

**DRAFT SECTION 404(b)(1) EVALUATION
FOR
NEW WITHIN-BANKS DISPOSAL AREAS
FOR
DAY'S BAR DISPOSAL AREAS ON THE TOMBIGBEE RIVER
IN WASHINGTON AND CLARKE COUNTIES, ALABAMA**

I. PROJECT DESCRIPTION:

a. Location. Tombigbee River portion of the Black Warrior-Tombigbee (BWT) Waterway, Washington and Clarke Counties, Alabama. The proposed sites are located on both the right and left descending banks of the Tombigbee River between River Miles 62.1-62.9 and 63.1-63.9 (See Figure 1).

b. General Description. The proposed project consists of placing sandy dredged material from River Mile 62.4 into within-banks disposal areas. This dredged material would be from the Black Warrior-Tombigbee (BWT) Waterway, which has been the subject of prior environmental documentation. The proposed disposal areas are approximately 1,400 feet long, 75 feet wide and located on both the right and left descending bank of the Tombigbee River at River Miles 62.1-62.9 and 63.1-63.9 respectively. The proposed within-banks disposal areas will have approximately 9,000 cubic yards (CY) of dredge material placed every 10 years. The dredged material will be placed through the use of hydraulic pipeline or mechanical dredge. The proposed sites are located more than one mile downstream of previously approved within-banks disposal area. The current location of the crossover bar is too great a distance to allow for disposal on the existing within-banks area.

c. Authority and Purpose. The navigation project on the BWT Waterway was authorized by various Rivers and Harbors Acts, 1884-1960. The BWT Waterway provides for a channel 9 feet deep and 200 feet wide extending from the mouth of the Tombigbee River 45 miles above Mobile to the vicinity of Birmingham. The operation and maintenance of the BWT Waterway has been addressed in prior environmental documentation such as the Final Supplement to the Final Environmental Impact Statement for the Black Warrior and Tombigbee Rivers, Alabama (Maintenance), April 1987. The Tombigbee River portion of the BWT Waterway flows from Demopolis, Alabama to the confluence of the Alabama River at which point it turns into the Mobile River. The proposed project is needed to create new within-banks disposal areas at these locations for disposal capacities in proximity to the new dredging site.

d. General Description of Dredge or Fill Material.

(1) General Characteristic of Material. The material to be dredged from the shoal is primarily sand of the alluvial bed material that is typical found in these types of southeastern streams.

(2) Quantity of Material. The new disposal areas would receive approximately 9,000 (CY) of dredge material every 10 years.

(3) Source of Material. The fill material will be dredged by hydraulic or mechanical dredge from the adjacent shoal area of the BWT Waterway navigation

channel at previously approved locations in proximity to the proposed disposal area. The material being dredged is for maintenance of the waterway, not new construction dredging. The sandy material being dredged is part of the alluvial bed material that is typical for these types of southeastern streams.

e. Description of the Proposed Discharge Site.

(1) Location. Tombigbee River portion of the BWT Waterway, Washington and Clarke Counties, Alabama. The proposed site is located on both the right and left descending bank of the Tombigbee River between River Miles 62.1-62.9 and 63.1-63.9 respectively.

(2) Size. The proposed sites are approximately 1,400 feet long and 75 feet wide.

(3) Type of Site. The proposed sites are located more than one mile downstream of previously approved within-banks disposal areas. The proposed within-banks sites will be unconfined disposal areas along the bank of the river below the ordinary high water line.

(4) Type of Habitat. The habitat at these locations is typical of the steep riverbank bordering the Warrior River. The current conditions at the sites consist of steep disturbed riverbank in the downstream portion of the proposed within-bank disposal sites that is devoid of significant vegetation.

(5) Timing and Duration of Discharge. The discharges will occur during the dredging season which is normally between April and December. The duration of the discharge will vary from one day to several weeks depending on the quantity of material and river conditions.

f. Description of Disposal Method. The dredging in the navigation channel will be accomplished by hydraulic pipeline or mechanical dredge.

II. Factual Determinations:

a. Physical Substrate Determinations.

(1) Substrate Elevation and Slope. The elevation of the disposal sites will be temporarily increased; however, there should be no long term alteration of the channel configuration since the dredged material will normally be eroded from the within-banks disposal sites during flooding events, hence returning the sandy material back into the alluvial bedload of the Warrior River.

(2) Sediment Type. The dominate sediment type at this reach of the Warrior River consists of sand. The sediment type will not be altered because the dredged material is of similar composition since the dredging will occur nearby.

(3) Dredged/Fill Material Movement. The material will erode during the high water season and continue to move along the riverbed in a manner similar to that which occurs naturally in the proposed within-banks areas.

(4) Physical Effects on the Benthos. The disposal at the sites will cover the limited benthic community present at the sites. Many of the benthic organisms will be smothered by the dredged material, while some of the more motile species will be capable of burrowing up through the sandy deposits and survive. Due to the similarities in the existing and placed material the benthic communities will begin to reestablish within a few months.

(5) Actions Taken to Minimize Impacts (Subpart H). Actions taken to minimize impacts include the selection of alternative construction methods, Best Management Practices (BMPs) and construction time period.

b. Water Circulation, Fluctuation, and Salinity Determinations.

(1) Salinity. Not applicable.

(2) Water Chemistry. The water chemistry for the Warrior River has not experienced highly elevated, anthropocentrically induced chemical levels. The disposal activities will not have any significant effects on water chemistry in this river reach due to the sandy nature of the dredged material and uncontaminated nature of these river sediments.

(3) Clarity. Water clarity will be temporarily decreased over a small area in the vicinity of the dredging and disposal activities. The ambient levels of water clarity will return to the area soon after the disposal operations cease.

(4) Color. Color will not be significantly affected.

(5) Taste. Taste will not be significantly affected.

(6) Dissolved Gas Levels. Dissolved gas levels should not be significantly affected.

(7) Nutrients. Nutrients will not be significantly changed as a result of this project.

(8) Eutrophication. Eutrophication will not be affected since nutrient levels will not be significantly changed.

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

(1) Current Patterns and Circulation.

(a) Current Patterns and Flow. The river flow will not be affected by the dredging and disposal practiced.

(b) Velocity. Since the dredged material will be moved from one area of the river to another within the same reach, no significant effects on water velocity will be experienced.

(2) Stratification. Water quality management studies of the BWT Waterway by the U.S. Army Corps of Engineers have shown little stratification in the dredging

reaches. The stratification that does occur in upper dredging reaches of the system is weak and would not be interrupted or influenced by the proposed action.

(3) Hydrologic Regime. The proposed action will not affect the hydrologic regime.

(4) Normal Water Level Fluctuations. River stages will not be affected by the proposed action.

d. Suspended Particulate/Turbidity Determinants.

(1) Expected Changes in Suspended Particulate and Turbidity Levels in Vicinity of the Disposal Site. There will be temporary increases in turbidity at the sites during dredging and disposal activities. Levels should return to normal after activities subside. No significant long-term impacts will occur.

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

(a) Light Penetration. Increases in suspended solids concentrations would be nominal and temporary. No significant impacts to light penetration are anticipated.

(b) Dissolved Oxygen (DO). Dissolved oxygen would not be significantly impacted.

(c) Toxic Metals and Organics. This project will not have an adverse effect on the amount of toxic metals and/or organics present since the sandy dredged material does not contain accumulations of toxic metals and organics that might be encountered if dealing with fine-grained silts and clays.

(d) Pathogens. Pathogen levels will not be affected as a result of this project.

(e) Aesthetics. The area would be impacted during dredge/fill activities. Aesthetics would return to pre-project conditions upon completion of the dredging operation.

(3) Effects on biota.

(a) Primary Production, Photosynthesis. Primary productivity will be insignificantly lowered by the discharge at the site since the turbidity plume will only affect a very small portion of the BWT Waterway in immediate proximity to the proposed within-banks disposal sites.

(b) Suspension/Filter Feeders. Suspension/Filter Feeders may be temporarily affected in the immediate area of the proposed action. However, these impacts will be insignificant.

(c) Sight Feeders. Sight dependant feeders may experience reduced feeding with the area of the turbidity plume during dredging and disposal activities. Long-term effects will be beneficial due to the improved benthic habitat.

(4) Actions taken to Minimize Impacts (Subpart H). No actions are considered to be necessary due to the low level of impacts that will occur.

e. Contaminant Determinations. The discharge will not significantly introduce or increase contaminants in the area since the dredge material is being removed from sandy dredging sites immediately adjacent to the proposed within-banks sites.

f. Aquatic Ecosystem and Organism Determinations.

(1) Effects on Plankton. There may be temporary effects on plankton in the immediate vicinity of the discharge, but these effects would be localized and short-term.

(2) Effects on Benthos. Except for the smothering of some of the benthic organisms on the disposal sites, there will be no significant impacts. Recolonization on these within-bank sites typically occurs within a few weeks to two months time.

(3) Effects on Nekton. Nekton will not be significantly impacted by the proposed project.

(4) Effects on Aquatic Food Web. The loss of benthic organisms on the within-banks disposal sites will result in a slight temporary reduction in biomass within the foodweb.

(5) Effects on Special Aquatic Sites. There are no adverse effects to special aquatic sites anticipated in the vicinity of this project.

(a) Sanctuaries and Refuges. The project impact area will not affect any sanctuaries and/or refuges.

(b) Wetlands. The discharge of dredge material will impact benthic communities for a short time until recolonization occurs, but will not affect vegetated wetlands.

(c) Mud Flats. No mud flats will be impacted as a result of this project.

(d) Vegetated Shallows. There will be no significant impacts to vegetated shallows.

(e) Riffle and Pool Complexes. No riffle or pool complexes would be affected by this project.

(6) Threatened and Endangered Species. Threatened and endangered species with potential to exist in the proposed project area are Wood stork (*Mycteria americana*), Alabama inflated heelsplitter (*Potamilus inflatus*), Southern clubshell (*Pleurobema decisum*), Alabama sturgeon (*Scaphirhynchus suttkusi*), Gulf sturgeon (*Acipenser oxyrinchus desotoi*), Black pine snake (*Pituophis melanoleucus lodingi*), Eastern indigo snake (*Drymarchon corais couperi*) and Gopher tortoise (*Gopherus polyphemus*). The U.S. Army Corps of Engineers (Corps) has determined the proposed action would have no effect on the federally listed species and critical habitat in the proposed project area. By email correspondence dated 3 June 2011, the U.S. Fish and Wildlife Service concurred with the Corps finding.

(7) Other Wildlife. There are no other significant adverse effects to wildlife species anticipated from this project.

f. Proposed Fill Site Determination.

(1) Mixing Zone Determination. This activity does not require a mixing zone determination. The nature of the dredged material and constituent concentrations preclude the need for a mixing zone determination.

(a) Depth of water at the disposal site. The water depth at the sites is 8 feet.

(b) Current velocity, direction, and variability at the disposal site. The proposed activity would not affect the current velocity, variability and direction of the river at the proposed project location.

(c) Degree of turbulence. The degree of turbulence at the sites varies significantly according to the stage of the river and would not be affected by the proposed project.

(d) Stratification attributable to cause such as obstructions, salinity or density profiles at the disposal site. Not applicable.

(e) Discharge vessel speed and direction, if appropriate. Discharge vessel would be stationary.

(f) Rate of discharge. Not applicable.

(g) Ambient concentration 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. The dredged material would be comprised of sand.

(i) Number of discharge actions per unit of time. The discharge will be approximately 9,000 CY every 10 years.

(2) Determination of Compliance with Applicable Water Quality Standards. The proposed action will comply with applicable water quality standards as established by the Alabama Department of Environmental Management. Water quality certification for the routine dredging and disposal activities on the BWT Waterway, including the disposal operations in the contiguous within-bank disposal sites was most recently issued by the State of Alabama on March 31, 2009.

(3) Potential Effects on Human Use Characteristics. This project will not result in significant adverse effects on human use characteristics along the reach of the river on which this project is located.

(a) Municipal and Private Water Supply. This project would not impact municipal or private water supplies.

(b) Recreation and Commercial Fisheries. Fishing activities at the proposed sites would be temporarily interrupted during the dredge/fill operation. No long-term impacts are anticipated as a result of this project.

(c) Water Related Recreation. Water related recreation occurring at the proposed sites would be temporarily interrupted during the dredge/fill operation. No long-term impacts are anticipated as a result of this project.

(d) Aesthetics. Aesthetics would be temporarily impacted during the dredging and disposal operations. Aesthetics would return to normal when the project is complete.

(e) Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves. No parks, national historic monuments, national seashores, wilderness areas, research sites and similar preserves in the vicinity will be adversely impacted as a result of this project.

(f) Other Effects. Not applicable.

(4) Determination of Cumulative Effects on the Aquatic Ecosystem. Repeated use of the disposal sites may result in cumulative impacts. However, the dredged material would be placed to enhance its suspension into the Tombigbee River water column and would erode between dredging events. The time and placement location between each dredging operation would reduce the cumulative impacts.

(5) Determination of Secondary Effects on the Aquatic Ecosystem. Temporary and localized secondary impacts may occur in the areas of the dredge

III. Findings of Compliance or Noncompliance with the Restrictions on Discharge.

a. No significant adaptations of the guidelines were made relative to this evaluation.

b. The proposed discharge represents the least environmentally damaging practicable alternative that would accomplish the project objectives.

c. The planned disposal of dredged material would not violate any applicable State water quality standards nor would it violate the Toxic Effluent Standard of Section 307 of the Clean Water Act.

d. Use of the proposed disposal sites would not jeopardize the continued existence of any federally listed endangered or threatened species or their critical habitat.

e. The proposed discharge of fill material would not contribute to significant degradation of waters of the United States. Nor would 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 to minimize potential adverse impacts of the discharge on the aquatic ecosystem include:

(1) Locations, times and duration of the project will be selected to minimize potential adverse impacts to the aquatic ecosystem.

(2) An interdisciplinary team has evaluated sites, and project design altered per their recommendations.

(3) No sewage, oil, refuse or other pollutants shall be discharged into the watercourse.

DATE: _____

Steven J. Roemhildt
Colonel, Corps of Engineers
District Commander

Days Bar Vicinity Map

1 in = 2,000 feet

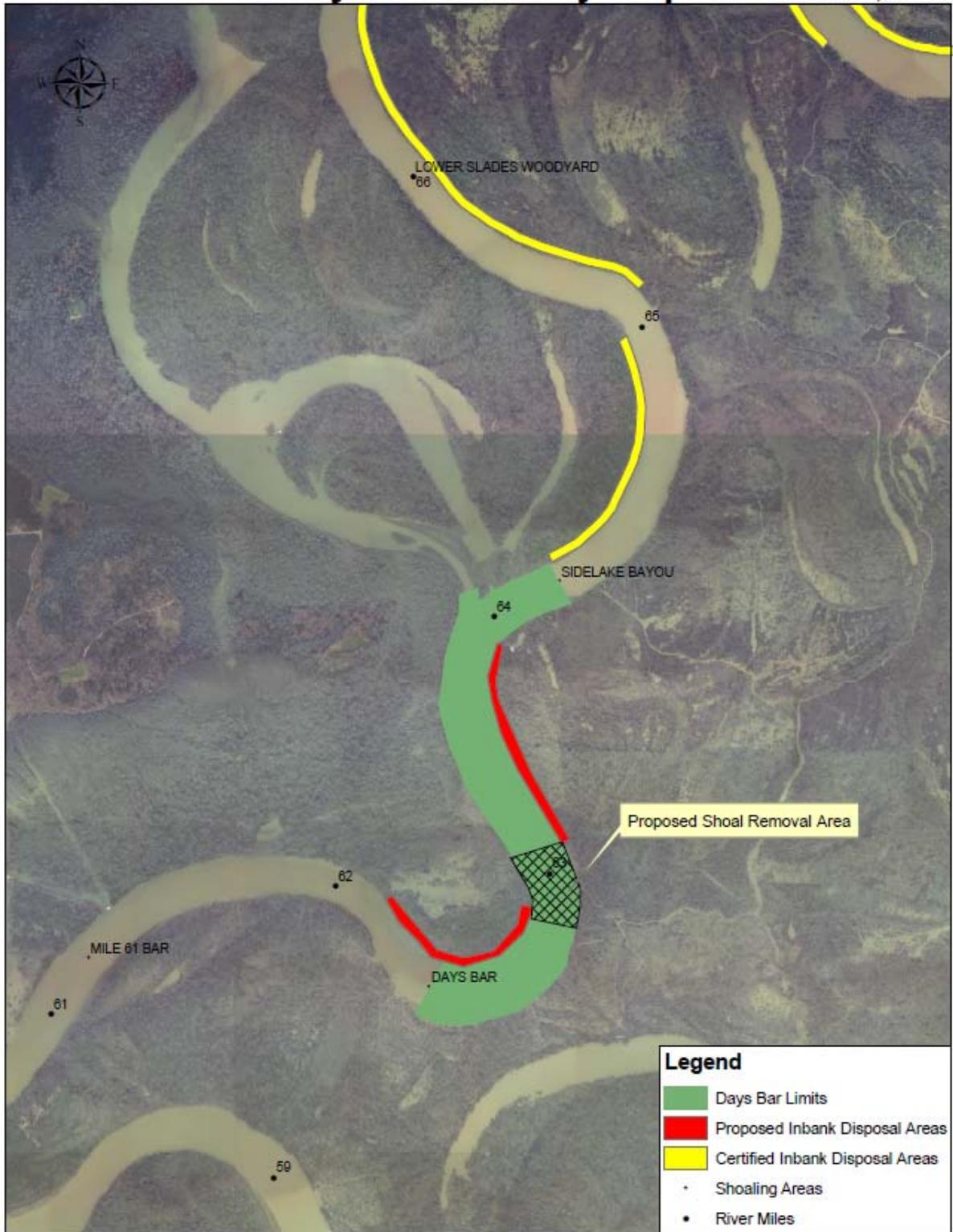


Figure 1. Vicinity Map