropriate and practicable steps will be taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

DATE _____

Byron G. Jorns
Colonel, Corps of Engineers
District Commander

Figures

DRAFT

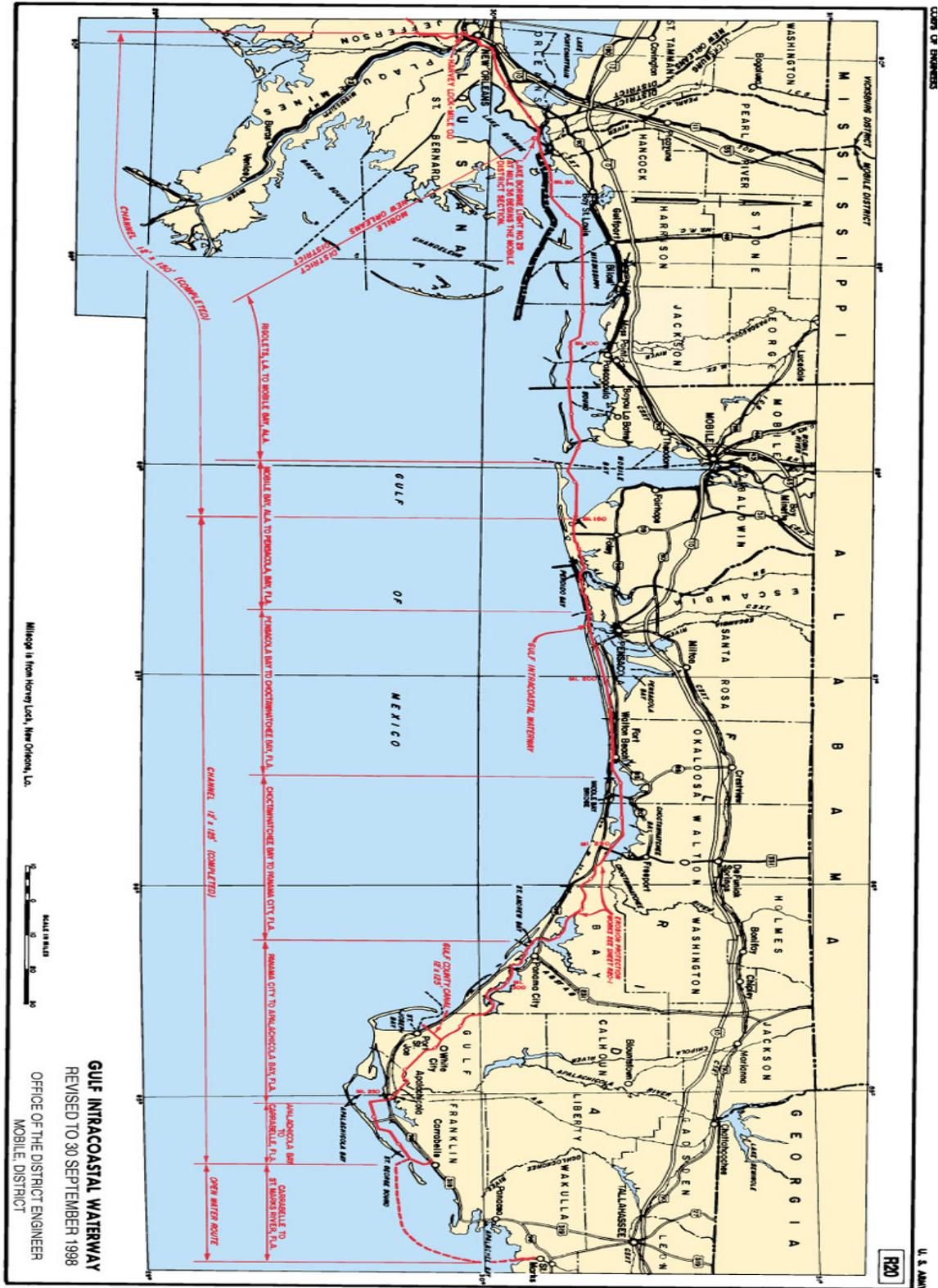


Figure 1: Entire GIWW Authorized Project Map

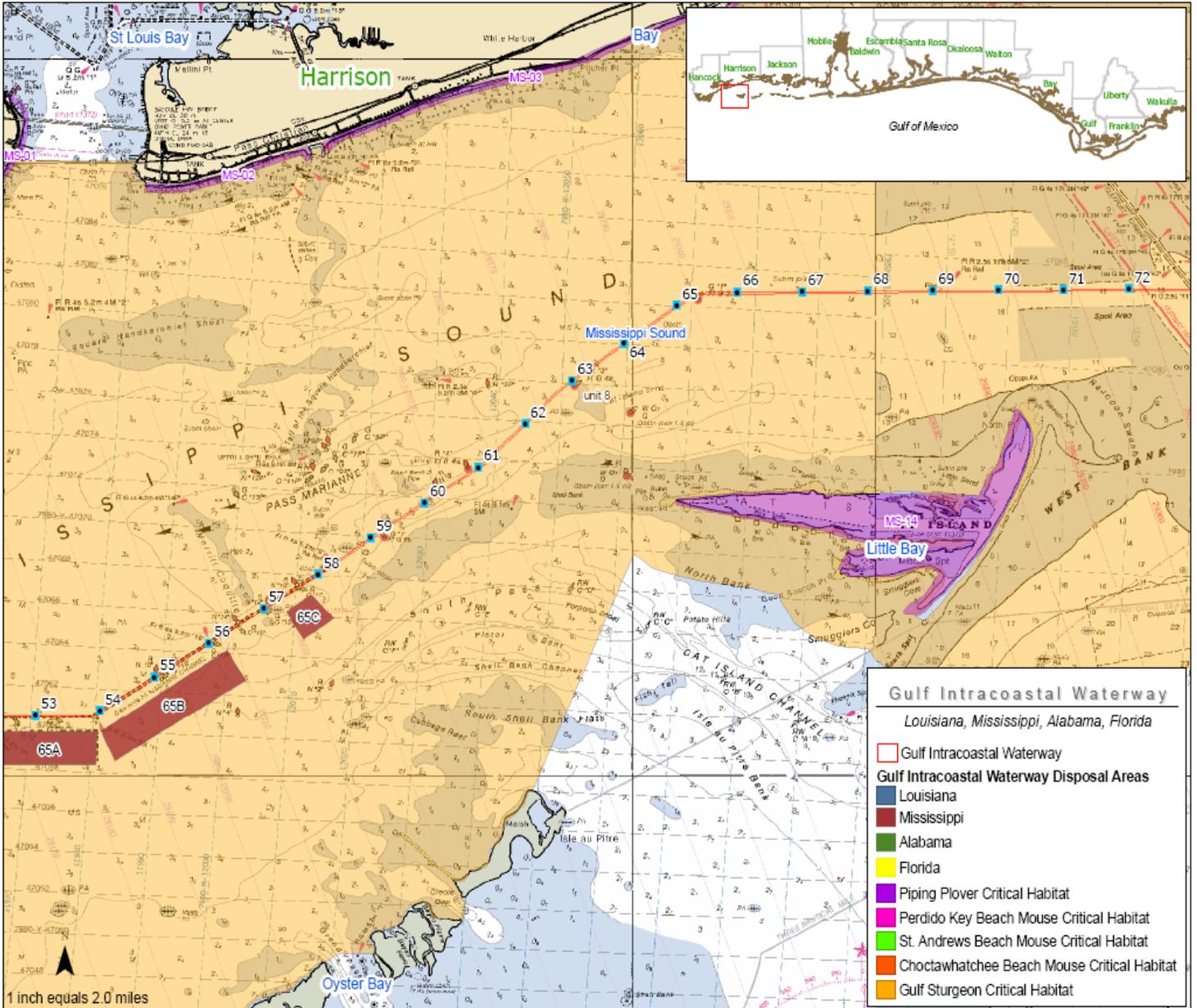


Figure 2: Open-Water Disposal Areas 65 A-C

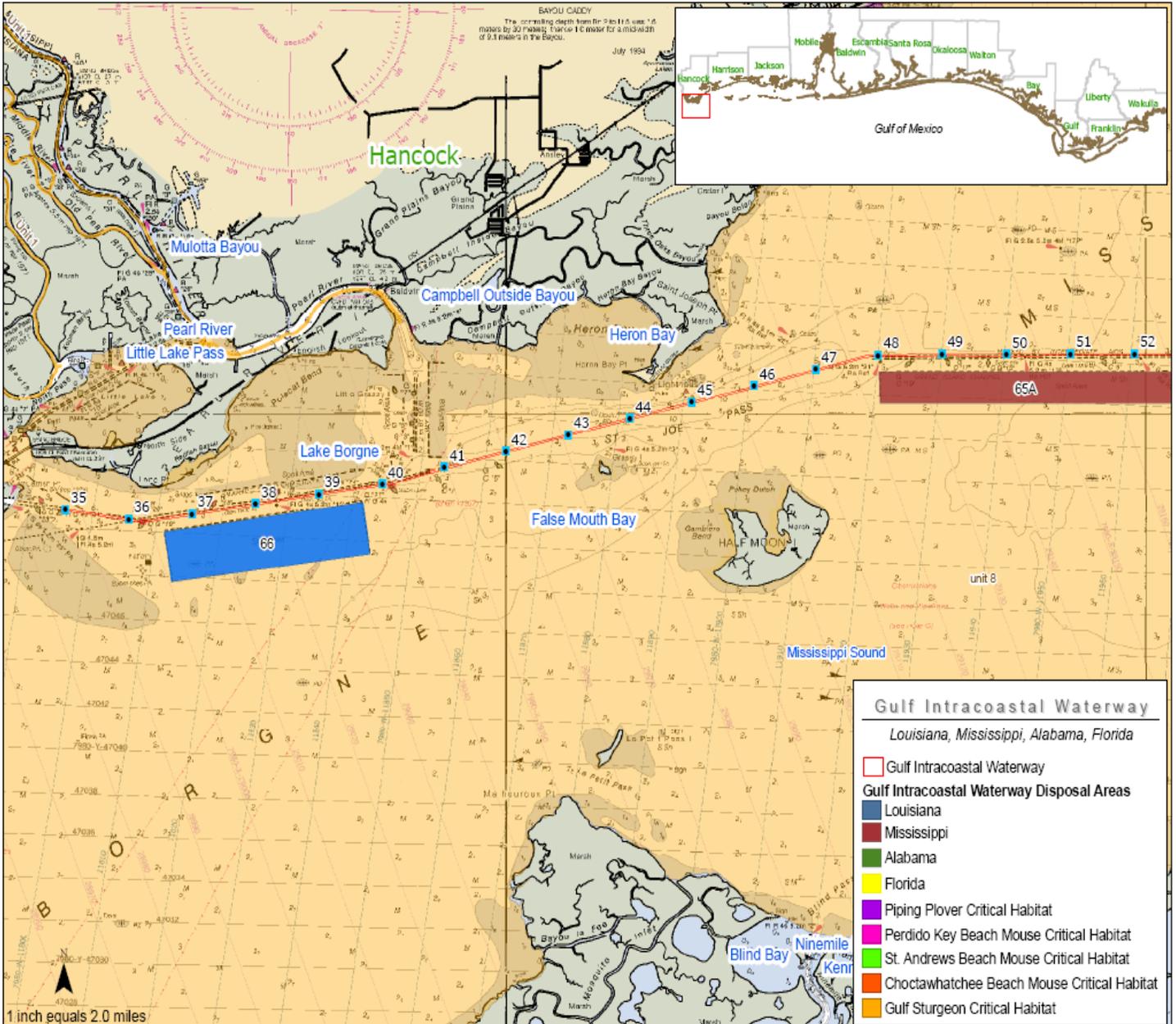


Figure 3: Open-Water Disposal Area 66