DRAFT
SECTION 404 (b)(1) EVALUATION REPORT

CONTINUED OPERATIONS AND MAINTENANCE
DREDGING
AND PLACEMENT ACTIVITIES
BAYOU La BATRE FEDERAL NAVIGATION PROJECT
MOBILE COUNTY, ALABAMA

A FEDERALLY AUTHORIZED NAVIGATION PROJECT

I. Project Description

a. Location. Bayou La Batre, Mobile County, Alabama and Mississippi Sound.

b. General Description. The proposed action involves the continued maintenance dredging and placement of maintenance material from the federally authorized channel at Bayou La Batre, Mobile County, Alabama.

c. Authority and Purpose. The existing project was authorized by the 1965 River and Harbor Act (H. Doc. 327, 88th congress, 2nd session) and prior acts. Project improvements were authorized by the Water Resources Development Act (WRDA) of 1990 (P.L. 101-640), dated November 28, 1990 and prior acts. The improved project provided for an 18-foot-deep by deep by 120-foot-wide channel from Pascagoula Ship Channel east along the Gulf Intracoastal Waterway (GIWW) and north of the mouth of Bayou La Batre; an 18-foot-deep by 100-foot-wide channel up Bayou La Batre through and including the turning basin with a transition to a 14-foot-deep by 75-foot-wide channel to a point 1,500 feet above the Highway 188 bridge; and a 14-foot-deep by 50-foot-wide side channel up the Snake Bayou for 500 feet and then a 12-foot-deep by 50-foot-wide channel for an additional 850 feet. The total channel length is about 23 miles.

d. General Description of the Dredged of Fill Material. The fill material that would be placed in the Mississippi Sound open water disposal sites consists predominately of inorganic clays of high plasticity, poorly graded sands, sand-clay mixtures and inorganic clays of low to medium plasticity.

e. Description of the Proposed Discharge Site(s). Previously used open water sites 1, 2, 3, 11, 12, and 13. Two upland disposal sites, Charlie (70-acres) and Delta (107-acres).

1) Location - The open water sites are located on the western side of the channel in Mississippi Sound (1, 2, 3) and just north of the GIWW (11, 12, 13).

2) Size - The upland discharge site 70-acre and 107-acre; open water sites along 20.1 miles of project channel through Mississippi Sound and in Bayou La Batre.

3) Type of site - Open water and upland disposal sites.

4) Type(s) of Habitat – The upland sites contain some vegetation and previously dredged materials; the open water sites are non-vegetated shallow inorganic clays with clay-sand mixtures.

5) Timing and duration of Discharge – The project is expected to take 90 to 120 days to complete.

f. Description of disposal Method. The materials described above will be placed on the project site by hydraulic cutterhead/pipeline dredge.

II. Factual Determinations

a. Physical Substrate Determinations.

(1) Substrate elevation and slope. The open water disposal sites vary in depth from –4 feet for the Mississippi Sound sites and from -12 feet Mean Low Water (MLLW) for sites near the GIWW.

(2) Fill type. Sediment within Mississippi Sound consists of inorganic clays of high plasticity, poorly graded sands, sand-clay mixtures, sand-silt mixtures, and inorganic clays of low to medium plasticity. Sandy material begins to show up in the sediment profile in the area just south of GIWW and becomes dominant through the tidal pass into the Gulf of Mexico.

(3) Dredged/fill material movement. The Mississippi Sound sites are approximately 2,500 feet from the channel and the sites near the GIWW are approximately 5,000 feet from the channel. The upland disposal sites use dikes to restrict sediment movement outside the containment site.

(4) Physical effect on benthos. Benthic communities in the open water sites would be destroyed by the proposed action; however, due to the typical dynamic state of the environment in the project area, the impacts would not be significant. Repopulation should occur within 12 to 18 months after dredging and placement activities.

(5) Other effect. Not applicable.

(6) Actions taken to minimize impacts. No other actions to minimize impacts to the physical substrate are deemed appropriate for this project.

b. Water Circulation/Fluctuation, and Salinity Determination.

(1) Water. Ambient conditions in Bayou La Batre are turbid.

(a) Salinity. No effect.

(b) Water chemistry. Increases in dissolved and total organic carbon, dissolved ammonia, nitrates and total Kjeldahl nitrogen levels would be associated with open water disposal and return water from upland disposal, however, these increases are expected to be short-term in nature and no significant impacts are expected to result.

(c) Clarity. Minor increases in turbidity due to the placement of dredged material may be experienced in the immediate vicinity of the project during dredging and disposal activities due to turbidity plumes and mud flows. These increases would be temporary and would return to pre-project conditions shortly after completion of dredging activities.

(d) Color. Color would be affected during disposal with the water appearing darker due to the presence of a plume from the discharge of silt and clay material.

(e) Odor. No significant effect.

(f) Taste. No significant effect.

(g) Dissolved gases. No significant effect.

(h) Nutrients. No significant effect.

(1) Eutrophication. No significant effect.

(2) Current Patterns and Circulation.

(a) Current patterns and flows. Circulation patterns within the area are controlled by astronomical tides, winds, and to a lesser degree, freshwater discharge.

(b) Velocity. No effect.

(c) Stratification. No effect.

(d) Hydrologic effect. No effect.

(3) Normal Water Level Fluctuations. There will be no change in normal water level fluctuation as a result of use of the open water disposal sites or the use of return water from the upland sites.

(4) Salinity Gradients. Salinity gradients are not expected to change from either open water disposal or return water from upland sites.

(5) Actions That Will Be Taken To Minimize Impacts. No other actions that would minimize impacts on water circulation/fluctuation and salinity are deemed necessary.

c. Suspended Particulate/Turbidity Determinations.

(1) Expected changes in suspended particulate and turbidity levels in the vicinity of the disposal sites will be temporary. Turbidity during construction is not expected to violate state water quality standards.

(2) Effect on the chemical and physical properties of the water column.

(a) Light penetration. During dredging and disposal activities, the degree of light penetration would be locally reduced and temporary.

(b) Dissolved oxygen. Dissolved oxygen would be locally reduced and temporary.

(c) Toxic metals and organics. No significant effect.

(d) Pathogens. No effect.

(e) Esthetics. The presence of the dredge and accessories would temporarily reduce the esthetics quality within the project area.

(f) Others as appropriate. None appropriate.

(3) Effect on biota. The effects on the biota of the open water disposal sites or the use of return water from the upland sites would not be significantly affected. This
area is adapted to periodic increases of suspended material due to storm related events and annual high freshwater inflows from Mobile Bay.

(a) Primary production, photosynthesis. The reduction in light penetration during dredging and disposal activities would temporarily affect plants and photosynthesis in the project vicinity.

(b) Suspension/filter feeders. Non-motile and immobile filter feeders would be affected by the amount of suspended materials in the vicinity.

(c) Sight feeders. No effect.

(4) Actions taken to minimize impacts. No further actions are deemed appropriate.

d. Contaminant Determination. Previous sediments from within the bayou and in Mississippi Sound indicated highly variable concentrations of nutrients, heavy metals, high molecular weight hydrocarbons, and pesticides. The material removed from the bayou portion of the channel will be placed into the upland disposal area "Charlie" and/or "Delta." No significant levels of contaminates are known to exist within the dredged material.

e. Aquatic Ecosystem and Organism Determinations. No effect.

(1) Effect on plankton. Disposal into the open water disposal sites would destroy some phytoplankton and zooplankton, and would reduce light penetration that may tend to affect primary production by the Phytoplankton. This condition would be short-term and localized.

(2) Effect on benthos. Some benthic organisms would be destroyed during the disposal process. This condition would be short-term and localized.

(3) Effect on nekton. The nekton around the open water disposal areas would be able to vacate the area, returning after dredging activities are complete.

(4) Effect on aquatic food web. No significant effect.

(5) Effect on special aquatic sites.

(a) Sanctuaries and refuges. The disposal of dredged material or return water from upland disposal sites would not significantly affect any of the fish and wildlife resources that are designed for preservation or general use in the Coastal Area Management Program of the State of Alabama.

(b) Wetlands. No effect.

(c) Mud Flats. No effect.

(d) Vegetated shallows. No effect.

(e) Coral reefs. Not applicable.

(f) Riffle and pool complexes. Not applicable.

(7) Threatened and endangered species. The proposed action is not expected to significantly impact threatened or endangered species or their critical habitat in the project area.

(8) Other wildlife. No significant effects.

(9) Actions to minimize impacts. No other actions to minimize impacts on the aquatic ecosystem are deemed appropriate.

f. Proposed Disposal Site Determinations.

(1) Mixing zone determinations. The State of Alabama, Department of Environmental Management (ADEM) has previously requested a mixing zone no greater than 400 feet from the dredging or outer limits of the open water disposal sites. The proposed action is anticipated to be in compliance with this mixing zone requirement.

(2) Determination of compliance with applicable water quality standards. The proposed action will be in compliance with all applicable water quality standards. The use of the proposed sites would not alter constituent concentrations established for this use and would be in compliance to the maximum extent practicable with applicable water quality standards.

(3) Potential effect on human use characteristics.

(a) Municipal and private water supplies. No significant effect.

(b) Recreational and commercial fisheries. Minimal impacts on the fish and wildlife resources could occur during dredging and disposal activities.

(c) Water-related recreation. No significant effect.

(d) Esthetics. The esthetic environment would be temporarily impacted as a result of the physical presence of heavy equipment during dredging activities. Esthetics of the area should return to existing conditions after completion of dredging.

(e) Parks, national and historic monuments, national seashores wilderness areas, research sites, and similar preserves. No significant effect.

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

h. Determination of Secondary Effect on the Aquatic Ecosystem. The proposed action is not expected to have significant secondary effect on the aquatic ecosystem.

III. FINDING OF COMPLIANCE

a. No significant adaptations to 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 dredging and placement activities 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.

d. The planned dredging and placement activities will not jeopardize the continued existence of any Federally-listed endangered or threatened species or their critical habitat.

e. The planned dredging and placement activities 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 _____ _____

Steven J. Roemhildt
Colonel, Corps of Engineers
District Commander