

**SECTION 404(b)(1) EVALUATION REPORT FOR THE
FOR THE
OPERATIONS AND MAINTENANCE OF THE
FEDERALLY AUTHORIZED BILOXI HARBOR NAVIGATION PROJECT

OTT BAYOU

HARRISON COUNTY, MISSISSIPPI**

I. PROJECT DESCRIPTION:

A. **Location.** The proposed operations and maintenance (O&M) project at the federally authorized Biloxi Harbor navigation project (Ott Bayou Channel) is located in Jackson and Harrison County, Mississippi. Ott Bayou Channel is specifically located in Harrison County. Mississippi Sound is 81 miles long, 7 to 15 miles wide and averages 9.9 feet in depth (Eleuterius 1976). Its seaward limit is formed by five barrier islands, and on the southwest, between Half Moon (Grand) Island and Isle au Pitre, by marsh island remnants of the St. Bernard subdelta. The five barrier island system is comprised of Cat, East Ship, West Ship, Horn, Petit Bois and Dauphin Island.

B. **General Description.** The purpose of the proposed action is to provide continued maintenance dredging for the federally authorized Biloxi Harbor navigation project – Ott Bayou – located in Harrison County, Mississippi. The Biloxi Harbor navigation project was authorized by 1966 River and Harbor and Section 107 River and Harbor Act of 1960. Maps of the Biloxi Harbor navigation project are provided in Figures 1 and 2.

The federally authorized Biloxi Harbor, Mississippi navigation project consists of the following dimensions:

Lower Harbor:

a. The East Access Channel extends from mile 188.0 on the Gulf Intracoastal Waterway in Mississippi Sound to its junction with the West Access Channel and the Biloxi Back Bay Channel. The channel is approximately 9.2 miles in length. Authorized dimensions are 12 feet deep by 150 feet wide.

b. The West Access Channel which includes the 4.8 mile West Approach which measures 10 feet deep by 150 feet wide, and the easternmost 2.2 mile Biloxi Lateral segment which measures 12 feet deep by 150 feet wide and is approximately 7 miles in length.

c. The 12 feet deep by 150 feet wide channel which extends for approximately 11 miles from the end of the East Access Channel through the Back Bay of Biloxi and Big Lake to the federally authorized Bernard Bayou Channel and to the Harrison County Development Commission Industrial Park Barge Canal.

d. The 12 feet deep by 100 feet wide Bernard Bayou Channel that extends 2.6 miles up Bernard Bayou from the main channel to the Keesler Air Force Terminal.

Upper Harbor:

a. The 12 feet deep by 150 feet wide main Back Bay Channel from the U.S. Highway 90 Bridge to the D-Iberville Bridge area.

b. The 12 feet deep by 150 feet wide Ott Bayou Channel which extends from the junction with the main Back Bay Channel for a distance of 1.2 miles and terminating at a 12 feet deep by 600 feet turning basin located opposite Ott Bayou.

c. The 12 feet deep by 150 feet wide by 2100 feet long East Harrison County Industrial Canal channel which extends from its junction with the main Back Bay Channel in a southerly direction and terminating in a turning basin which fronts the northeast shore of the Biloxi Peninsula.

(3) **Source of Material.** The material will be dredged during maintenance dredging of the federally authorized Biloxi Harbor navigation project (Ott Bayou Channel).

E. **Description of the Proposed Discharge Site.**

(1) **Location.** The open-water disposal sites 6 and 7 will be in open-water south of the channel but north of Deer Island.

(2) **Size.** The open-water sites 6 and 7 consists of 2,213 acres and 2,654 acres, respectively.

(3) **Type of Site.** These are open-water sites that have been historically used by the Corps, Mobile District.

(4) **Type of Habitat.** The disposal site is currently open water habitat adjacent.

(5) **Timing and Duration of Discharge.** The initial action is currently expected to begin this fall (mid-October) and require 20 days to complete.

F. **Description of Disposal Method.** The Corps, Mobile District will dispose material into the site by a hydraulic pipeline dredge.

II. **Factual Determinations (Section 230.11):**

A. **Physical Substrate Determinations.**

(1) **Substrate Elevation and Slope.** Not applicable because it is an open-water site.

(2) **Sediment Type.** The dredged material proposed for disposal is composed primarily of clays and silts with some traces of sands.

(3) **Dredged/Fill Material Movement.** Placement of the material would be confined to the limits of the open-water area.

(4) **Physical Effects on Benthos.** The dredged material placement site would have no impact on benthos.

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

(6) **Actions Taken to Minimize Impacts (Subpart H).** No other actions to minimize impacts to the physical substrate are deemed appropriate for this project.

B. **Water Column Determinations.**

(1) **Salinity.** No effect.

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

(3) **Clarity.** Minor increases in turbidity may be experienced in the immediate vicinity of the project during dredging and disposal operations. However, these increases will be temporary and would return to pre-project conditions shortly after completion.

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

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

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

(7) **Dissolved Gas Levels.** Temporary decreases in dissolved oxygen will likely result from the operations, but this will only 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 disperse. 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 placement sites would have no effect on current patterns and flow in the vicinity of the project area because we do not raise the elevation above 12 inches via thin-layer.

(b) **Velocity.** No significant effects.

(2) **Stratification.** No effect.

(3) **Hydrologic Regime.** No effect.

(4) **Normal Water Level Fluctuations.** No effects.

(5) **Salinity Gradient.** The salinities in Mississippi Sound are highly variable due to the inflow of freshwater and the tidal influence from surrounding rivers and the Gulf of Mexico. The return water flows would have no significant effect on salinity gradient.

D. Suspended Particulate/Turbidity Determination:

(1) **Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Placement Site.** Dredged material consists primarily of clays and silts with some traces of sandy material. Turbidity during disposal is not expected to violate the State of Mississippi's 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 dredged material placement sites and placement activities due to the presence of food items in the sediment. The impact of return water on sight feeders is expected to be a beneficial, short-term impact.

(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. Testing concluded suitability for placement in open-water areas. 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.** No effect.

(1) **Effects on Plankton.** No significant effects.

(2) **Effects on Benthos.** No significant effects would occur to the benthos due to return water from the dredged material placement.

(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 would be impacted by the dredging and dredged material placement at the open-water disposal sites.

(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 State of Mississippi will specify a mixing zone for turbidity compliance. The Corps, Mobile District will adhere to this compliance standard.

(a) **Depth of water at the disposal site.** Depth of water at the site varies from 9 to 12 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 type of 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 250,000 cys of material will be dredged from the proposed area by a hydraulic pipeline dredge. Dredged material will consist primarily of clays and silts with some traces of sandy material. Settling of particles is anticipated due to the dredged material size.

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

(2) **Determination of Compliance with Applicable Water Quality Standards.** The proposed activity is expected to be 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 proposed disposal site 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 _____

Pete F. Taylor
Colonel, Corps of Engineers
District Commander