



Gulf Coast Ecosystem Restoration Council
Finding of No Significant Impact
Deer Island Beneficial Use Site (USACE_RESTORE_004_000_Cat1)

The Gulf Coast Ecosystem Restoration Council (Council) is hereby adopting the U.S. Army Corps of Engineers' (USACE's) Environmental Assessment (EA) for the Deer Island Marsh Restoration II Beneficial Use Site (2011) and the associated USACE Supplemental EA (2015) for this beneficial use project. The Council is adopting this EA and the associated Supplemental EA in order to address the requirements of the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4321 et seq.) with regard to the approval of funding for the Deer Island Beneficial Use Site. The Council's [NEPA Procedures](#) set forth its policies for complying with NEPA.

The Council has reviewed the subject EA and Supplemental EA to determine whether these documents adequately address the potential environmental effects of the proposed activity. On August 13, 2015, the Council circulated this draft EA and the Supplemental EA to the public for a 45-day review period. Following is a brief description of the proposed activity, the associated EA and Supplemental EA, and contact information pertaining to this action.

Funded Activity

The Council has proposed for implementation a Deer Island Beneficial Use Site as part of the Council's Initial Funded Priorities List (FPL), which has been developed pursuant to the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act of 2012 (RESTORE Act) (33 U.S.C. § 1321(t)(2)). Under the Deer Island Beneficial Use Site proposal, material that has been dredged during maintenance of the Black Warrior – Tombigbee Federal navigation project in Alabama would be used beneficially to construct a five-acre Chenier (ridge) that would create the containment component of a 40-acre beneficial use site on the northern side of Deer Island just offshore of Biloxi, MS. Subsequent filling of the site with dredged material leveraged from the Biloxi Harbor Federal navigation project and local dredging projects would result in the creation of 40 acres of emergent tidal wetlands. More information on the RESTORE Act, the Initial FPL, and the Deer Island Beneficial Use Site can be found at www.restorethegulf.gov.

Environmental Assessment Adopted

Prepared pursuant to the NEPA, this EA and the Supplemental EA analyze potential alternatives for the Deer Island Beneficial Use Site, pertaining to both the creation of the containment area and the source of material for the containment feature. The 2011 EA includes an assessment of alternatives and associated environmental consequences related to the creation of the beneficial use site (sections 9 and 10). The analysis of environmental consequences includes information pertaining to other potentially applicable environmental laws, including the National Historic Preservation Act and the Endangered Species Act. On September 8, 2011, the USACE issued a Finding of No Significant Impact (FONSI) for the activities covered by the original EA. The Supplemental EA (2015) includes analysis of alternatives and environmental effects associated with the source for the material for the containment feature (sections 5 and 7). The direct environmental benefits associated with this project relate to the use of dredged material for marsh restoration. The project will provide stability and protection for Deer Island. Indirect

long-term environmental benefits associated with the project include the restoration of marsh habitat and the species it supports.

Environmental Conditions

In implementing this project, the sponsor (USACE) shall comply fully with the environmental conditions set forth in section 16(a)-(o) on page 21 of the 2011 EA (below). The project sponsor is also responsible for ensuring that any contractors who may work on this project are aware of and comply with all of these environmental conditions.

Finding of No Significant Impact

Based on an independent review of the information and analysis provided in the subject EA and the Supplemental EA, the Council convened on December 9, 2015, and by formal vote made a determination that the action as proposed will not have a significant effect on the human environment and as such the issuance of a FONSI for the Deer Island Beneficial Site is appropriate. This determination is based on consideration of the factors listed in Section 1508.27 of the Council on Environmental Quality's (CEQ) NEPA regulations (40 CFR Parts 1500 through 1508). Consistent with Section 1508.13 of the CEQ regulations, the subject EA and Supplemental EA are attached to this FONSI and are incorporated herein by reference. In making this determination, the Council has coordinated with the USACE, which is both the sponsor of the activity and the author of the EA and Supplemental EA being adopted. The Council authorized the Executive Director of the Council to execute the FONSI on its behalf.

Determination by Responsible Official

I have determined that this proposed activity would not have a significant effect on the human environment.

Responsible Official (Name) Justin R. Ehrenwerth

Executive Director, Gulf Coast Ecosystem Restoration Council

Responsible Official (Signature) J. R. Ehrenwerth

Date Dec. 10, 2015

For Further Information

For further information, please contact John Ettinger, Director of Environmental Compliance, Gulf Coast Ecosystem Restoration Council, at (504) 444-3522 or by e-mail at john.ettinger@restorethegulf.gov.

DEPARTMENT OF THE ARMY
Mobile District, U.S. Army Corps of Engineers
Post Office Box 2288
Mobile, Alabama 36628-0001

Applicant: Mississippi Department of Marine Resources **Action ID:** SAM-2011-00129-KMN
Date: September 7, 2011 **Waterway:** Mississippi Sound

**ENVIRONMENTAL ASSESSMENT, 404(B)(1) ANALYSIS, STATEMENT OF
FINDINGS, AND DECISION DOCUMENT**

This document constitutes my Environmental Assessment, Finding of No Significant Impact, Statement of Findings, and review and compliance determination according to the 404(b)(1) guidelines for the proposed work.

This permit action is being taken under authority delegated to the Mobile District Engineer by the Secretary of the Army and the Chief of Engineers by Title 33, Code of Federal Regulations (CFR), Part 325.8, pursuant to:

- Section 10 Rivers and Harbors Act.
- Section 404 of the Clean Water Act.
- Section 103 of the Marine Protection, Research and Sanctuaries Act.
- Section 4(e) of the Outer Continental Shelf Lands Act of 1953.

Applicant: Mississippi Department of Marine Resources
Action ID: SAM-2011-00129-DMY

Table of Contents

1. Combined Decision Document
2. Attachments

| | | |
|------------|--|-----------|
| Appendix A | Environmental Assessment for the Section 204 Ecosystem Restoration Project in Connection with Construction, Operation, or Maintenance Dredging of a Federally Authorized Project; Environmental Restoration in Coastal Mississippi, Marsh Re-Establishment Project | July 2002 |
| Appendix B | Section 404 (b)(1) Evaluation Report for the Section 204 Ecosystem Restoration Project in Connection with Construction, Operation, or Maintenance Dredging of a Federally Authorized Project; Environmental Restoration in Coastal Mississippi, Marsh Re-Establishment Project | July 2002 |
| Appendix C | Finding of No Significant Impact for the Section 204 Ecosystem Restoration Project in Connection with Construction, Operation, or Maintenance Dredging of a Federally Authorized Project; Environmental Restoration in Coastal Mississippi, Marsh Re-Establishment Project | July 2002 |

1. **Applicant:** Mississippi Department of Marine Resources

2. **Application Number:** SAM-2011-00129-KMN

3. **Location and Environmental Setting Without the Project:**

a. **Location:** Mississippi Sound, Northeastern shore of Deer Island, Sections 1, 6, & 7, Township 8 South, Range 8 West, Latitude 30° 22' 15" N, Longitude 88° 49' 45" W, Biloxi, Harrison County, Mississippi.

b. **Environmental Setting Without the Project:** The project site is located on the northeast shore of Deer Island. Deer Island is located south of Biloxi and southeast of the mouth of Back Biloxi Bay and is located in the Mississippi Sound. The City of Biloxi is located on the mainland directly north of the Island. Deer Island is comprised of its coastal maritime forest, beach/dune complex, freshwater lake, and emergent tidal marsh habitat. The uninhabited island is one of the last natural islands along the Gulf Coast. The Island provides the mainland with hurricane/storm protection by helping to dissipate wave energy prior to its reaching the shoreline of the coast. The Island also provides feeding, resting, and wintering habitat for numerous types of migratory bird species.

c. **Historical Events and Prior and On-going State and Federal Projects:** Impacts from a series of hurricanes in 2005 to the island systems and mainland in and around the Mississippi Sound brought the importance of Beneficial Use (BU) projects in addition to other projects which would enhance protective measures from storm systems into the Federal, State, and Public eye. In July of 2010 the State of Mississippi passed legislation (Mississippi Code §49-27-61) which mandates that dredging projects obtaining material over 2,500 cy (cubic yards) be subject for use as Beneficial Use Material as deemed acceptable by Mississippi Department of Marine Resources (MDMR). The proposed BU project would be located at Deer Island. State (MDMR) and Federal (U.S. Army Corps of Engineers; (COE) & Mississippi Coastal Improvements Program; MSCIP) projects have been proposed and or constructed on or around Deer Island.

- 1) Master Plan for the Beneficial Use of Dredged Material for Coastal Mississippi (May 2011): The "Long-Term Comprehensive Master Plan for Beneficial Uses of Dredged Material Along Coastal Mississippi (2002)" was updated in 2011 to develop a comprehensive plan to identify areas within each coastal county where dredged material could be placed to help restore, nourish, and enhance the coastal marshes and wetlands of Mississippi. The Master Plan is broken into sections to provide an overview of the existing sediment transport system in Mississippi, the laws and regulations that provide the permitting structure to be followed to establish beneficial use sites, options for dredging technologies, and potential BU projects and stakeholders. The original 2002 Master Plan was prepared for the COE and was approved by MDMR. The MDMR has been working with federal, state, and private partners for nearly a decade to promote the use of dredged material and concrete rubble for coastal land and habitat restoration.

- 2) U.S. Army Corps of Engineers, Mississippi Coastal Improvements Program (MSCIP):
- a) COE 204 Site – Deer Island: The site was first established in 2002 by the COE for the Biloxi Harbor Navigation Project. In 2009 the project was handed over to MDMR for management purposes. MDMR received a Department of the Army (DA) 404 permit (SAM-2008-01990-JBM) for the repair and reestablishment of the marsh system which was adversely impacted by tropical storms Ivan (September 2004) and Katrina (August 2005). The project site is currently referred to by MDMR as Deer Island Marsh Restoration One (DIMR1). The publication, “Section 204 Ecosystem Restoration Project for Marsh Re-establishment Project in Mississippi” was incorporated in this document as baseline material and to further assist in the assessment of potential environmental impacts at the proposed project site, outlined in Section 10 of this document. The proposed project site, Deer Island Marsh Restoration Two (DIMR2), is located immediately adjacent to DIMR1; therefore existing conditions (i.e. Affected Environment) are similar. Additional information related to impacts associated with the DIMR1 is also outlined in the enclosed material.
 - b) COE Southern Shore Restoration – Deer Island: In August 2007, an Environmental Assessment (EA) was completed for the restoration of Deer Island. Projects reviewed in the EA were for restoration of the breach of Deer Island, Grand Bayou marsh restoration, and the overall restoration of Deer Island back to its historic 1850’s shoreline. The Southern Shoreline Restoration project was completed in Spring 2011 and currently the COE is reviewing potential use of the area between the constructed Southern Shoreline and the previously existing southern shoreline. Once these projects are approved and or completed they could potentially be handed over to MDMR. If this project site is handed over to MDMR the designation would be Deer Island Marsh Restoration Three (DIMR3).

4. Project Description, Changes to Project:

a. Project Description: The applicant, the Mississippi Department of Marine Resources (MDMR) is proposing to create a 50 acre site on the northeastern shore of Deer Island as a Beneficial Use Site. The site would be referred to as DIMR2, and would be located adjacent and immediately to the west side of DIMR1. The proposed project would create approximately 40 acres of salt marsh and approximately 5 acres of a Chenier (upland ridge) along the southern boundary of the site. The applicant proposes to construct a 3,200 foot long dike (approximate 5 acres) along the proposed northern boarder of the site which would run parallel to the north shore of Deer Island. Upon completion, the site would be able to contain approximately 400,000 cubic yards of dredged material.

The proposed dike would be mechanically constructed from borrow areas within the site. It

would be raised to an elevation of between +4 to +7 feet, Mean Lower Low Water (MLLW). The area encompassed by the new dike would be located in shallow water, mostly above – 2 feet MLLW, currently composed of sandy material. It would be constructed to run parallel to the north shore of Deer Island. The western end of the dike would be constructed to either curve to the southwest and continue for approximately 600 feet to reattach to Deer Island; or end in open water and not rejoin Deer Island. Wave protection at the western end would probably not be required and leaving it open could improve flushing and allow the interior marsh to interact ecologically with the surrounding environment.

The Chenier would be constructed on the current southern portion of Deer Island as suitable materials become available from area dredging projects. The ultimate dimensions of the Chenier would depend upon the availability of materials suitable for its construction.

The exterior of the dike would be constructed at a 1:5 slope to mimic the natural slope at the existing site. The interior area would be managed by mechanical equipment to ensure elevations are consistent with marsh establishment. The new marsh areas would be allowed to vegetate naturally as the dredged material consolidates to marsh elevations but may also be augmented by plantings as resources become available and specific needs related to habitat or erosional stability are recognized. The Chenier area would receive plantings, particularly of live oaks to help anchor and stabilize the feature as well as provide additional habitat value.

Dredging permits are currently subject to Mississippi Code §49-27-61 which requires beneficial use of the dredged material. The proposed project would provide a location for placement of dredged material deemed suitable by the MDMR for Beneficial Use.

b. Changes to Project: The applicant has proposed to place the BU material into the proposed marsh portion of the site using mound creation when suitable material is available. Use of mound formation increases the diversity of habitat located in within the marsh system. Mound construction involves the placement of material in a series of mounds to designated elevations, leaving lower elevations in between the mounds with the objective to maintain tidal flow throughout the project footprint during and after placement. The material placed in the containment area for construction of the mounds is done by pumping the material into the site. Typically, the mounds are achieved by moving the end of the dredge pipe periodically. The degree, size and placement of mounding is managed adaptively based upon the consistency and character of the incoming material. The applicant has also proposed to maintain flow from the marsh restoration site (DIMR1) on the eastern boarder of the proposed site (DIMR2). Flow through both marsh restoration systems will be part of the overall maintenance plan.

5. Project Purpose and Need: The overall project purpose is to restore approximately 40 acres of tidal marsh habitat.

a. Basic project purpose: The basic project purpose is used as a basis for determining water dependency. For this action, the basic project purpose is to restore marsh habitat along a portion of the northeastern shore of Deer Island; therefore, the project is considered water dependent.

b. Overall project purpose: The overall project purpose is used as a basis for assessing the practicable alternatives for the proposal. For this action, the overall project purpose is to restore a marsh system and surrounding uplands in and around 5 acres, the northern extent to be the footprint of the 3,200 foot long dike moving southward to the existing northern shore of Deer Island. Marsh restoration at this site will help re-establish fisheries habitat and allow continued protection of the original core of Deer Island. Continued protection of the Island would allow it to persist as a storm surge buffer for the mainland located to the north.

6. Scope of Analysis: In accordance with the National Environmental Policy Act (NEPA) 40 CFR, Part 1508.25 and 33 CFR, Part 325, several evaluation factors are to be considered when determining the project scope of analysis.

a. NEPA:

(1) Factors: The NEPA scope of analysis factors include “(a) whether or not the regulated activity comprises “merely a link” in a corridor type project; (b) whether these are aspects of the upland facility in the immediate vicinity of the regulated activity which affects the location and configuration of the regulated activity; (c) the extent to which the entire project will be within the COE jurisdiction; and (d) the extent of cumulative Federal control and responsibility.” A DA permit is required for work associated with the stabilization around Fort Massachusetts and the required channel dredging associated with the work. Obtaining DA authorization for this work is needed for the overall project. But for issuance of the required DA permit, the project could not be constructed at this site. Because of the determination by the COE that waters of the U.S. exist onsite, and the proposed action would be subject to Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, the project could not proceed without a DA permit.

(2) Determined Scope: The regulated activity has been determined to be the 5 acres in and around the northern extent to be the footprint of the 3,200 foot long dike moving southward to the existing northern shore of Deer Island.

b. National Historic Preservation Act (NHPA) and Appendix C Also, in accordance with 33 CFR Part 325 Appendix C and supplemental guidance for the “Permit Area”

(1) Tests: “Activities outside the waters are or are not included because all of the following test are or are not satisfied: (a) Such activity would or would not occur but for the authorization of the work or structures within the waters of the U.S.; (b) such activity is or is not integrally related to work or structures to be authorized within waters of the U.S. (or, conversely, the work or structures to be authorized must be essential to the completeness of the overall project or program); and (c) such activity is or is not associated (first order impact) with the work or structures to be authorized.”

(2) Determined Scope: Having considered the development footprint and the jurisdictional areas as determined by the COE in accordance with the permit area test, the regulated activity has been determined to be the 5 acres in and around the northern extent to be the footprint of the 3,200 foot long dike moving southward to the existing northern shore of Deer Island.

c. Endangered Species Act “Action Area”:

(1) Action Area: Action area means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.

(2) Determined Scope: The 5 acres in and around the northern extent to be the footprint of the 3,200 foot long dike moving southward to the existing northern shore of Deer Island.

Scope of Analysis Summary: Because of the project proposed impacts to waters of the U.S in accordance with Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, the evaluation of the project in accordance with Section 106 of the NHPA permit area test, and the action area regulated by Section 7 of the ESA; therefore there is sufficient Federal control to extend the scope of analysis for the public interest review to include the 5 acres in and around the northern extent to be the footprint of the 3,200 foot long dike moving southward to the existing northern shore of Deer Island.

7. Federal, State, and Other Authorizations Obtained or Required Pending:

a. State 401 water quality certification (401): The Mississippi Department of Environmental Quality (MDEQ) issued 401 water quality certification, dated August 5, 2011 (WQC2011004).

b. Coastal Zone Management (CZM) Consistency Determination: The Mississippi Department of Marine Resources (MDMR) has determined the activity to be consistent to the maximum extent practicable with the Mississippi Coastal Program in letter dated April 21, 2011 (DMR-090302).

c. Mississippi Department of Archives and History (MDAH): The proposed project was reviewed by the MDAH State Historical Preservation Office (SHPO) in accordance with responsibilities under Section 106 of the NHPA and 36 CFR, Part 800 (MDAH Project Log #02-022-11). In a letter dated May 3, 2011, MDAH stated that they had attended a site visit (April 5, 2011) with George Ramseur to address concerns regarding an archeological site located near the proposed project. They stated that the project will not impact the known archeological site and will most likely protect the archeological site from further erosion. The COE Archeologist was provided the project information and MDAH’s written correspondence. The COE Archeologist stated that he concurs with MDAH’s recommendation that the permitted activity should not impact cultural resources listed on or eligible for listing on the National Register of Historic Places.

8. Application and Public Notice History: The COE received the initial application on February 4, 2011. The permit application was determined to be complete following a request for additional information on February 22, 2011. The proposed project was advertised by a 30 day public notice SAM-2011-00129-KMN, dated February 28, 2011.

9. Alternatives [33 CFR 320.4(b)(4), 40 CFR 230.10]: No discharge shall be permitted if there

is a practicable alternative which would have less adverse impact on the aquatic ecosystem. If an activity associated with a discharge which is proposed for a special aquatic site does not require access or proximity to, or sitting within the special aquatic site in question to fulfill its basic purpose (i.e., is not water-dependent), practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise.

“Water dependency” is determined on the basis of the basic project purpose. As discussed in Section 5 above, this proposed marsh restoration is “water dependent”. When the EA confirms that the impact of the applicant's proposal is not significant and there are no “unresolved conflicts concerning alternative uses of available resources * * *” (section 102(2)(E) of NEPA), and the proposed activity is a “water dependent” activity as defined in 40 CFR 230.10(a)(3), the EA need not include a discussion on alternatives (33CFR325 Appendix B, Section 7.0(a)).

Steps taken to avoid and minimize impacts are as follows:

a. Avoidance and use of other sites : The stated purpose of the project is to provide marsh restoration to a 5 acre portion of Deer Island. Placement of fill material in any other location would not meet this stated purpose and need. This is a project specific location and no other location alternatives exist. Avoidance would be in the form of “no action” or denial of the DA permit. To do so would allow the continued erosion along a 3,200 linear foot area located along a northeastern portion of the shoreline. Continued erosion could result in the continued degradation of the beach ecosystem and possible lack of suitable fish and wildlife habitats which could adversely impact numerous federally protected species. Loss of the Island system also reduces its function as a wave break and storm surge buffer for the mainland.

b. Impacts Associated with Project as Proposed: The work to be performed would restore the marsh system adjacent to and north of the shoreline to what was found at the site prior to 2004. The proposed project site is currently open-water habitat. Project construction would convert an open-water habitat to a marsh habitat which would be surrounded by upland areas. Material to construct the containment dike would be dredged from the area located between the proposed dike and the existing shoreline. Material to construct the Chenier and marsh systems would be obtained from approved dredge sites.

c. Minimization of impacts: 40 CFR part 230.10 (d) states that “no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem .” The work would be performed using Best Management Practices and would be conditioned in such a manner as to provide for a decrease in impacts to waters of the U.S. or other aquatic resources. The recommended conditions are reasonably enforceable and would afford appropriate and practicable environmental protection. Also, it appears that the applicant has taken all practicable steps to minimize the impacts associated with the proposed work. Therefore, the COE has determined that the proposed project demonstrates meaningful avoidance and minimization of impacts to aquatic resources.

10. Environmental Impact of the Proposed Action and Public Interest Review (33 CFR

320.4(a - s)

a. Public Interest Review: A public notice was issued for this project to seek public comment relative to the following factors concerning this proposal: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership, and in general, the needs and welfare of the people. A summary of the comments received and COE response is presented in Section 13 of this document. Full consideration has been given to all comments, including those of federal, state, and local agencies, and other experts on matters within their own expertise.

b. Wetland/Stream Impacts: The proposed activity will not impact wetlands, streams, or submerged aquatic vegetation. Construction of the site and restoration of marsh habitat through mound construction should contribute to the establishment of submerged aquatic vegetation at the site. Construction using mound technology should also allow lower elevations in between the mounds maintaining tidal flow throughout the project footprint during and after placement.

c. Fish and wildlife concerns:

Construction activities could impact non-mobile bottom dwelling organisms. More mobile organisms such as fish, shrimp, and crabs should be able to avoid the fill area and the excavation area and should return to the site after marsh and shallow water habitat is created. The excavation may have short-term negative effects on the Essential Fish Habitat (EFH) for commonly occurring federally managed species, including but not limited to brown shrimp, white shrimp, pink shrimp, and red drum; however, once the excavation is complete this area should recover. The benthic organisms should repopulate the area after excavation and studies indicate that this repopulation occurs within 6 weeks. Based on recent information in the area of the Mississippi Sound, the National Marine Fisheries Service, Protected Resources Division (NMFS-PRD) evaluated the project impacts on Gulf sturgeon, and sea turtles (leatherback, Kemp's ridley, hawksbill, green, and loggerhead). NMFS-PRD analyzed the routes of potential effects from the proposed project and determined that listed sea turtles and Gulf Sturgeon are not likely to be adversely affected. Effects on sea turtles and Gulf sturgeon include the risk of injury from construction activities, which should be discountable due to the specie's mobility and the implementation of NMFS' Sea Turtle and Small tooth Sawfish Construction Conditions.

It is anticipated that any shore and wading birds such as herons, gulls, and skimmers may be attracted to the excavation area, where they may feed on small benthic organisms that may be suspended during the excavation operations. These birds may also feed on benthic organisms in the excavated material. There will be some minor impacts to Critical Habitat for the Piping Plover, however, the Piping Plover, like the other shore and wading birds, will simply relocate to another area of the beach until the work is complete. The U. S. Fish and Wildlife Service (USFWS) evaluated the projects impacts on the Piping Plover and other shore and wading birds. USFWS stated that care should be taken to avoid impacts to nesting shore birds within proximity of any planned work. They recommended having the area where the containment dike will meet the existing shore line surveyed for shorebird nesting sites just prior to construction.

Fish and other aquatic species could possibly be affected by short term impacts during the construction phase of the proposed project. Construction activities could impact water quality; however, implementation and proper maintenance of effective BMPs during construction would help to reduce potential impacts from these activities. Adherence to the special conditions containing the state water quality certification, USFWS request to avoid impacting shore bird nesting habitat, and NMFS request to follow their Sea Turtle and Small tooth Sawfish Construction Conditions, should ensure the project as proposed does not have a significant impact on fish and wildlife.

d. Water quality: The project has been fully coordinated with MDEQ concerning potential effects that the proposed work may have on water quality. No significant adverse impacts to water quality are anticipated to result from the proposed work. During construction activities, erosion control and other best management practices will be required to minimize impacts to water quality. MDEQ issued 401 water quality certification indicating that the proposed work, with implementation of the required conditions, will not violate the water quality standards of Mississippi. This certification is considered conclusive in the COE evaluation regarding water quality aspects (33 CFR 320.4(d)) and impacts to water quality should not be significant.

e. Air Quality: The proposed marsh restoration project activities are expected to add equipment exhaust emissions to the project area during construction, but this would not result in any permanent changes to the air quality of the area. The project area is within a National Ambient Air Quality Standards attainment area and therefore a conformity analysis pursuant to Section 176(c) of the Clean Air Act is not required.

f. Historic, cultural, scenic and recreational values: The proposed project was coordinated with the MDAH, Advisory Council on Historic Preservation (ACHP) and Tribal Officers during the public notice dated February 28 2011, and the 30-day comment period. A final determination under Section 106 of the NHPA and COE regulatory requirements is granted given the knowledge and history in conjunction with the approval from the MDAH for the activities associated with the project upon final approval of this document. Impacts to historical and cultural resources as a result of this project should not be significant.

g. Effects on limits of the territorial sea: There should be no effect on the limits of the territorial sea.

h. Consideration of property ownership/shoreline erosion and accretion: The DA permit does not convey any property rights, or any exclusive privileges, and does not authorize any injury to property or obviate the requirements to obtain other local, state, or Federal authorization required by law. The stated purpose of the proposed work is to restore a previously existing marsh habitat.

i. Activities affecting coastal zones: The MDMR has determined the activity to be consistent to the maximum extent practicable with the Mississippi Coastal Program in letter dated April 12, 2011 (DMR-090302).

j. Activities in marine sanctuaries: The proposed project does not affect marine sanctuaries.

k. Other Federal, State or local requirements: Issuance of a DA permit does not obviate the permittee from other necessary Federal, State or local requirements. The applicant is responsible for contacting the community's designated responsible officials to obtain necessary permits and to ensure all floodplain ordinances and safety precautions in effect for this area are met.

l. Safety of impoundment structures: No impoundment is associated within this proposed project.

m. Floodplain management: The project is located in a flood hazard zone. The proposed project does not contain buildings or structures. The proposed project is the restoration of marsh and upland systems along an Island located in the Mississippi Sound.

n. Water supply and conservation: There should be no or minimal effect on water supply and conservation.

o. Energy conservation and development: Not applicable

p. Navigation: The project will not impact any federal navigational channels. The public notice was provided to the U.S. Coast Guard (USCG) and COE Navigation Division. No concerns regarding navigation were brought forth from either of these agencies. The applicant would be required to notify the USCG 60 days prior to project construction in order that they can alert maritime traffic to the pending work at the Island.

q. Environmental benefits: The direct environmental benefits associated with this project relate to the use of dredged material for marsh restoration. The proposed work would provide stability and protection for Deer Island. Indirect long-term environmental benefits associated with the proposed work include the restoration marsh habitat and the species it supports.

r. Economics: The proposed project is expected to create construction jobs for the local area.

s. Noise / Traffic: The project location is an island located in the Mississippi Sound, south of the City of Biloxi. Noise levels in the vicinity would be temporarily increased by construction equipment in the area. These increases would be short term and the overall noise level would return to normal following construction. No long term adverse impacts are anticipated.

t. Mitigation: Compensatory mitigation is not required for the proposed work.

11. Cumulative and Secondary Impacts:

a. Cumulative Impacts: Cumulative impacts are defined as the “impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR 1508.7). Consideration must be given to the changes in the aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material that may be associated with this action. This section discusses the reasonably foreseeable cumulative impacts to the aquatic environment that will likely occur due to other projects directly related to the proposed dredging and marsh restoration.

The project as proposed is not expected to have significant cumulative adverse impacts on the aquatic ecosystem. Future projects requesting use of this project site for disposal of dredged material would be required to obtain a DA permit for placement of the material into the project site. Prior to placement, the dredged material would be tested using protocol approved by the MDMR and MDEQ. Testing results would be used to determine the suitability of the material by MDMR and MDEQ.

If the applicant adheres to the proposed Best Management Practices (BMP) plan and required compliance with the MDEQ certification, impacts should result in insignificant declines in water quality and altered hydrology. The potential adverse environmental impacts associated with the proposed action are minor. In general, the proposed marsh restoration operations would have no significant adverse cumulative effects.

Based on the above discussion of the minor impacts, which would result from the implementation of the proposed project, and due to the lack of long term adverse impacts, it is our belief that no significant cumulative impacts as a result of the marsh restoration activities and the dredging activities would occur.

b. Secondary Effects to the aquatic ecosystem: Secondary effects to the aquatic ecosystem are those effects that are associated with, but do not directly result from the actual placement of the fill material. The potential secondary effects to the aquatic ecosystem caused by the regulated activities are not expected to be significant. These relate primarily to potential changes in water quality and aquatic habitat fragmentation and disturbance. Erosion and sediment control features and on-site mitigation measures would be used to minimize these impacts. These impacts have been further addressed in Section 11 above. Additionally, the MDEQ also issued Clean Water Act Section 401 water quality certification, stating that the proposed work, with implementation of the required conditions, would not violate the water quality standards of Mississippi.

c. Secondary Effects to the human environment: The proposed project would have minimal negative impact on the human environment. The work would create some employment opportunities for construction related employees. The marsh restoration activities along a portion of Deer Island should enhance the human environment by improving fisheries habitat and improving storm surge protection for the mainland. The secondary impacts of the proposed project have been determined to be minor and should not have a significant impact on the human environment.

12. Public Notice Comments, Responses, and COE Analysis of Comments and Responses:

The project was advertised by a 30-day public notice dated February 28 2010. Responses and agency coordination resulting from this notice are summarized as follows:

a. EPA: No comments received.

b. United States Fish and Wildlife Service (FWS): In an phone conversation with Paul Niecase of FWS on August 15, 2011, Mr. Niecase stated that FWS has no objection to the issuance the permit as outlined in the public notice. However, care should be taken to avoid impacts to nesting shore birds within proximity of any planned work. He recommended having the area where the containment dike will meet the existing shore line surveyed for shorebird nesting sites just prior to construction.

COE RECOMMENDATION AND CONCLUSION: The COE concurs with FWS request for survey of shorebird nesting sites and will incorporate the request as a condition of the permit.

c. National Marine Fisheries Service (NMFS) Habitat Conservation Division (NMFS-HCD): In a letter dated March 23, 2011, NMFS-HCD requested the applicant compile a plan to address construction methods, marsh establishment procedures, hydrology, performance standards, monitoring, management, maintenance, and a time table that would assure project success. In a letter dated April 20, 2011, the applicant provided a response to NMFS-HCD addressing the above listed concerns. In an e-mail dated April 28, 2011, NMFS-HCD stated that all of their concerns had not been addressed. A site visit was held with NMFS-HDC on June 7, 2011, and a follow up meeting on June 8, 2011, to discuss issues regarding the proposed project. In a letter dated June, 24, 2011, the applicant provided additional information to NMFS-HDC regarding proposed measures to maintain tidal flow through the site. Discussions also included how long-term renourishment plans would assist in providing additional sediment into the littoral system and assist in stabilizing the original core of the island, while providing ephemeral marsh and coastal habitat. In an e-mail dated August 4, 2011, NMFS-HCD stated that while they have concerns regarding the proposed project, which include issues regarding stabilization of the dredged material at the site, they recognize that this will be MDMR's first of many beneficial use projects of this nature, and with the lessons learned from the COE 204 site, has no further objections to permit issuance. In a phone conversation on August 11, 2011, NMFS-HCD requested to have the permit conditioned, requiring the applicant to provided regular monitoring reports to the Mississippi Beneficial Use Team, for discussion and lessons learned for management of the DIMR2 site and future Beneficial Use sites.

COE RECOMMENDATION AND CONCLUSION: The COE concurs with NMFS request for monitoring reports during the life of the permit and will incorporate the request as a condition of the permit.

d. NMFS-PRD: In an e-mail dated March 22, 2011, NMFS-PRD requested additional information regarding the proposed project. In a letter dated April 20, 2011, the applicant provided a response to NMFS-PRD addressing their questions and concerns. In a letter dated August 3, 2011, NMFS-PRD provided an Informal Consultation Letter (F/SER31:RGH) containing

mandatory terms and conditions to implement reasonable and prudent measures to be associated with the proposed project. NMFS-PRD analyzed the routes of potential effects from the proposed project and determined that listed sea turtles and Gulf Sturgeon are not likely to be adversely affected. Effect on sea turtles and Gulf sturgeon include the risk of injury from construction activities, which should be discountable due to the specie's mobility and the implementation of NMFS' Sea Turtle and Small tooth Sawfish Construction Conditions. The consultation also addressed potential for takes of an endangered species, in particular the Gulf sturgeon, and sea turtles (leatherback, Kemp's ridley, hawksbill, green, and loggerhead). Taking of a species by action of the proposed project would not be allowed and if a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action reinitiation of consultation with NMFS-PRD must take place.

COE RECOMMENDATION AND CONCLUSION: The COE concurs with NMFS-PRD request for notification and reinitiation of takes and for adherence with supplied conditions and reasonable and prudent measures and will incorporate the request as a condition of the permit.

e. United State Coast Guard (USCG): No comments received.

COE RECOMMENDATION AND CONCLUSION: The permit will be conditioned to require notification of the USCG 60 days prior to initiation of construction of the containment dike in order that proper notice to the maritime community.

f. MDAH: On April 5, 2011, MDAH and MDMR employees held a site visit to review the proposed project in relation to a known archeological site. In a letter dated May 3, 2011, (MDAH Project Log #02-022-11) MDAH provided a letter stating that they have determined that the proposed project would not impact the listed site and would most likely protect the listed site from further erosion. In an email dated May 4, 2011, COE Archeologist concurred with MDAH findings and stated the project should not impact cultural resources listed on or eligible for listing on the National Register of Historic Places.

COE RECOMMENDATION AND CONCLUSION: The COE has determined that the Section 106 process of the NHPA coordination and consultation has been met. There should be no impacts to any cultural resources as a result of the project.

g. MDEQ: The MDEQ issued a Water Quality Certification on August 5, 2011 (WQC No. WQC2011004).

COE RECOMMENDATION AND CONCLUSION: All terms and conditions of the WQC shall become part of COE permit conditions. No further coordination is needed.

h. Mississippi Secretary of State's Office: The MSOS stated that public trust status and ownership would not be affected by the project, and that in fact inclusion of this site, which is currently open waters, within Coastal Preserves would enhance its conservation status.

COE RECOMMENDATION AND CONCLUSION: No further coordination is required.

i. MDMR: The MDMR reviewed the project and issued a Federal Consistency statement and a permit under the provisions of the Mississippi Coastal Wetlands Protection Law (DMR-090302) by letter dated April 21, 2011.

COE RECOMMENDATION AND CONCLUSION: No further coordination is required.

j. Mississippi Department of Wildlife Fisheries and Parks (MDWFP): The MDWFP responded to the public notice by letter dated March 17, 2011. The MDWFP stated that as long as proper best management practices (BMP's) were implemented, there should be no impact to any known state listed species.

COE RECOMMENDATION AND CONCLUSION: No further coordination is required.

13. Public Hearing: Federal Guidelines at 33 CFR 327.4 state that a public hearing will be held whenever the hearing will assist in making a decision on such application. In response to the public notice on this project, no requests for a public hearing were received. In accordance with the general policies of 33 CFR 327.4, the need for a public hearing has been evaluated in order to complete the public interest review and reach a decision upon the application. This Guideline states a public hearing will be held whenever the hearing will assist in making a decision on such application. It has been concluded a public hearing would not provide any additional information which would assist in making a final decision in this request for a permit. Therefore, a public hearing will not be required for this project.

14. Consideration of Special Acts or Executive Orders (EO) Not Already Addressed:

a. Environment:

1. Section 176(c) of the Clean Air Act General Conformity Rule Review: The project site is located within a National Ambient Air Quality Standards attainment area and therefore does not require a conformity analysis pursuant to Section 176(c) of the Clean Air Act.

2. Executive Order (EO) 11900 - Protection of Wetlands (1977): The purpose of this Executive Order is to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. The evaluation of the proposed project, taking into account economic, environmental and other pertinent factors, indicate that (1) there is no practicable alternative to the proposed project, and that (2) the proposed action includes all practicable measures to minimize harm to wetlands, therefore this action is in compliance with that order.

3. EO 13158 - Marine Protected Areas (2000): The purpose of this EO is to help protect the significant natural and cultural resources within the marine environment for the benefit of

present and future generations by strengthening and expanding the Nation's system of marine protected areas. The project as proposed will have a direct impact on the marine environment. The project will provide additional marsh habitat to the marine environment improving fisheries habitat and reducing erosion at the site. The project will also assist in adding protection for an existing cultural resources site.

4. EO 12898 - Environmental Justice: This EO directs each federal agency to "...make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States." A review of the project indicates that there should be no significant adverse impact on the environment or human health conditions of the region and that there would be no disproportionate adverse impacts on minority or low-income populations.

5. EO 13045 - Protection of Children: This EO requires that "consistent with the agency's mission, each Federal agency: (1) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (2) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." This EO defines "environmental health risks and safety risks" to mean risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest (such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to. The project as currently proposed should not cause any environmental health risks or safety risks that would disproportionately affect children and is therefore in compliance with the Executive Order.

6. EO 11988 - Floodplain Management: In accordance with the EO and 33 CFR 320.4(l) floodplains pose significant natural values and carry out numerous functions important to the public interest. These include water resource values, living resource values, cultural resources values and cultivated resource values. In accordance with Executive Order 11988, the COE should avoid authorizing floodplain development whenever practicable alternatives exist outside the floodplain. If there are no such practicable alternatives, the COE shall consider, as a means of mitigation, alternatives within the floodplain which will lessen any significant adverse impact to the floodplain. The project does not include development to be located in a floodplain. The project includes restoration of a marsh system in the floodplain. Additional information can be found in Sections 8, 10, 11, and 13 of this document. This project as proposed will not affect any floodplains and is considered consistent with the EO.

7. EO 13112 - Invasive Species: This EO requires federal agencies to "prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause." There were no invasive species involved. The evaluation above included invasive species concerns in the analysis of impacts at the project site and associated compensatory mitigation project. If needed and through the use of special conditions, the permittee would be required to control the introduction and spread of toxic species. The project has been properly coordinated with both the federal and state

regulating agencies as noted above. This project as proposed should not cause an introduction of invasive species into the surrounding ecosystem and is considered consistent with the EO.

8. EO 13212 and 13302 - Energy Supply and Availability: This EO requires “for energy-related projects, agencies will expedite their review of permits or take other actions as necessary to accelerate the completion of such projects, while maintaining safety, public health, and environmental protections.” The project is not identified as an energy related project and is not one that is considered to increase the production, transmission, or conservation of energy, or strengthen pipeline safety. All energy related projects evaluated by the COE are expedited and/or other actions are taken to the extent permitted by law and regulation to accelerate completion of energy related (including pipeline safety) projects while maintaining safety, public health, and environmental protections. The project as proposed is considered consistent with the EO.

b. Other

1. EO 13175 - Consultation and Coordination with the Tribal Indian Governments: The purpose of this Executive Order is to coordinate new construction with Indian Tribal Governments. This proposed work has been fully coordinated with Tribal Officials during the initial public notice. No Tribal Officials commented on the project. Additional information can be found in Sections 8 and 13. In the event, if any items falling under Native American Graves and Repatriation Act (NAGPRA) are discovered during construction, the appropriate measures will be implemented as per the requirements of the federal and state regulations.

15. Evaluation of the 404(b)(1) Guidelines: The following relates only to the direct impacts associated with the placement of fill material into waters of the U.S.

a. Factual determinations:

(1) Physical substrate: The proposed project will not change the physical substrate at the subject site. The material dredged from approved sites would be similar in composition to the material lost from Deer Island due to erosion.

(2) Water circulation, fluctuation, and salinity: Flow patterns and circulation are not likely to be changed in the Mississippi Sound, and the proposed project is not considered to have significant effect on the drainage patterns or flow regimes outside the project area.

(3) Suspended particulate/turbidity: Turbidity levels in waters near the fill site are expected to rise during the construction phase. These impacts will be temporary and minimized by the use of BMPs.

(4) Contaminant availability: All material used as fill in waters of the U.S. will be clean and free of contaminants, so there should be no effect.

(5) Aquatic ecosystem effects: Aquatic functions will be lost in the areas filled. However, rapid re-colonization is expected to occur to offset the adverse effect to overall aquatic ecosystem.

(6) Proposed disposal site: All dredged material would be placed as fill material for the proposed work.

(7) Cumulative effects: No action would occur that would require mitigation. Cumulative effects of the proposed activity should be of a positive nature to the effected environment.

(8) Secondary effects: No negative secondary effects to the aquatic environment are anticipated as a result of the fill placement.

b. Restrictions on discharges:

(1) Alternatives (See Section 10):

(a) The activity is located in a special aquatic site.

(b) The activity does need to be located in a special aquatic site to fulfill its basic purpose.

(c) All practicable alternatives have been reviewed in Section 10 above. It has been adequately demonstrated that the practicable alternative with the fewest impacts on the aquatic ecosystem (least damaging alternative) is proposed.

(d) The least damaging alternative has no other significant environmental effects.

(2) Other program requirements:

(a) The proposed activity does not violate applicable state water quality standards or Section 307 prohibitions or effluent standards.

(b) The proposed activity does not jeopardize the continued existence of federally listed threatened or endangered species, nor affect their critical habitat.

(c) The proposed activity does not violate the requirements of a federally designated marine sanctuary.

(3) The activity will not cause or contribute to significant degradation of waters of the United States, including adverse effects on human health, life stages of aquatic organisms, ecosystem diversity, productivity and stability, or recreational, aesthetic, and economic values.

(4) Minimization of adverse effects:

(a) Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

(b) Compensatory Mitigation (Wetland restoration, enhancement, creation, preservation, etc.): There will be impacts to fringe wetlands from the proposed activity; however, upon project completion fringe wetlands will be established at the project site.

16. Findings of 404(b)(1) Analysis: The proposed disposal site for discharge of dredged or fill materials complies with the Section 404(b)(1) guidelines, subject to the following conditions:

a. The permittee shall comply with all requirements of the Mississippi Department of Environmental Quality 401 Water Quality Certification (WQC2011004) dated August 5, 2011.

b. The permittee shall comply with all requirements of the Mississippi Department of Marine Resources Coastal Zone Consistency Determination (DMR-090302) dated April 21, 2011.

c. Should artifacts or archaeological features be encountered during project activities, all heavy equipment operations within a 35-foot buffer surrounding the potentially significant artifact(s) or the observation shall cease and the U.S. Army Corps of Engineers and the State Historic Preservation Officer shall be consulted immediately. The dredging shall be performed in coordination with MDAH to avoid adversely affecting these newly discovered sites or existing sites.

d. Construction activities shall not infringe upon navigation on the waterway. These activities shall be in compliance with 33 CFR 163, which states in part: "A clear channel shall at all times be left open to permit free and unobstructed navigation by all types of vessels and tows normally using the various waterways."

e. The Mobile District and the U.S. Coast Guard shall be notified before work mobilization so that a "Notice to Mariners" can be issued. The work schedule shall be submitted by telephone to both the Corps of Engineers (Corps) and the U.S. Coast Guard (USCG).

U.S. Army Corps of Engineers Telephone: (251) 690-2570

U.S. Coast Guard, Sector Mobile Telephone: (251) 441-6503

Corps Address: U.S. Army Corps of Engineers, Mobile District, OP-TN, P.O. Box 2288,
Mobile, Alabama 36628

USCG Address: U.S. Coast Guard, Sector Mobile, Attention: Marine Safety Office, Brookley
Complex, Building 102, Mobile, Alabama 36615-1390

f. Best management practices shall be implemented to minimize erosion, siltation and damage to adjacent wetlands and waters of the United States. Appropriate erosion and siltation control

measures must be used and maintained in effective operating condition during construction. All temporary erosion control features shall remain in place until permanent stabilization measures have been completed and have become fully effective.

g. All excavation and fill activities shall be performed in a manner that minimizes disturbance and turbidity increases in "waters of the United States" and wetlands; and shall be retained in a manner to preclude its erosion into any adjacent wetlands or waterway.

h. Project construction shall be conducted in such a manner the passage of normal and expected high flows of surface water runoff outside the project boundaries is not restricted or otherwise altered.

i. The permittee shall comply with the local flood damage ordinance and the regulations of the National Flood Insurance Program. The project cannot cause ponding or flooding on adjacent properties.

j. In the event the permit is transferred, proof of delivery of a copy of the notification of permit transfer must be provided to the Corps.

k. It is the permittee's responsibility to ensure that the contractors working on this project are aware of all general and special permit conditions.

l. The project site shall be monitored during and after construction. An initial site report documenting site conditions (to include photos) should be completed and submitted to this office within 30 days of issuance of the permit and prior to restoration activities. A second site report (to include photos) should be completed and submitted to this office 30 days after initial work at the project site. Annual monitoring reports (to include photos) are to be completed in the fall of each year and submitted to this office no later than January 5th of that following year. Monitoring reports are to include accomplishments, successes, and lessons learned. The monitoring reports shall be provided on a yearly basis for a period of ten years. Copies of all reports should be provided to the Mississippi Beneficial Use Group for review.

m. The permittee shall survey the location where the western most portion of the containment dike would tie into the existing shoreline for shorebird nesting sites, just prior to construction. If shorebird nesting sites are found the permittee shall consult with U.S. Fish and Wildlife Service prior to beginning the planned work at that location to ensure the work will not result in impacts to shorebirds or their habitat.

n. This Department of Army (DA) permit does not authorize you to take an endangered species, in particular the Piping Plover, the Gulf sturgeon, and sea turtles (leatherback, Kemp's ridley, hawksbill, green, and loggerhead). If a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action reinitiation of consultation with NMFS-PRD and/or USFWS must take place.

Therefore, within 24 hours of any of the above mentioned actions taking place you shall notify this office of the event and/or finding. The enclosed (National Marine Fisheries Service) Informal Consultation Letter (August 3, 2011, F/SER31:RGH) contains mandatory terms and conditions to implement reasonable and prudent measures that are associated with your project. **Your authorization under this DA permit is conditional upon your compliance with all of the mandatory terms and conditions associated with the enclosed PSTC Access and Additional Considerations for ESA Section 7 Consultations (Revised 7-15-2009) and Sea turtle and Smalltooth Sawfish Construction Conditions. Lack of compliance with these enclosed conditions would constitute non-compliance with your DA permit. The NMFS is the appropriate authority to determine compliance with the terms and conditions of these requirements.**

o. Prior to use, the dredged material is to be evaluated using protocols approved by the MDMR and the MDEQ. The results of the evaluation are to be used to determine the suitability of the material by the MDMR and the MDEQ. Upon approval by the MDMR and the MDEQ and prior to the start of construction, the permittee shall provide a copy of the authorization to this office.

17: Other Mitigative Actions (i.e. additional items or conditions not considered above): On a case by case basis, additional conditions outside of the General Conditions or the above Special Conditions may apply (i.e. non-typical general or special conditions). At this time, no other conditions or evaluation factors were needed.

18. Public Interest Determination: I find, in accordance with National policy, statutes and administrative directives, when the total adverse effects of the proposal are weighed against the benefits to the general public, issuance of the requested permit would not be contrary to the public interest.

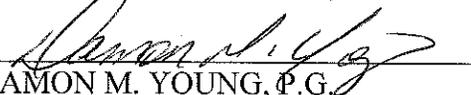
19. CONCLUSION/FINDING OF NO SIGNIFICANT IMPACT (FONSI):

Based on this assessment, consideration of comments presented by other agencies and the public, and after weighing all factors involved, I conclude that this permit action is not a major Federal action significantly affecting the quality of the human environment. Therefore, an Environmental Impact Statement is not required.

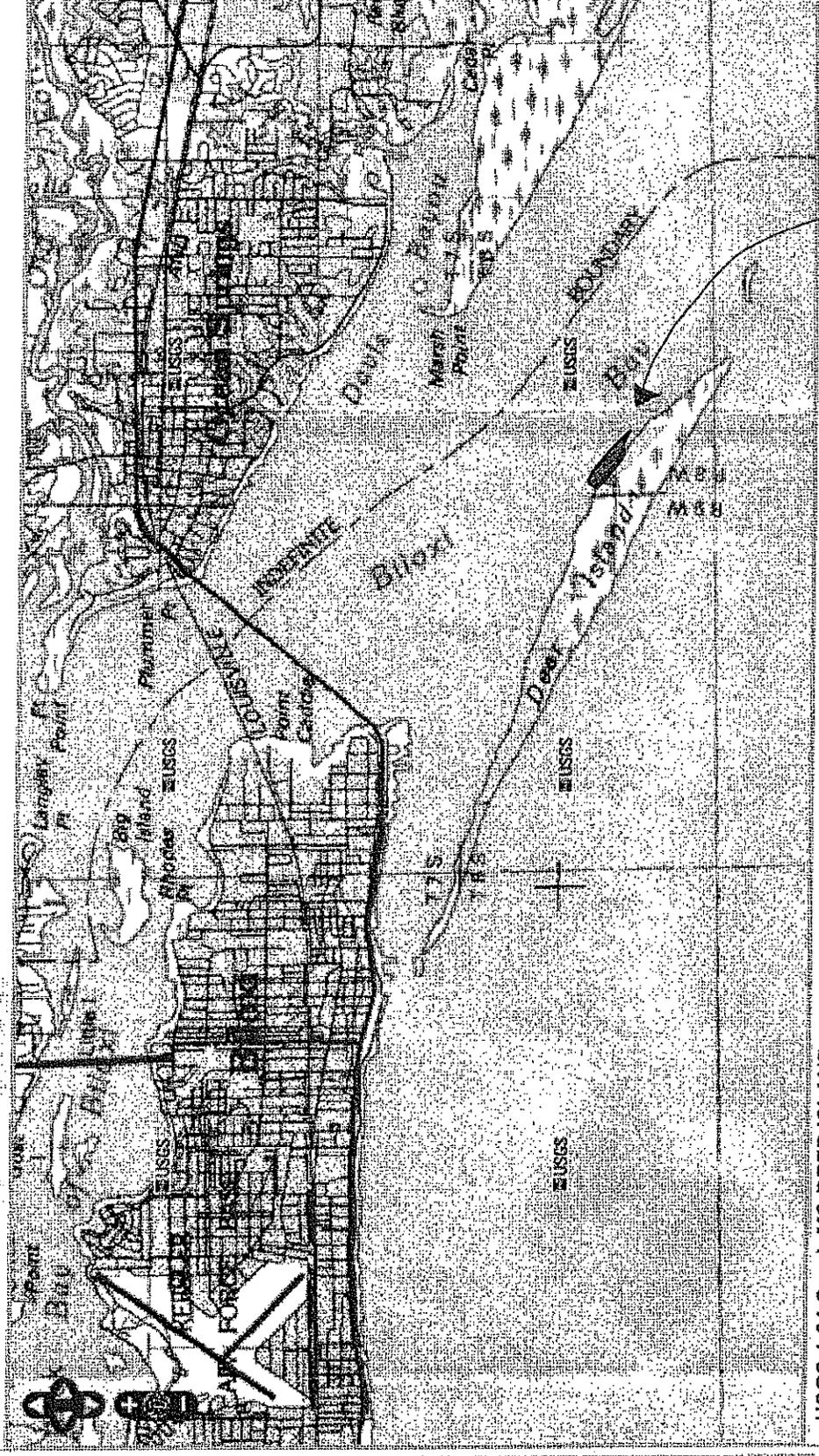
PREPARED BY: 
KAAREN M. NEUMANN
Project Manager, Coastal Mississippi
Regulatory Division

DATE: 8/29/11

STEVEN J. ROEMHILDT, P.E.
Colonel, U.S. Army Corps of Engineers
District Engineer

APPROVED BY: 
DAMON M. YOUNG, P.G.
Team Leader, Coastal Mississippi
Regulatory Division

DATE: 8 Sep 11



USGS 1:24 Quad: MS-DEER ISLAND

SITE

SAM-2011-00129-KMN
 MDMR
 Deer Island BUS Expansion

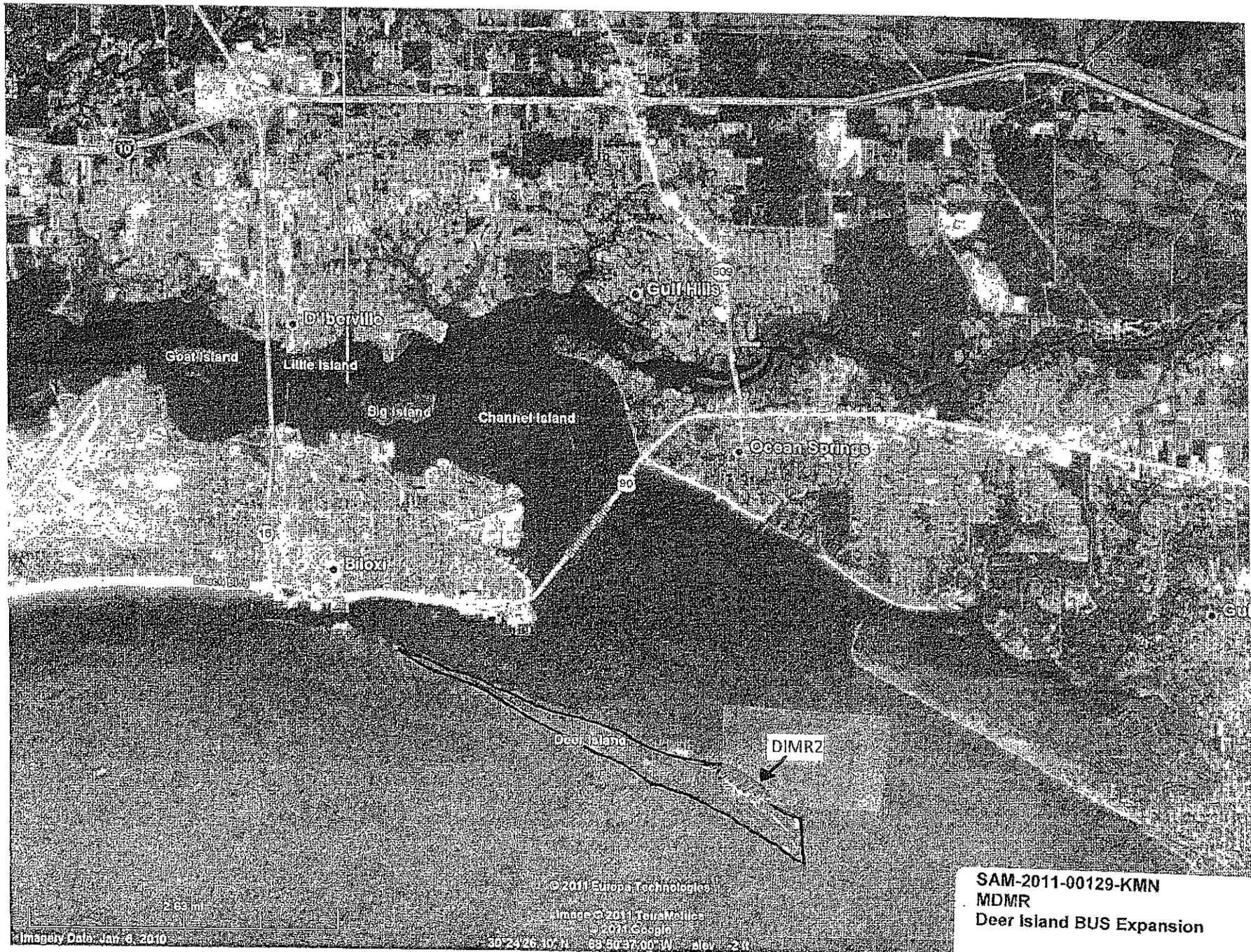
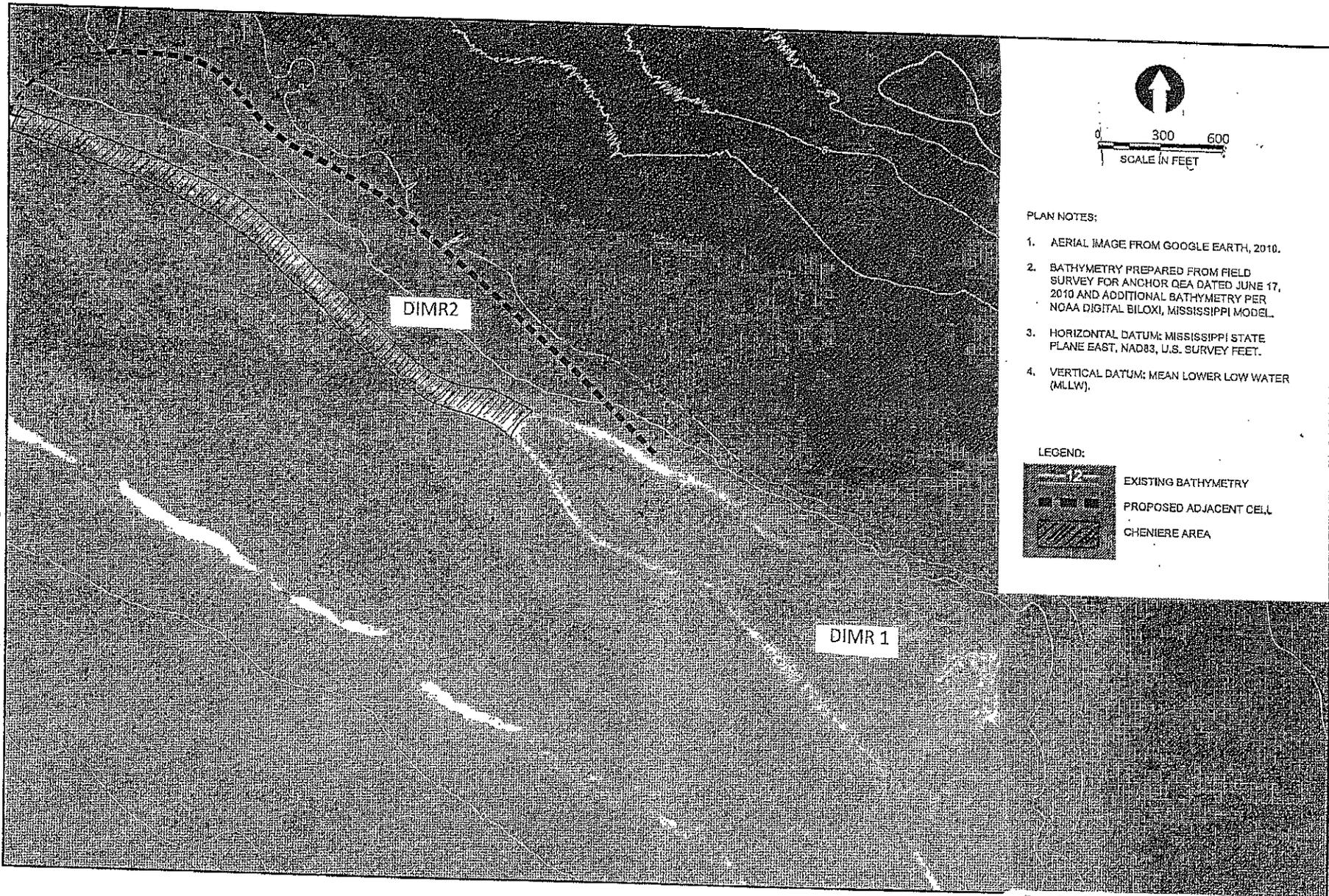


Figure 1a) Broad Scale Project Location from Google Earth

Dec 11, 2010 1:36pm WFFW K:\054\00057-Port of Gulfport\1\0065701\1\0065701_00_00_4.mxd D-5

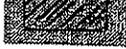


0 300 600
SCALE IN FEET

PLAN NOTES:

1. AERIAL IMAGE FROM GOOGLE EARTH, 2010.
2. BATHYMETRY PREPARED FROM FIELD SURVEY FOR ANCHOR QEA DATED JUNE 17, 2010 AND ADDITIONAL BATHYMETRY PER NOAA DIGITAL BILOXI, MISSISSIPPI MODEL.
3. HORIZONTAL DATUM: MISSISSIPPI STATE PLANE EAST, NAD83, U.S. SURVEY FEET.
4. VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW).

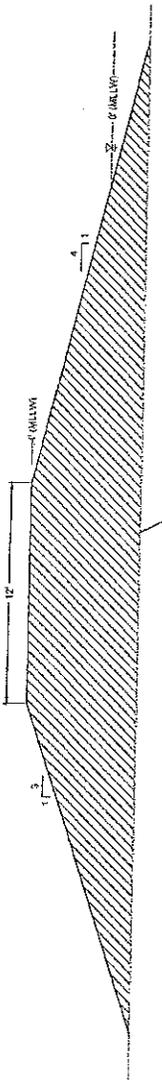
LEGEND:

-  EXISTING BATHYMETRY
-  PROPOSED ADJACENT CELL
-  CHENIERE AREA

SAM-2011-00129-KMN
MDMR
Deer Island BUS Expansion

Figure 2) Aerial View from Google Earth, 2010

| | | |
|--|----------------------------------|--|
|  | | GULFPORT, MS MISSISSIPPI STATE PORT AUTHORITY |
| DREDGE DESIGN FOR 24-ACRE EXPANSION AREA PORT OF GULFPORT RESTORATION PROJECT DETAILS | | TASK ORDER NO. 008 |
| DATE: 08/11/11 DRAWN BY: J. W. BRYAN CHECKED BY: J. W. BRYAN APPROVED BY: J. W. BRYAN | SHEET NO. 10 OF 10 D-6 | DATE: 08/11/11 DRAWN BY: J. W. BRYAN CHECKED BY: J. W. BRYAN APPROVED BY: J. W. BRYAN |



1 TYPICAL DIKE SECTION AT DEER ISLAND BUS SITE

SCALE IN FEET

DRAFT 90% PLANS - NOT FOR CONSTRUCTION
 SAM-2011-00129-KWIN
 MDMR
 Deer Island BUS Expansion



STATE OF MISSISSIPPI
HALEY BARBOUR
GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
TRUDY D. FISHER, EXECUTIVE DIRECTOR

August 5, 2011

Certified Mail No. 7008 0500 0001 7046 7227

Mr. George Ramseur, Jr.
Mississippi Department of Marine Resources
1141 Bayview Avenue
Suite 501
Biloxi, Mississippi 39530

Dear Mr. Ramseur:

Re: Mississippi Department of
Marine Resources, Beneficial
Use Site
Harrison County
COE No. SAM201100129KMN
WQC No. WQC2011004

Pursuant to Section 401 of the Federal Water Pollution Control Act (33 U. S. C. 1251, 1341), the Office of Pollution Control (OPC) issues this Certification, after public notice and opportunity for public hearing to, Mississippi Department of Marine Resources, an applicant for a Federal License or permit to conduct the following activity:

Mississippi Department of Marine Resources, Beneficial Use Site: Proposed creation of a 50 acre site on the northeastern shore of Deer Island as a beneficial use site. The site will be referred to as Deer Island Marsh Restoration Two (DIMR2) and would be located adjacent and immediately to the west side of Deer Island Marsh Restoration One (DIMR1). The proposed project would create approximately 40 acres of salt marsh and approximately 5 acres of a Chenier (upland ridge) along the southern boundary of the site. The applicant proposes to construct a 3200 foot long dike along the proposed northern border of the site which would run parallel to the north shore of Deer Island. Upon completion, the site would be able to contain approximately 400,000 cubic yards of dredged material.

The proposed dike would be mechanically constructed from borrow areas

within the site. It would be raised to an elevation of between +4 to +7 feet, Mean Lower Low Water (MLLW). The area encompassed by the new dike would be located in shallow water, mostly above -2 feet MLLW, currently composed of sandy material. It would be constructed to run parallel to the north shore of Deer Island. The western end of the dike would be constructed to either curve to the southwest and continue for approximately 600 feet to reattach to Deer Island; or end in open water and not rejoin Deer Island. Wave protection at the western end would probably not be required and leaving it open could improve flushing and allow the interior marsh to interact ecologically with the surrounding environment.

The Chenier would be constructed on the current southern portion of Deer Island as suitable materials become available from area dredging projects. The ultimate dimensions of the Chenier would depend upon the availability of materials suitable for construction. The exterior of the dike would be constructed at a 1:5 slope to mimic the natural slope at the existing site. The interior area would be managed by mechanical equipment to ensure elevations are consistent with marsh establishment. The new marsh areas would be allowed to vegetate naturally as the dredged material consolidates to marsh elevations but may also be augmented by plantings as resources become available and specific needs related to habitat or erosional stability are recognized. The Chenier area would receive plantings, particularly of live oaks to help anchor and stabilize the feature as well as provide additional habitat value. [SAM201100129KMN,WQC2011004].

The Office of Pollution Control certifies that the above-described activity will be in compliance with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act and Section 49-17-29 of the Mississippi Code of 1972, if the applicant complies with the following conditions:

1. No sumps shall be created in open waters by proposed placement of dredge spoil material. The water bottom elevations shall gradually decrease to open water.
2. The permittee shall contact the Department for further consultation regarding testing protocols for dredged material obtained from waterways with a completed Total Daily Maximum Load for toxics, phenols, mercury, and PCBs-Dixon; and from waterways listed on the 303(d) list for biological impairment. Further information may be obtained from Greg Jackson, Chief of the Water Quality Modeling Branch.
3. The permittee shall contact the Department for further consultation regarding testing protocols for dredged material obtained from waterways affected by a CERCLA/Uncontrolled Site as identified by the

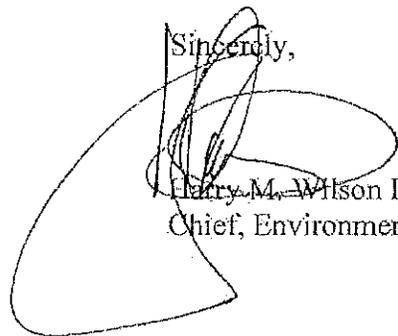
Groundwater Assessment and Remediation Division. Further information may be obtained from Trey Hess, Chief of the Brownfields Branch.

4. Turbidity outside the limits of a 750-foot mixing zone shall not exceed the ambient turbidity by more than 50 Nephelometric Turbidity Units. The turbidity within the beneficial use restoration project areas may reasonably exceed this turbidity standard for temporary periods of time and shall not result in permanent environmental harm.
5. No sewage, oil, refuse, or other pollutants shall be discharged into the watercourse.

The Office of Pollution Control also certifies that there are no limitations under Section 302 nor standards under Sections 306 and 307 of the Federal Water Pollution Control Act which are applicable to the applicant's above-described activity.

This certification is valid for the project as proposed. Any deviations without proper modifications and/or approvals may result in a violation of the 401 Water Quality Certification. If we can be of further assistance, please contact us.

Sincerely,



Henry M. Wilson III, P.E., DEE
Chief, Environmental Permits Division

HMW:fw

- cc: Kaaren M. Neumann, U.S. Army Corps of Engineers, Mobile District
Willa Brantley, Department of Marine Resources
Paul Necaie, U.S. Fish and Wildlife Service
Bill Ainslie, Environmental Protection Agency



STATE OF MISSISSIPPI

Haley Barbour
Governor

MISSISSIPPI DEPARTMENT OF MARINE RESOURCES

William W. Walker, Ph.D., Executive Director

April 21, 2011

Mr. George Ramseur, Jr.
Mississippi Department of Marine Resources
Mississippi Beneficial Use of Dredge Material Program
1141 Bayview Avenue
Biloxi, MS 39530

RE: SAM-2011-00129-KMN; DMR-090302; Permit

Dear Mr. Ramseur:

Please find enclosed the original and one copy of the Permit issued to the MS Department of Marine Resources, MS Beneficial Use of Dredge Material Program by the Mississippi Commission on Marine Resources on April 19, 2011.

Please execute this Permit by signing both documents and returning the copy to the Department of Marine Resources.

The Department of Marine Resources has also coordinated a review of your project through the Coastal Program review procedures and determined that the project referenced above is consistent with the Mississippi Coastal Program, provided that you comply with the noted conditions.

If you have any questions regarding the Permit or this correspondence, please contact Rebekah Ray with the Bureau of Wetlands Permitting at 228-523-4104.

Sincerely,

A handwritten signature in cursive script, appearing to read "William W. Walker".

William W. Walker, Ph.D.
Executive Director

WWW/rrr

Enclosures

cc: Ms. Kaaren Nuemann, USACE
Ms. Florance Watson, OPC
Mr. Raymond Carter, SOS

Permit No.: DMR-090302
Type: Permit
Date: April 21, 2011

WHEREAS, application by: MS Department of Marine Resources, MS Beneficial Use of Dredge Material Program for a Permit under the provisions of Chapter 27, Mississippi Code of 1972, as amended, to perform certain works affecting the coastal wetlands of the State of Mississippi on Deer Island near Biloxi, Mississippi, was approved by said State of Mississippi Commission on Marine Resources on April 19, 2011.

NOW THEREFORE, this Permit authorizes the above named applicant hereinafter called Permittee, to perform such works in adherence to the following conditions contained herein:

1. Approximately 50 acres of water bottoms shall be filled using up to 400,000 cubic yards of beneficially used dredge material as indicated on the attached diagram;
2. A dike 3,200 feet in length and 12 feet in width with an approximate 5:1 slope ending in open water shall be created from on-site borrow material to contain the beneficially used dredge material as indicated on the attached diagram;
3. A dike 600 feet in length and 12 feet in width with an approximate 5:1 slope and rejoining Deer Island may be created depending on the need to protect the containment area against wave action as indicated on the attached diagram;
4. Approximately 50 acres of tidal salt marsh and associated Chenier habitat shall be created by natural regeneration and plantings of appropriate marsh or wetland species as required and as indicated on the attached diagram;
5. A variance to Chapter VIII, Section 2, Part III.O.1., is hereby granted;
6. Best Management Practices shall be used as needed during construction based upon visual observations of significant volumes of high turbidity leaving the project area by MDMR or partner Beneficial Use Group personnel;
7. Vegetated wetlands shall not be impacted; and,
8. No construction debris or unauthorized fill material shall be allowed to enter coastal wetlands or waters.

This authorization is contingent on clearance from the Mississippi Department of Archives and History (MDAH), Water Quality Certification from the Mississippi Department of Environmental Quality (DEQ) and the Permittee shall maintain all water quality standards, regulations, and restrictions as set forth by the DEQ.

Any deviations beyond the restrictive conditions as set forth in your permit shall be considered a violation and may result in the revocation of the permit. Violations of these conditions may be subject to fines, project modifications and/or site restoration. Both the permittee and the contractor may be held liable for conducting unauthorized work. A modification to these conditions may be requested by submitting a written request along

with a revised project diagram to DMR. Proposed modifications to dimensions, project footprint, and/or procedures must be approved in writing prior to commencement of work.

Issuance of this certification by DMR and acceptance by the applicant does not release the applicant from other legal requirements including but not limited to other applicable federal, state or local laws, ordinances, zoning codes or other regulations.

This certification conveys no title to land and water, does not constitute authority for reclamation of coastal wetlands and does not authorize invasion of private property or rights in property.

Please notify this Department upon completion of the permitted project so that compliance checks may be conducted by DMR staff.

This certification shall become effective upon acceptance by the applicant and receipt of the executed copy by the Director.

Please execute this certification by signing both documents and returning the copy to the Department of Marine Resources.

Work authorized by this certification must be completed on or before April 21, 2021.

Enclosed is a "Notice of Compliance" which must be conspicuously displayed at the site during construction of the permitted work.

The Department of Marine Resources has also coordinated a review of your project through the Coastal Program review procedures and determined that the project referenced above is consistent with the Mississippi Coastal Program, provided that you comply with the noted conditions and reviewing coastal program agencies do not disagree with said plans. By copy of this certification, we are notifying the U.S. Army Corps of Engineers of this determination.

THE PERMITTEE BY ACCEPTANCE OF THIS PERMIT AGREES TO ABIDE BY THE STIPULATIONS AND CONDITIONS CONTAINED HEREIN AND AS DESCRIBED BY THE PLANS AND SPECIFICATIONS SUBMITTED AS PART OF THE COMPLETED APPLICATION.

STATE OF MISSISSIPPI
DEPARTMENT OF MARINE RESOURCES

BY: William W. Walker, Ph.D.
Executive Director

Accepted this the _____ day of _____, 20 _____.

BY: _____

MISSISSIPPI



Department of Marine Resources

NOTICE OF COMPLIANCE
DMR- 090302 PERMIT
THIS NOTICE ACKNOWLEDGES THAT:

DATE: April 21, 2011

George Ramseur, Jr.
MS Department of Marine Resources
MS Beneficial Use of Dredge Material Program
1141 Bayview Avenue
Biloxi, MS 39530

HAS, THROUGH APPLICATION TO THIS DEPARTMENT, DULY COMPLIED WITH THE MISSISSIPPI COASTAL WETLANDS PROTECTION LAW TO:

1. Approximately 50 acres of water bottoms shall be filled using up to 400,000 cubic yards of beneficially used dredge material as indicated on the attached diagram;
2. A dike 3,200 feet in length and 12 feet in width with an approximate 5:1 slope ending in open water shall be created from on-site borrow material to contain the beneficially used dredge material as indicated on the attached diagram;
3. A dike 600 feet in length and 12 feet in width with an approximate 5:1 slope and rejoining Deer Island may be created depending on the need to protect the containment area against wave action as indicated on the attached diagram;
4. Approximately 50 acres of tidal salt marsh and associated Chenier habitat shall be created by natural regeneration and plantings of appropriate marsh or wetland species as required and as indicated on the attached diagram;
5. A variance to Chapter VIII, Section 2, Part III.O.1., is hereby granted;
6. Best Management Practices shall be used as needed during construction based upon visual observations of significant volumes of high turbidity leaving the project area by MDMR or partner Beneficial Use Group personnel;
7. Vegetated wetlands shall not be impacted; and,
8. No construction debris or unauthorized fill material shall be allowed to enter coastal wetlands or waters.

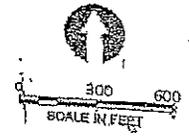
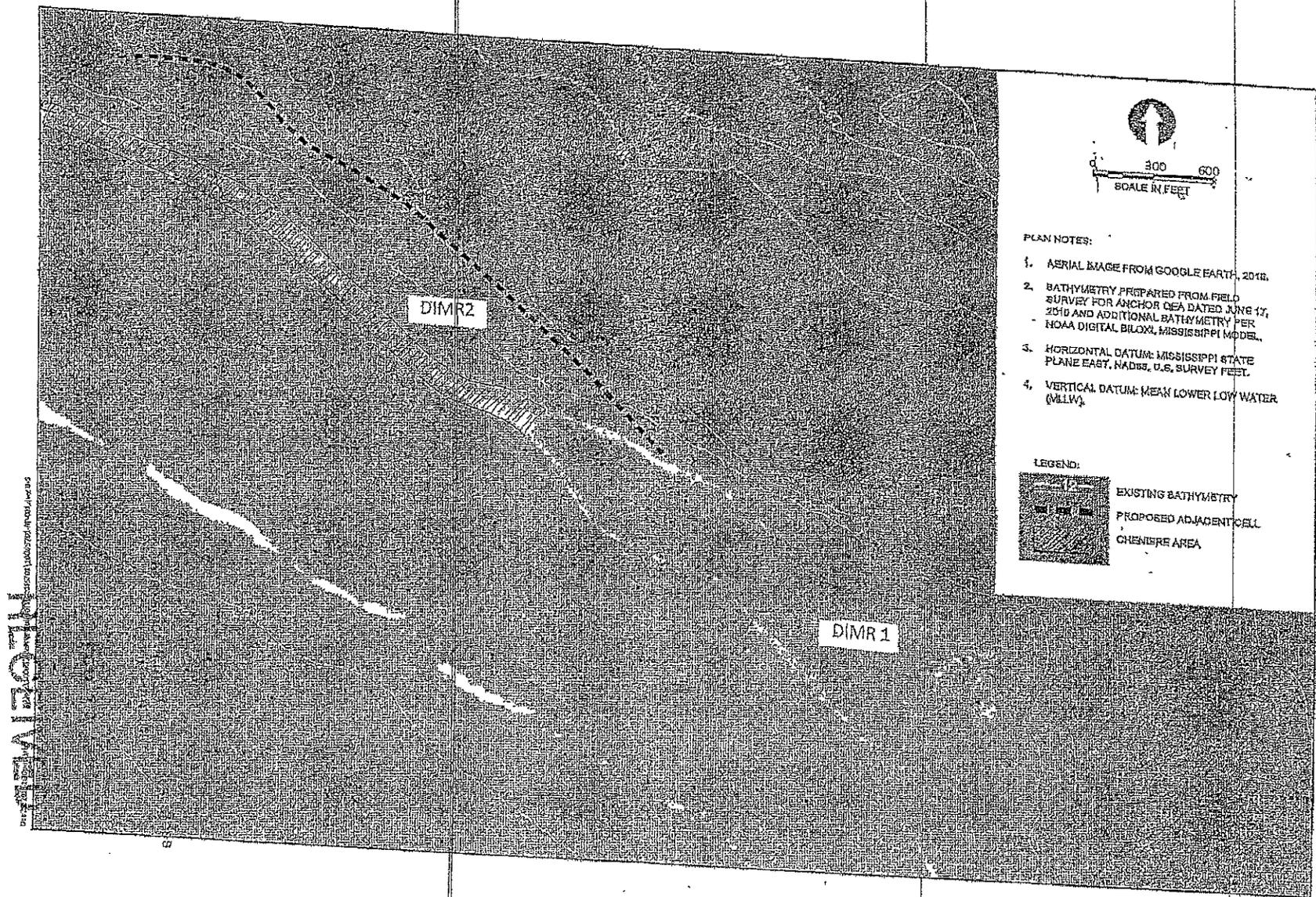
On Deer Island near Biloxi, Harrison County, Mississippi.

No construction debris or unauthorized fill material shall be allowed to enter coastal wetlands or waters.

FURTHERMORE, THIS PROJECT AS PROPOSED HAS BEEN FOUND TO BE CONSISTENT WITH ALL GUIDELINES FOR CONDUCT OF REGULATED ACTIVITIES IN COASTAL WETLANDS AS SET FORTH IN THE MISSISSIPPI COASTAL PROGRAM.


Executive Director

POST THIS NOTICE CONSPICUOUSLY AT SITE OF WORK



PLAN NOTES:

1. AERIAL IMAGE FROM GOOGLE EARTH, 2010.
2. BATHYMETRY PREPARED FROM FIELD SURVEY FOR ANCHOR O&A DATED JUNE 17, 2010 AND ADDITIONAL BATHYMETRY PER NOAA DIGITAL BLOX, MISSISSIPPI MODEL.
3. HORIZONTAL DATUM: MISSISSIPPI STATE PLANE EAST, NAD83, U.S. SURVEY FEET.
4. VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW).

LEGEND:

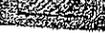
-  EXISTING BATHYMETRY
-  PROPOSED ADJACENT CELL
-  CHENIERE AREA

Figure 2) Aerial View from Google Earth, 2010

RECEIVED
 10/10/2010 10:00:00 AM



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701-5505
(727) 824-5312, FAX (727) 824-5309
<http://sero.nmfs.noaa.gov>

AUG 03 2011

F/SER31:RGH

Ms. Kaaren M. Neumann
Coastal Branch, Regulatory Division
Mobile District Corps of Engineers
P.O. Box 2288
Mobile, AL 36628-0001

Re: SAM-2011-129-KMN

Dear Ms. Neumann:

This replies to your March 2, 2011, letter requesting National Marine Fisheries Service (NMFS) concurrence with your project-effect determinations pursuant to Section 7 of the Endangered Species Act (ESA) for the referenced Army Corps of Engineers (COE) Mobile District's construction permit application by the Mississippi Department of Marine Resources (MDMR). The applicant, MDMR, is proposing to create a 50-acre Beneficial Use Site on the northeastern shore of Deer Island. NMFS Protected Resources Division (PRD) requested additional information from the COE via e-mail on March 22, 2011, and a response was received on April 21, 2011. Additional concerns were discussed by Mark Thompson of NMFS Habitat Conservation Division via e-mail on April 28, 2011, and a response was received on June 27, 2011. You determined the project may affect but is not likely to adversely affect Gulf sturgeon, and may affect but is not likely to adversely affect Gulf sturgeon critical habitat. NMFS' determinations regarding the effects of the proposed action are based on the description of the action in this informal consultation. You are reminded that any changes to the proposed action may negate the findings of the present consultation and may require reinitiation of consultation with NMFS.

The proposed project is located at latitude 30.370089°N and 88.828603°W (North American Datum 1983) within the Mississippi Sound, adjacent to Deer Island, Biloxi, Harrison County, Mississippi, within ESA-designated critical habitat Unit 8 for Gulf sturgeon. The project is known as the Deer Island Marsh Restoration Two (DIMR2), which will be adjacent and immediately west of the Deer Island Marsh Restoration One (DIMR1). The proposed project would create approximately 40 acres of salt marsh and approximately 5 acres of upland ridge (Chenier) along the southern boundary of the site. The applicant proposes to construct a 3,200 foot long dike that will create the project site's northern border and will parallel the north shore of Deer Island. The proposed dike will not enclose the "containment area" on the western end of the project area, essentially allowing the containment area to naturally flush. The dike will be mechanically constructed by excavator or dragline to an elevation of 4 to 7 feet above Mean Low Lower Water (MLLW) from a borrow area located between the dike footprint and the Deer



Island shoreline. Estimates provided by the applicant note that the borrow area conceptually could average 3,200 feet long by 75 feet wide by 10 foot deep in order to generate enough material to construct the dike. In contrast, the majority of the project site within the area contained by the dike is between 0 to -2 feet below MLLW. Upon completion, the project site will be able to contain approximately 400,000 cubic yards of dredged material provided by the State of Mississippi's Beneficial Use (BU) program. The goal of the BU program is to develop projects capable of accepting material from multiple sources over the life of the 10-year permit. The effects of the dredged material to be placed in this containment area from the BU program have been considered in this consultation; however, the dredge projects donating the material will need to be consulted on separately. Material slated to be placed within the containment dike will be accomplished via shallow-draft transport barges and hydraulically placed using high-solids "sludge" pumps to minimize turbidity and consolidation time. Surveys of the project over the past 5 years during all seasons have not detected seagrass beds. A recent benthic survey conducted on April 19, 2011, by Dr. Richard Heard of the Gulf Coast Research Lab confirmed a benthic community lacking in variety of species and significant numbers, and conditions generally unsuitable for seagrass colonization due to wave energy and salinity. Due to the fact that the fill material is generally sand, turbidity curtains will not be utilized during construction activities, as the sand is expected to drop out of the water column quickly. The applicant will comply with NMFS' *Sea Turtle and Smalltooth Sawfish Construction Conditions*, dated March 23, 2006. Upon completion of the permitting and contracting process, the proposed project will take 30-45 days to construct the containment dike and an additional 90-120 days to place the material from the primary contributing BU dredge project.

Five ESA-listed species of sea turtles (the endangered leatherback, Kemp's ridley, and hawksbill; the threatened/endangered¹ green; and the threatened loggerhead) and Gulf sturgeon may occur at the project sites. The proposed project is located within ESA-designated Gulf sturgeon critical habitat Unit 8, Lake Pontchartrain - Mississippi Sound.

NMFS has analyzed the routes of potential effects from the proposed project and determined that listed sea turtles and Gulf sturgeon are not likely to be adversely affected. Effects on sea turtles and Gulf sturgeon include the risk of injury from construction activities, which will be discountable due to the species' mobility and the implementation of NMFS' *Sea Turtle and Smalltooth Sawfish Construction Conditions*. These species may be affected by being temporarily unable to use the site for forage or refuge habitat due to potential avoidance of construction activities (e.g., dredging and filling) and related noise but these effects will be insignificant, given the size of the area impacted. The effects on Gulf sturgeon due to loss of foraging habitat will be insignificant. Due to the shallow water depths along the proposed project site (less than 2 m), this portion of the project area provides poor foraging habitat for sturgeon and this fact has been confirmed by the benthic survey on April 19, 2011. Gulf sturgeon are suction feeders, using their relatively narrow mouths to funnel water and prey items. Because of their feeding morphology, they are usually found at slightly deeper depths (greater than 2 m) where there is lower wave energy at substrate level, which interferes less with feeding, compared to the shallower swash zone located at the project site.²⁻³

¹ Green turtles are listed as threatened, except for breeding populations in Florida and the Pacific coast of Mexico, which are listed as endangered.

² Fox, D.A., J.E. Hightower, and F.M. Parauka. 2002. Estuarine and nearshore marine habitat use by Gulf sturgeon from Choctawhatchee River system, Florida. *American Fisheries Society Symposium* 28: 111-126.

Critical Habitat

NMFS believes the project is not likely to adversely affect Gulf sturgeon critical habitat in Unit 8. NMFS and the U.S. Fish and Wildlife Service jointly designated Gulf sturgeon critical habitat on April 18, 2003 (50 CFR 226.214). The features essential for the conservation of Gulf sturgeon present in Unit 8 include: abundant prey items; water quality and sediment quality necessary for normal behavior, growth, and viability of all life stages; and safe and unobstructed migratory pathways necessary for passage within and between riverine, estuarine, and marine habitats. Of these essential features, NMFS believes water quality, sediment quality, prey abundance, and safe and unobstructed migratory pathways may be affected. Water quality impacts from project activities will be discountable because increases in turbidity will be temporary, and sediments will settle out quickly due to the high sand content. Sediment quality impacts from project activities will be insignificant due to the similarity of dredged material with adjacent sediment. Potential effects to adjacent sediment quality will be temporary and subside quickly upon completion of the dredging. Prey availability to Gulf sturgeon at the project site will be affected by removal of species and exclusion of prey during dredging of approximately 90,000 cubic yards of substrate to create the dike. Over the life of the proposed project area, approximately 400,000 cubic yards will affect bottom sediments during the placement of dredged material. However, results from the April 19, 2011, survey by Gulf Coast Research Lab confirmed that the benthic community, at the proposed project site lacked species variety and significant numbers, thus effects to Gulf sturgeon prey (such as amphipods, lancelets, polychaetes, gastropods, ghost shrimp, isopods, mollusks, and crustaceans) will be limited due to the poor habitat and sparse prey availability. Project activities will permanently change the habitat use from open water to emergent estuarine/beach/upland ridge habitat, however, the scope of this dredging project will have a limited impact on prey availability and will be insignificant compared to the total area of the critical habitat unit of 881,230 total acres in Unit 8. Gulf sturgeon migrate upriver annually to spawn from late March onward into the summer months and need clear access from marine/estuarine environs to their river spawning sites and for their subsequent return trip in September/October. There is some seasonal variation within these migratory months due to seasonal variations between years in both marine and river water temperatures and other abiotic factors,⁴ thereby making it necessary to ensure protection for migratory pathways over a range of months. Consistent with the Gulf Sturgeon Recovery Plan,⁵ individual management of Gulf sturgeon stocks must ensure unobstructed migratory access to natal rivers during spawning season, since there is a strong correlation between individual sturgeon stocks and their natal river spawning sites.⁶⁻⁷ Dredging and fill activities within the action area will be limited to the shallow littoral shelf of Deer Island and will not obstruct migratory access to natal rivers and therefore will be discountable.

³ Ross, S.T., B.R. Krieser, W.T. Slack, M.A. Dugo, R.J. Heise, B.R. Bowen, and P. Mickle. 2004. Movement, spawning sites, habitat use, and genetic structure of Gulf sturgeon (*Acipenser oxyrinchus desotoi*) in Pascagoula drainage, Mississippi. Report to the U.S. Fish and Wildlife Service (Year VII). 109 pp.

⁴ Fox, D.A., J.E. Hightower, and F.M. Parauka. 2000. Gulf sturgeon spawning migration and habitat in the Choctawhatchee River system, Alabama-Florida. *American Fisheries Society* 129:811-826.

⁵ U.S. Fish and Wildlife Service and Gulf States Marine Fisheries Commission. 1995. Gulf Sturgeon Recovery Plan. Atlanta, Georgia. 170 pp.

⁶ Stabile, J., J.R. Walman, F. Parauka, and I. Wirgin. 1996. Stock structure and homing fidelity in Gulf of Mexico sturgeon (*Acipenser oxyrinchus desotoi*) based on Restriction Fragment Length Polymorphism and sequence analyses of mitochondrial DNA

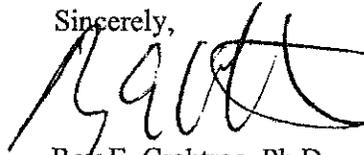
⁷ Dugo, M.A., B. R. Kreiser, S.T. Ross, W.T. Slack, R.J. Heise, and B.R. Bowen. 2004. Conservation and management implications of fine-scale genetic structure of Gulf sturgeon in the Pascagoula River, Mississippi. *J. Appl. Ichthyol.* 20:243-251.

This concludes your ESA consultation responsibilities with NMFS for the proposed project. Be advised that the consultation must be reinitiated if a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action.

We have enclosed additional information on other statutory requirements that may apply to this action, as well as information on NMFS' Public Consultation Tracking System (PCTS) that allows you to track the status of ESA consultations. We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat.

If you have any questions on this consultation or PCTS, please contact Ryan Hendren, ESA Consultant, at (727) 551-5610, or by e-mail at Ryan.Hendren@noaa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Crabtree', written over the word 'Sincerely,'.

Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosures (2)

File: 1514-22. F.4
Ref: I/SER/2011/00699

**PCTS Access and Additional Considerations for ESA Section 7 Consultations
(Revised 7-15-2009)**

Public Consultation Tracking System (PCTS) Guidance: PCTS is an online query system at <https://pcts.nmfs.noaa.gov/> that allows federal agencies and U.S. Army Corps of Engineers' (COE) permit applicants and their consultants to ascertain the status of NMFS' Endangered Species Act (ESA) and Essential Fish Habitat (EFH) consultations, conducted pursuant to ESA section 7, and Magnuson-Stevens Fishery Conservation and Management Act's (MSA) sections 305(b)2 and 305(b)4, respectively. Federal agencies are required to enter an agency-specific username and password to query the Federal Agency Site. The COE "Permit Site" (no password needed) allows COE permit applicants and consultants to check on the current status of Clean Water Act section 404 permit actions for which NMFS has conducted, or is in the process of conducting, an ESA or EFH consultation with the COE.

For COE-permitted projects, click on "Enter Corps Permit Site." From the "Choose Agency Subdivision (Required)" list, pick the appropriate COE district. At "Enter Agency Permit Number" type in the COE district identifier, hyphen, year, hyphen, number. The COE is in the processing of converting its permit application database to PCTS-compatible "ORM." An example permit number is: SAJ-2005-000001234-IPS-1. For the Jacksonville District, which has already converted to ORM, permit application numbers should be entered as SAJ (hyphen), followed by 4-digit year (hyphen), followed by permit application numeric identifier with no preceding zeros. For example: SAJ-2005-123; SAJ-2005-1234; SAJ-2005-12345.

For inquiries regarding applications processed by COE districts that have not yet made the conversion to ORM (e.g., Mobile District), enter the 9-digit numeric identifier, or convert the existing COE-assigned application number to 9 numeric digits by deleting all letters, hyphens, and commas; converting the year to 4-digit format (e.g., -04 to 2004); and adding additional zeros in front of the numeric identifier to make a total of 9 numeric digits. For example: AL05-982-F converts to 200500982; MS05-04401-A converts to 200504401. PCTS questions should be directed to Eric Hawk at Eric.Hawk@noaa.gov. Requests for username and password should be directed to PCTS.Usersupport@noaa.gov.

EFH Recommendations: In addition to its protected species/critical habitat consultation requirements with NMFS' Protected Resources Division pursuant to section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NMFS' Habitat Conservation Division (HCD) pursuant to the MSA requirements for EFH consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-.930, subpart K). The action agency should also ensure that the applicant understands the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will (and the applicant may) receive separate consultation correspondence on NMFS letterhead from HCD regarding their concerns and/or finalizing EFH consultation.

Marine Mammal Protection Act (MMPA) Recommendations: The ESA section 7 process does not authorize incidental takes of listed or non-listed marine mammals. If such takes may occur an incidental take authorization under MMPA section 101 (a)(5) is necessary. Please contact NMFS' Permits, Conservation, and Education Division at (301) 713-2322 for more information regarding MMPA permitting procedures.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006



FINDING OF NO SIGNIFICANT IMPACT

PROPOSED PLACEMENT OF SANDY DREDGED MATERIAL FROM BWT SUNFLOWER DISPOSAL AREA IN CLARKE COUNTY, ALABAMA TO DEER ISLAND MARSH RESTORATION II PROJECT, HARRISON COUNTY, BILOXI, MISSISSIPPI

A. DESCRIPTION OF THE PROPOSED ACTION

The proposed action involves removal, transport, and placement of sand from the Black Warrior and Tombigbee (BWT) Waterway Sunflower Disposal Area (DA) to the Deer Island Marsh Restoration II (DIMR II) beneficial use site to serve as a containment structure for dredged material which will be pumped into the structure to create tidal marsh habitat. The proposed modification would provide an excellent sand source for the beneficial use project and would create additional space for future dredged material at the 60-acre DA. The cumulative impacts of the overall project are considered to be beneficial to the local ecosystems of both areas. More detailed information concerning this project is presented and evaluated in the attached Environmental Assessment (EA).

B. ALTERNATIVES TO THE PROPOSED ACTION

Two alternatives were considered for this project. These alternatives are:

1. No Action. Continuing to use on-site material for the creation of containment features at DIMR II.
2. Proposed Action. Use of sandy dredged material from the Sunflower DA to build the DIMR II containment features.

Alternative 1: NEPA defines a "no action" as the continuation of existing condition in the affected environment without the implementation, or in the absence of the proposed action. Inclusion of the "no action" alternative is analyzed under the guidelines laid out by the Council on Environmental Quality (CEQ). The "no action" alternative would use the existing material at the DIMR II site to construct the beneficial use site containment features. This native material is much more silty and fine grained than the Sunflower DA material. It has a tendency to erode rather quickly during a rain, wind or storm event. The containment berms will not last as long as ones made out of the Sunflower material and may have to be reconstructed on a more frequent basis. Depending upon the local environmental conditions, the Sunflower material should last long enough for the marsh to establish itself and provide a solid/stable substrate for vegetation growth. It is believed that greater negative economic and environmental impacts will result from this no action alternative.

Alternative 2: The selected alternative of using the sandy dredged material from the Sunflower DA would add an environmentally acceptable alternative for building the DIMR II containment features. The material is much more suitable for containment berm construction than the native material. Most likely, the material would be removed

using a conventional conveyor belt system from several centralized locations within the Sunflower site where the suitable material is stockpiled to hopper barges located on the river bank. The barge would then transport the sand 158 miles down the existing Federal navigation channels to the DIMR II beneficial use site. The coarse sandy containment berms should last much longer than the ones created out of the more fine grained native material. It is believed that greater positive economic and environmental impacts will result from this proposed alternative due to less maintenance costs and more suitable material.

C. POTENTIAL ENVIRONMENTAL IMPACTS

The environmental impacts associated with the proposed action are fully described in the attached EA. The EA identifies the environmental characteristics that may possibly be affected by the proposed action, and determines the significance of the impact to each of these characteristics. The EA concludes that the proposed sand removal, transport and placement activities for the BWT Sunflower DA sand would not have an adverse impact on the existing environment.

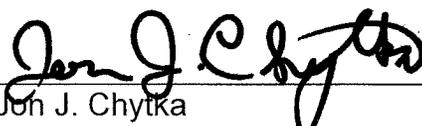
D. COORDINATION

The proposed construction activities for the DIMR II project have been coordinated through Public Notice No. SAM-2011-001-KNM dated February 22, 2011. The notice was provided to interested public and local, state, and Federal agencies for a 30 day review. The Mississippi Department and of Marine Resources and U.S. Army Corps of Engineers have both issued permits for this project. Additional details of coordination are provided in the attached EA for this project modification and will be available for public review.

E. FINDING OF NO SIGNIFICANT IMPACT (FONSI)

A careful review of the attached EA shows that the proposed Sunflower DA sand removal, transport and placement project for the DIMR II beneficial use site would not have a significant adverse impact on the natural and human environment. The requirements of the National Environmental Policy Act and the CEQ regulation have been satisfied and the preparation of an Environmental Impact Statement is not necessary.

DATE 25 SEP 15


Jon J. Chytka
Colonel, Corps of Engineers
District Commander

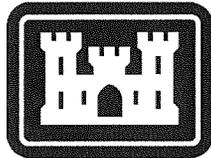
**DEER ISLAND MARSH RESTORATION II
BENEFICIAL USE SITE**

**ENVIRONMENTAL ASSESSMENT,
SECTION 404(b)(1) EVALUATION,
AND
FINDINGS OF NO SIGNIFICANT IMPACTS
HARRISON COUNTY, BILOXI, MISSISSIPPI**



Prepared by

**U.S. Army Corps of Engineers, Mobile District
Planning and Environmental Division
Environment and Resources Branch
Coastal Environment Team**



22 September 2015

**ENVIRONMENTAL ASSESSMENT
FOR THE
DEER ISLAND MARSH RESTORATION II
BENEFICIAL USE SITE
HARRISON COUNTY, BILOXI, MISSISSIPPI**

TABLE OF CONTENTS

| | |
|--|------|
| 1.0 INTRODUCTION | EA-1 |
| 1.1 Purpose and Need for the Proposed Action | EA-1 |
| 1.2 Location and Description of Area | EA-2 |
| 2.0 AUTHORIZED PROJECT AND EXISTING PROJECT | EA-2 |
| 3.0 NATIONAL ENVIRONMENTAL POLICY ACT CONSIDERATION | EA-3 |
| 4.0 DESCRIPTION OF THE PROPOSED PROJECT | EA-3 |
| 5.0 ALTERNATIVES TO THE PROPOSED PROJECT | EA-3 |
| 5.1 No Action Alternative | EA-3 |
| 5.2 Proposed Action – Use of Sunflower DA Dredged Material..... | EA-4 |
| 6.0 AFFECTED ENVIRONMENT | EA-4 |
| 6.1 Soils..... | EA-4 |
| 6.2 Biological Resources | EA-5 |
| 6.3 Essential Fish Habitat (EFH) | EA-5 |
| 6.4 Cultural Resources..... | EA-5 |
| 6.5 Water Quality..... | EA-5 |
| 6.6 Threatened and Endangered Species..... | EA-5 |
| 6.7 Noise | EA-6 |
| 7.0 ENVIRONMENTAL IMPACTS | EA-6 |
| 7.1 Soils..... | EA-6 |
| 7.2 Biological Resources | EA-6 |
| 7.3 Essential Fish Habitat Assessment..... | EA-7 |
| 7.4 Cultural Resources | EA-7 |
| 7.5 Water Quality..... | EA-7 |
| 7.6 Threatened and Endangered Species..... | EA-7 |
| 7.7 Noise | EA-7 |
| 8.0 CUMULATIVE EFFECTS | EA-8 |
| 9.0 COORDINATION | EA-8 |

| | |
|---|-------------|
| 10.0 CONCLUSION | EA-8 |
| 11.0 LIST OF PREPARERS | EA-8 |
| 12.0 LIST OF AGENCIES, INTERESTED GROUPS & PUBLIC CONSULTED..... | EA-9 |
| 13.0 REFERENCES..... | EA-9 |
| APPENDIX A – Section 404(b)(1) Evaluation Report..... | A-1 |

List of Figures

Figure 1 – Vicinity Map of Project Area

Figure 2 – Location Map of Sunflower Disposal Area

Figure 3 – Aerial View of Sunflower Disposal Area

Figure 4 – DIMR II Location Map

Figure 5 – DIMR II Beneficial Use Area where containment structure is needed

List of Enclosures

Enclosure 1 – Summary of Sediment Sample Results for the Sunflower Disposal Area

**ENVIRONMENTAL ASSESSMENT
FOR THE
DEER ISLAND MARSH RESTORATION II BENEFICIAL USE SITE
HARRISON COUNTY, BILOXI, MISSISSIPPI**

1.0 INTRODUCTION

The purpose of this document is to tie off of the existing U.S. Army Corps of Engineers (USACE) Environmental Assessment (EA), Finding of No Significant Impact (FONSI), and Section 404(b)(1) Evaluation for the Deer Island Marsh Restoration II (DIMR II) Beneficial Use Site dated September 8, 2011. As a RESTORE Act project proposal, this DIMR II EA is being supplemented to add a proposed borrow area known as the Sunflower disposal area (DA) for use at Deer Island. Sunflower is an active USACE DA located along the Tombigbee River in Alabama that contains suitable sandy sediments which can be used as containment dike material for the DIMR II beneficial use site which is located in Biloxi, Mississippi. See **Figures 1- 5** for a location of the Sunflower DA and DIMR II site.

This supplement was prepared in accordance with Engineer Regulation (ER) 200-2-2, *Procedures for Implementing the National Environmental Policy Act (NEPA)* and the Council on Environmental Quality (CEQ) *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 Code of Federal Regulations (CFR) Pts. 1500-1508). The purpose of this supplement is to determine if 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 objective of this EA is to determine the environmental impacts of removing and transporting the stockpiled sandy sediments located at Sunflower and using the sediments to construct the marsh containment structure for the DIMR II beneficial use site. Many of the impacts associated with the DIMR II beneficial use project were addressed during the permitting process and documented in the Final EA for the DIMR II project. Discussion of those impacts will not be repeated here as to eliminate repetitive discussions of the same issues previously addressed. Only those impacts relating to the proposed project modification will be considered in this EA.

If such impacts are relatively minor, a Finding of No Significant Impact (FONSI) will be issued and the Corps, Mobile District may proceed with the action. If the environmental impacts are significant according to CEQ's criteria (40 CFR Pt. 1508.27), an Environmental Impact Statement (EIS) or a supplement to the existing Final EIS would be prepared before a decision is reached to implement the proposed action.

1.1 Purpose and Need for the Proposed Action. The purpose of this project is to facilitate the restoration of coastal marsh habitat along a portion of the northeastern shoreline of Deer Island and to beneficially use dredged sediments to construct the

marsh. There is a great need to restore and construct additional marsh along the coast of Mississippi to replace the thousands of acres lost over the last 100 years. The proposal would remove dredged material from this upland site and transport it to Deer Island where it can be utilized for beneficial purposes. The proposed action would also create space for future dredged material in the 60-acre Sunflower disposal area and provide the DIMR II site with a reliable source of quality sand to rebuild the eroded containment berms.

1.2 Location and Description of Site. The Sunflower DA is located 8.5 miles due south of Jackson, Alabama and at Mile 78 on the left descending bank of the Tombigbee River in Sec. 20, T.5N., R. 2E., Clarke County, Alabama. The site lies approximately 400 feet from the edge of the river, covers approximately 60 acres. The site contains approximately 2 million cubic yards of unclassified dredged material, primarily sand and it is estimated that an additional 100,000 to 150,000 cys are added to the DA each year. See **Figures 1-3** for a location and photo of the site. The area is surrounded by bottomland hardwood forests. The on-site sediments consist primarily of coarse and fine quartz aggregate. Heavy minerals identified in decreasing order of occurrence include, zircon, ilmenite, rutile, kyanite, hematite, tourmaline and garnet. See **Enclosure 1** for a more detailed analysis of the sediment samples taken at that site. The DIMR II beneficial use site is located on the northeast side of Deer Island, Biloxi, Mississippi. The site covers approximately 40 acres and is located in open-water. See **Figures 4 and 5** for a location and photo of the site.

2.0 AUTHORIZED AND EXISTING PROJECT

The existing BWT waterway was authorized for navigation by various River and Harbor Acts from 1884 through 1986. Replacement of obsolete structures was authorized by the 1907 and 1909 River and Harbor Acts. The project was completed to existing channel dimensions (9 feet deep by 200 feet wide from the mouth of the Tombigbee River 45 miles above Mobile Alabama to the vicinity of Birmingham, Alabama) in 1938. Other project purposes include hydroelectric power, public recreation, regulation of stream flow, water quality, fish and wildlife conservation, and fish and wildlife mitigation. The waterway provides a link from the Black Warrior River Basin to the port of Mobile, as well as connecting to other crucial inland waterways on the Ohio and Mississippi Rivers through the Tennessee-Tombigbee Waterway. The need to recycle or reuse dredged material as well as to create additional storage capacity in existing disposal areas was recognized by Congress. The dredged material could be utilized in beneficial ways for local projects. Congress authorized the Corps to study beneficial uses of dredged material in 33 U.S.C. 2326 entitled "Beneficial Uses of Dredged Material" and 33 U.S.C. 2326c entitled "Dredged Material Marketing and Recycling."

Authorization for the DIMR II was provided by Department of Army Permit supported by U.S. Army Corps of Engineers (USACE) Environmental Assessment (EA), Finding of No Significant Impact (FONSI), and Section 404(b)(1) Evaluation for the Deer Island Marsh Restoration II (DIMR II) Beneficial Use Site dated September 8, 2011. Additional

description of authorization for the restoration of Deer Island is included in the June 2009 Mississippi Coastal Improvements Program (MsCIP) Hancock, Harrison, and Jackson Counties, Mississippi Comprehensive Plan and Integrated Programmatic Environmental Impact Statement.

3.0 NATIONAL ENVIRONMENTAL POLICY ACT CONSIDERATION

NEPA and Title 40 of the CFR, Parts 1500-1508 (40 CFR 1500-1508) require Federal agencies to consider the potential environmental consequences of proposed actions and alternatives. 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, impacts associated with this beneficial use project were addressed in Public Notice (PN# SAM-2011-001-KMN published February 22, 2011) and the USACE Regulatory Division EA, FONSI, and Section 404 (b)(1) Evaluation for the DIMR II beneficial use project. The EA and associated documents were coordinated with all applicable Federal, state and local agencies and the interested public. A final EA was prepared to address impacts associated with the construction of the beneficial use site during the permitting process. The final EA and FONSI were signed by the Mobile District Commander on September 8, 2011. Department of the Army Permit SAM-2011-00129-DMY was subsequently issued authorizing the specified work.

4.0 DESCRIPTION OF THE PROPOSED ACTION

The Mobile District proposes to implement a modification to the proposed DIMR II beneficial use project by removing sand from the BWT Sunflower DA, transporting it by barge and then placing it on the DIMR II site to serve as the containment structure in lieu of using onsite materials as currently permitted. The proposed modification would provide an excellent sand source and more durable containment berm for the beneficial use project and would in addition create space for future dredged material placement at the 60-acre upland Sunflower site.

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

5.1 No Action. The No Action alternative is continuing to use onsite material for the creation of the containment features at DIMR II. No effort would be made to utilize the existing sand and gravel located in the Sunflower DA. The DIMR II containment berms would be constructed with the native material already on site. This native material is much more silty and fine grained than the Sunflower DA material. It has a tendency to erode rather quickly during a rain, wind or storm event. The containment berms will not last as long as ones made out of the Sunflower material and may have to be reconstructed on a more frequent basis. Depending upon the local environmental

conditions, the Sunflower material should last long enough for the marsh to establish its self and provide a solid/stable substrate for vegetation growth. It is believed that greater maintenance costs and negative environmental impacts will result from this no action alternative.

5.2 Proposed Action. The selected alternative of using the sandy dredged material from the Sunflower DA would add an environmentally acceptable alternative for building the DIMR II containment cell. The material is much more suitable for containment berm construction than the native material. Most likely, the material would be removed using a conventional conveyor belt system from several centralized locations within the Sunflower site where the suitable material is stockpiled to hopper barges located on the river bank. The barge would then transport the sand 158 miles down the existing federal navigation channels to the DIMR II beneficial use site. The coarse sandy containment berms should last much longer than the ones created out of the more fine grained native material.

6.0 AFFECTED ENVIRONMENT

A detailed discussion of the overall affected environment pertaining to the construction of DIMR II project is contained in the 2011 DIMR II EA. Only the affected environmental components that are considered relevant associated with the use of the Sunflower DA to the proposed action are being addressed here in this report.

6.1 Soils. The sediment contained within the Sunflower DA is predominantly a quartz sand and gravel with much higher concentrations of sand. Currently, approximately 100,000 to 150,000 cys of dredged sediments are placed in this DA annually. In 1995, the U.S. Department of Interior Bureau of Mines did a characterization of the dredged river sediments in 10 upland disposal sites in Alabama including the Sunflower DA. The chemical and physical properties of the dredged material were evaluated to determine the suitability of the material for beneficial use. The DA sediments are considered free of contaminants and suitable for beneficial use. Additional information regarding the DA sediment characteristics can be found in the Bureau of Mines 1995 report titled: Characterization of Dredged River Sediments in 10 Upland Disposal Sites in Alabama. See **Enclosure 1** for a copy of the extracted sediment sample results from this report.

Sand used for beach and island restoration must be similar to native sediment with respect to gradation, angularity, color, percentage of fines, and carbonate content. These properties affect the engineering performance, solar absorption, and aesthetic characteristics of sand along the coast, which ultimately dictate the success of many restoration projects. Several studies including Thompson Engineering (2001,2002), Baehr (2010), and Williams (2011) document that much of the dredged river sand stored adjacent to the BWT in upland placement sites is similar to the native sediment found along the Alabama and Mississippi coast with respect to mineralogy, gradation, angularity, percentage of fine sediments (clays and silts), and carbonate content. However, the characteristic sands in these sites have pale brown color due to the

presence of an iron oxide coating which is an issue for some uses of this sand for use in Gulf beach renourishment. (USACE 2013).

6.2 Biological Resources. Ecological habitats within the surrounding vicinity of the upland DA consists of a lost meander or oxbow of the old river channel on its south and east side. Large bottomland hardwoods boarder most of the property and during high water the surrounding area around the DA can be flooded for several months. The entire site is surrounded by a sand and gravel containment berm. The interior of the site consists mostly of sandy river deposits with minimal vegetation excluding the low drainage area directly in from of the weir box. This low area contains some brush and willow trees that manage to survive in the low ponding areas that serve as the outlet channel for the DA. There are no changes to the affected biological resources at the DIMR II site.

6.3 Essential Fish Habitat (EFH). Since the DA is a contained upland site, there are no impacts on EFH. There is no EFH identified in the vicinity of the barge loading areas along the river. There are no changes to the EFH habitat at the DIMR II site.

6.4 Cultural Resources. To be in compliance with Section 106 of the National Historic Preservation Act of 1966, historical documents were reviewed in reference to cultural resources in the vicinity of the Sunflower DA. A review of the documents revealed that no cultural resources are known to occur in the DA or DIMR II site. No sites listed on the Register are located within the vicinity of the DA or the DIMR II site.

6.5 Water Quality. The State of Alabama's water quality standards would not be significantly affected by this project. Sunflower DA is an old established disposal area with outside slope faces and top of dike vegetated with trees, shrubs and herbaceous vegetation. The sediments from the Sunflower DA would be transported via a conveyor belt to the hopper barges located along the river bank. Best Management Practices will be implemented to control the movement of sand along the conveyor belt to ensure it doesn't fall into any adjacent wetlands or open water. Except for the direct loading of the hopper barge, all construction will be conducted inside the specified DA.

6.6 Threatened and/or Endangered Species. The U.S. Fish & Wildlife Service, Daphne Ecological Services Field Office, Daphne, Alabama lists on its web site (http://ecos.fws.gov/tess_public/reports/species-by-current-range-county?fips=01025) the following Endangered (E), Threatened (T) and Candidate Species (C) for Clarke County, Alabama:

- E – Wood stork *Mycteria americana*
- T – Gulf sturgeon *Acipenser oxyrinchus desotoi*
- E – Alabama sturgeon *Scaphirhynchus suttkusi*
- T – Inflated heelsplitter mussel *Potamilus inflatus*
- E – Southern clubshell *Pleurobema decisum*
- C – Black pine snake *Pituophis melanoleucus lodingi*

There is a very low probability that any of these federally listed species would be found in the vicinity of the DA or around any of the sand removal, loading and transport operations. There are no changes to the T&E species located at the DIMR II site.

6.7 Noise. Noise from the heavy equipment, barges and other job-related equipment is expected to increase during sand removal and transport operations. There is potential short-term disruption of foraging and roosting of local birds. Any impacts would be limited to the duration of the removal activities. Noise levels will resume to prior conditions once the sand removal, transport and loading are complete.

7.0 ENVIRONMENTAL IMPACTS

The impacts resulting from the removal of sandy material from the Sunflower DA and placing in at the DIMR II site would be short-term and localized. There will be dust and minor air quality impacts around the sand removal and loading operations. There could be increased turbidity and increased suspension of bottom sediments along the riverbank in the vicinity of the barges. Additional barge traffic along the river may cause a slight increase in air pollution. At the placement site, turbidity would increase for a short period of time. All reasonable efforts would be made to avoid, minimize, and restore affected natural resources to the extent practicable. It is anticipated implementation of this project would result in less impacts to the surrounding area by using BWT sand vs the more finely grained native sediments.

7.1 Soils. Moving the sandy material from the stockpiles to the barges may result in the temporary increases of suspended sediments within the river in the vicinity of the barges and dust at the sand loading and transport on the conveyor system. However, these conditions will only be temporary. The sandy material within the barge is clean quartz sand and gravel with few impurities. There should be no issues during transport. Placement at the DIMR II site should cause minimal impacts due to the sandy clean nature of the BWT material.

As for color, recent studies have shown that the light brown BWT sand placed in a coastal shoreline environment will turn to a light gray or white within about a year of being exposed to the elements. This was the case referenced in a year-long USACE pilot study that monitored BWT sand placed on the shoreline of Dauphin Island in 2011. In addition, approximately, 2,000 cys of BWT sand was used to construct a temporary berm at the DIMR II site. This light brown sand also faded in color over a period of several months to light grey and blended in with the native sediments. This material has already proven to be every suitable for containment berm construction at the DIMR II site.

7.2 Biological Resources. Moving the sandy material from the DA stockpiles to the barges will have minimal impacts to the biological resources in the vicinity of the project site. Some of the local vegetation may be impacted by dust but most of this will be removed during a windy day or rain event. Biological resources impacts at the DIMR II site will be similar to those addressed in the original EA.

7.3 Essential Fish Habitat (EFH) Assessment. No estuarine emergent wetlands, oyster reefs, or seagrasses would be adversely affected by the proposed action. No long-term direct impacts to managed species of finfish or shellfish populations are anticipated. However, it is remotely possible a barge containing sand could spill some of its contents into the Tombigbee River, Mobile Bay or the Gulf. Since the material is clean sand dredged from the river, there would be minimal impacts to EFH or the environment. At the placement site, there will be no impacts to EFH. Based on the extent of this habitat in the general vicinity of the project and the temporal nature of the impact, the overall impact to fisheries resources is considered negligible and no long-term adverse impacts are anticipated.

7.4 Cultural Resources. The proposed project will not impact any known historic or cultural resources. Previous archeological surveys have been completed in the area and no resources were identified at either site. The Sunflower DA has been in operation since the 1980s and no cultural resources have ever been discovered on this site. There are no cultural resources at the DIMR II site. In summary, the proposed sand removal and placement operations will have no affect on any cultural resources listed on or eligible for the National Register of Historic Places.

7.5 Water Quality. The sand loading operations are expected to create some degree of construction-related turbidity in excess of the natural condition in the proximity of the hopper barges. However, impacts from sediment disturbance during these operations are expected to be temporary, minimal and similar to conditions experienced during past routine operation and maintenance of the channel. No measurable changes in temperature, salinity, PH, hardness, oxygen content or other chemical characteristics are expected with this operation. Minor increases in turbidity within the vicinity of the placement site will occur but will return to normal once the project is completed.

7.6 Threatened and Endangered Species. Although the work site lies within the range of several federally protected species, the USACE, Mobile District anticipates that the threatened and endangered species listed for Clarke County are not likely to be in the project area. Also, because of the limited nature of the work, the proposed removal of sand and gravel from Sunflower DA would have no impact on any listed or proposed threatened or endangered species or their critical habitat. There will be no impacts to T&E species at the DIMR II placement site.

7.7 Noise. Noise from heavy equipment, conveyor system and other associated support equipment would be evident in the project area. While this noise would be evident to those workers on the job, it would be short-term and insignificant. Also, the DA is located in a remote area so it will not impact the public. Normal noise levels would be achieved at the end of each workday and after completion of the job. No long-term increase in noise would occur in or around the proposed sediment removal operations or placement areas.

8.0 CUMULATIVE EFFECTS SUMMARY

Cumulative effects 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, regardless of what agency (Federal or non-federal) or person undertakes such other actions. This project should only have positive impacts on cumulative effects. Excess sand will be removed from the DA freeing up more disposal space and eliminating the need to expand the disposal site. Also, an additional 40 acres of coastal marsh is being created at the DIMR II site where open-water and eroded island shoreline currently exists. This project is a great benefit to the local environment.

9.0 COORDINATION. The general public has been notified of the proposed DIMR II project via a 30 day public notice. This tiered EA will be available for public review and serve as a companion document to the DIMR II EA, FONSI and 404 (B)(1) Evaluation that was completed in September 2011.

10.0 CONCLUSION. Removing the sandy dredged sediments from the Sunflower DA and using them to build the DIMR II Beneficial Use project containment cells would have no significant environmental impacts to the existing environment any greater than was addressed in the 2011 DIMR II EA. In addition, the use of coarse grained quartz sands in lieu of the typical fine grained in situ comments will provide for a more stable and long-lived containment feature and additional sandy habitat along the Deer Island shoreline. No mitigation actions are required for the proposed project. Removal of sand from the Sunflower DA is a significant environmental benefit because it also creates additional capacity at the existing DA, which may delay or eliminate future expansion of the DA into sensitive floodplain habitats. In conclusion, implementation of the proposed action would have minimal adverse impact on the quality of the environment and an environmental impact statement is not required.

Findings of this EA and Section 404 (b)(1) Evaluation determined that no significant impacts would occur as a result of the proposed project.

11.0 LIST OF PREPARERS

Michael F. Malsom
Biologist
USACE Mobile District
P.O. Box 2288
Mobile, Alabama 36628-0001
(251) 690-2023

12.0 LIST OF AGENCIES AND OTHERS CONTACTED REGARDING THE ACTION.

Alabama Department of Environmental Management
Mississippi Department of Marine Resources

13.0 REFERENCES....

U.S. Army Corps of Engineers, Mobile District 1987. Final Supplement to the Final Environmental Impact Statement for the Black Warrior and Tombigbee Rivers Alabama. April 1987. Pages 51, 93 and 95.

U.S. Army Corps of Engineers, Mobile District 2005. Draft Environmental Assessment for Proposed Contract to Remove Dredged Material from Sunflower Bar Upland Disposal Site, Clarke County, Alabama Blackwarrior and Tombigbee Waterway, Alabama. 28 July 2005.

U.S. Army Corps of Engineers, Mobile District. 2009. Mississippi Coastal Improvements Program (MsCIP) Hancock, Harrison, and Jackson Counties, Mississippi. Comprehensive Plan and Integrated Programmatic Environmental Impact Statement. June 2009.

U.S. Army Corps of Engineers, Mobile District. 2011. Environmental Assessment, 404(B)(1) Analysis, Statement of Findings and Decision Document for the Deer Island Marsh Restoration Site II, Biloxi, MS September 7, 2011.

U.S. Army Corps of Engineers, Mobile District. 2013. Dauphin Island Pilot Study Color Change of Black Warrior-Tombigbee Waterway Sand Placed along the Shoreline of Eastern Dauphin Island , Alabama. November 2013.

U.S. Department of Interior, Bureau of Mines. 1995. Report of Investigations 9549. Characterization of Dredged River Sediments in 10 Upland Disposal Sites of Alabama by C. W. Smith. ISSN 1066-5552.

Williams, Jeffress S. 2011. Final Technical Report for Sediment and Geochemical Study of the Alabama-Mississippi Barrier Islands in Support of The Mississippi Coastal Improvements Program (MsCIP). February 14, 2014.

This page is left blank

Appendix A

SECTION 404 (b)(1) EVALUATION REPORT FOR PROPOSED PLACEMENT OF SANDY DREDGED MATERIAL FROM BWT SUNFLOWER DISPOSAL AREA IN CLARKE COUNTY, ALABAMA TO DEER ISLAND MARSH RESTORATION II PROJECT, HARRISON COUNTY, BILOXI, MISSISSIPPI

I. PROJECT DESCRIPTION:

a. Location. The Sunflower Disposal Area (DA) is located 8.5 miles due south of Jackson, Alabama and at Mile 78 on the left descending bank of the Tombigbee River in Sec. 20, T.5N., R. 2E., Clarke County, Alabama. The site lies approximately 400 feet from the edge of the river, covers approximately 60 acres. The Deer Island Marsh Restoration II (DIMR II) site is located along the northeast corner of Deer Island, Biloxi, Mississippi. See EA-Figures 1-5 for the location of both projects.

b. General Description of the Proposed Action. The proposed action involves removal, transport, and placement of sand from the Sunflower DA to the DIMR II beneficial use site to serve as a containment structure for dredged material which will be pumped into the structure to create tidal marsh habitat. The proposed modification would provide an excellent sand source for the beneficial use project and would create additional space for future dredged material at the 60-acre DA. The cumulative impacts of the overall project are considered to be beneficial to the local ecosystems of both areas.

c. Authority and Purpose. See attached Environmental Assessment (EA).

d. General Description of the Dredged or Fill Material.

(1) General Characteristics of Material. The dredged material located at the Sunflower DA consists of river bottom sand and gravel primarily consisting of quartz. The on-site sediments consist primarily of coarse and fine aggregate. Heavy minerals identified in decreasing order of occurrence include, zircon, ilmenite, rutile, kyanite, hematite, tourmaline and garnet. See **EA-Enclosure 1** for a more detailed analysis of the sediment samples taken.

(2) Quantity of Material. It is estimated that approximately 2 million cubic yards of material is located at the Sunflower DA.

(3) Source of Material. The source of the Sunflower DA sand is the Tombigbee River in the vicinity of river mile 74.

e. General Description of the Disposal Area.

(1) Location Map. A map illustrating the location of the DIMR II site is presented in **Figures 4 and 5** of the EA.

(2) Size. The size of the DIMR II site is approximately 40 acres.

(3) Type of Site. The DIMR II site is an open-water site located adjacent to the northern shoreline of Deer Island. See EA **Figure 5** for an aerial view of the site.

(4) Type of Habitat. DIMR II consists of open-water and highly eroded shoreline habitat that is open to environmental forces and continues to erode.

(5) Timing and Duration of Discharge. Unknown at this time.

f. Disposal Method. Sediment placement will occur using either a mechanical or hydraulic dredge.

II. FACTUAL DETERMINATIONS.

a. Physical Substrate Determinations.

(1) Substrate elevation and slope. The site is located at sea level.

(2) Sediment type. sand and gravel from the Sunflower DA.

(3) Dredged/fill material movement. The material would be removed from the Sunflower DA using a conventional conveyor belt system from the river's edge to several centralized locations within the site where the suitable material is stockpiled. The conveyor belt system would transport the material from the internal stockpiles to the river's edge and onto a hopper barge. The barge would then transport the sand 158 miles down the river to the DIMR II beneficial use site. From the hopper barge, the material would be offloaded and used to construct the containment berms.

(4) Physical effects on benthos. No impacts would occur to benthos, motile invertebrates, and fishes as a result of material being removed from the upland DA to the Deer Island. At the DIMR II placement site, some of the motile benthic and pelagic fauna, such as crabs, shrimp, and fishes, would be able to avoid the disturbed area and should return shortly to the vicinity after the activity is completed. Larval and juvenile stages of these forms may not be able to avoid the activity due to limited mobility and will be impacted. However, the overall impact to these organisms is expected to be minimal.

(5) Other effects. No other significant effects due to movement of the physical

substrate are noted.

(6) Actions taken to minimize impacts. BMPs will be used when moving the sand.

b. Water Circulation/Fluctuation, and Salinity Determination.

(1) Water

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

(b) Water chemistry (pH etc.). No effects.

(c) Clarity. Minor increases in turbidity may be experienced in the immediate vicinity of the barge loading point along the river. However, these increases will be temporary and would return to pre-project conditions shortly after completion. Turbidity will temporarily increase at the DIMR II sediment placement site but impacts will be minimal.

(d) Color. No effects.

(e) Odor. No effects.

(f) Taste. No effects.

(g) Dissolved gases. No effects.

(h) Nutrients. No effects.

(i) Eutrophication. No effects.

(2) Current Patterns and Circulation

(a) Current patterns and flow. No effects.

(b) Velocity. No effects.

(c) Stratification. No effects.

(d) Hydrologic effects. No effects.

(3) Normal Water Level Fluctuations. No effects.

(4) Salinity Gradients. No effects.

(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 site. Suspended particulate and turbidity levels are expected to undergo minor increases during the loading of the sand barges, however, suspended sediment of this type will quickly fall out of the water column and return to normal conditions. No significant effects would occur as a result of these increases. Turbidity during load-out is not expected to violate State water quality certification conditions.

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

(a) Light penetration. Increased turbidity levels in the project area as a result of the loading of sandy dredged material into the hopper barges would reduce the penetration of light into the water column only slightly and would be a minor short-term impact. Impacts would be similar at the off-loading site at DIMR II.

(b) Dissolved oxygen. No effects.

(c) Toxic metals and organics. No effects.

(d) Pathogens. No effects.

(e) Esthetics. No effects.

(f) Others as appropriate. None appropriate.

(3) Effects on biota.

(a) Primary production, photosynthesis. No significant effects.

(b) Suspension/filter feeders. Some local minor increases in suspended particulates may be encountered during the proposed action, but these increases would not cause significant impacts to these organisms unless they are directly covered with sand. If directly covered with sand, it is expected that some organisms will be destroyed. Rapid recruitment of these organisms will promote a rapid recovery to normal populations. Overall, the impact to these organisms is expected to be minor and insignificant.

(c) Sight feeders. Sight feeders would avoid impacted areas and return when conditions are more suitable, however, it is difficult to relate the presence or absence of sight feeders in the project area. Sight feeders, particularly fishes, may vary in abundance as a result of temperature changes, salinity changes, seasonal changes, dissolved oxygen level changes, as well as other variables. Sight feeders, such as shore birds, tend to be attracted to sediment movement activities due to the presence of food items in the sediment. No significant impacts are expected to occur on sight feeders.

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

d. Contaminant Determination. No significant effects. The dredged material consists of sands and gravels from sources within the littoral system that are far removed from sources of contamination and therefore is considered free of any contaminants.

e. Aquatic Ecosystem and Organism Determinations.

- (1) Effects on plankton. No effects.

(2) Effects on benthos. Benthic organisms would be destroyed by the placement of sand below the waterline along the perimeter of the beneficial use area, but no significant long term effects are expected on the benthic community as a result of the proposed action.

- (3) Effects on nekton. No effects.

- (4) Effects on aquatic food web. No effects.

- (5) Effects on special aquatic sites.

(a) Sanctuaries and refuges. Not applicable.

(b) Wetlands. Not applicable.

(c) Mud flats. Not applicable.

(d) Vegetated shallows. No impacts. There are is no submerged aquatic vegetation (SAV) areas within the project area.

(e) Coral reefs. Not applicable.

(f) Riffle and pool complexes. Not applicable.

(6) Threatened and endangered species. The majority of the threatened and endangered species are not likely to be in the project areas. In the unlikely event that these species happen to be in the project vicinity, the Corps, Mobile District believes these motile species would avoid the sand removal and placement operations.

Based on this assessment the Corps, Mobile District determined that no federally-protected species or designated critical habitat will be adversely affected as a result of the proposed project.

(7) Other wildlife. No significant effects.

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

f. Proposed Disposal Site Determination.

(1) Mixing zone determinations. The Alabama Department of Environmental Management (ADEM) delineates mixing zones on a case-by-case basis. Any requirements placed on the project would be followed to the maximum extent practicable.

(2) Determination of compliance with applicable water quality standards. The proposed action is in compliance with all applicable water quality standards.

(3) Potential effects on human use characteristics.

(a) Municipal and private water supply. No effects.

(b) Recreational and commercial fisheries. No effects.

(c) Water-related recreation. No effects.

(d) Esthetics. No effects.

(e) Parks, national and historic monuments, national seashores, wilderness areas, research sites, and similar preserves. Not applicable.

g. Determination of Cumulative Effects on the Aquatic Ecosystem. No significant cumulative effects on the aquatic ecosystem would occur as a result of the proposed action.

h. Determination of Secondary Effects on the Aquatic Ecosystem. No significant effects.

III. FINDING OF COMPLIANCE.

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

b. The proposed project represents the least environmentally damaging practicable alternative.

c. The planned removal and placement of sediments from the Sunflower DA to the

DIMR II site would not violate any applicable Section 401 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 Sunflower DA and DIMR II site will not jeopardize the continued existence of any federally-listed endangered or threatened species or their critical habitat provided the specified conditions in this document are implemented during sand removal operations. Sufficient safeguards exist to protect federally-protected species which may enter into the project area.

e. The proposed activity would not result in any significant adverse effects on human health or welfare, including municipal or private water supplies, recreation and commercial fishing, plankton, fish, shellfish, and wildlife. The life stages of aquatic life and other wildlife would not be adversely affected. Significant adverse effects on aquatic ecosystem diversity, productivity and stability, and recreational, esthetic, and economic values would not occur. No wetlands would be impacted by the proposed action.

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

DATE: 25 SEP 2015


Jon J. Chytka
Colonel, Corps of Engineers
District Commander

EA – DEER ISLAND MARSH RESTORATION II BENEFICIAL USE SITE

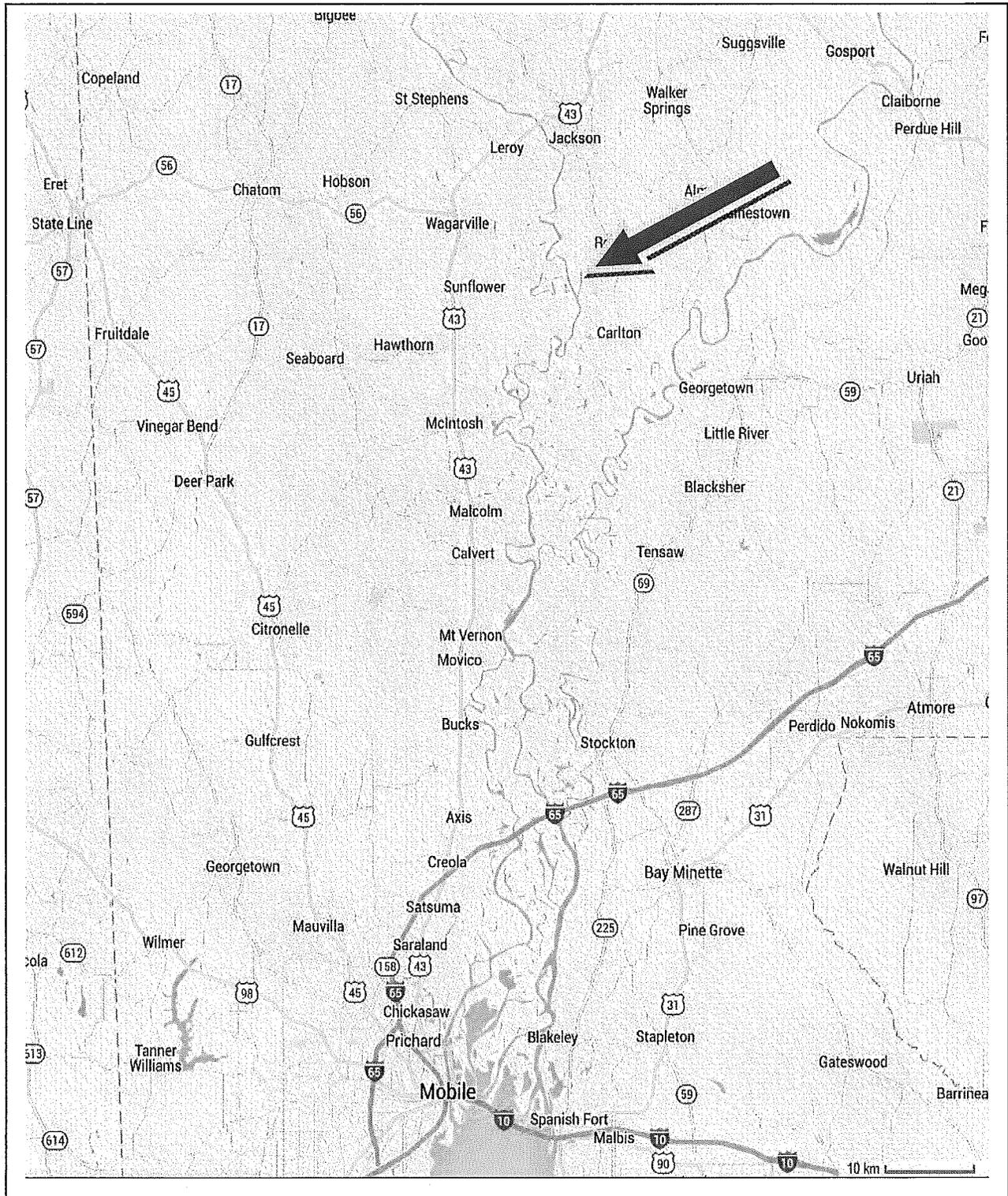


Figure 1. Vicinity Map of Project Area

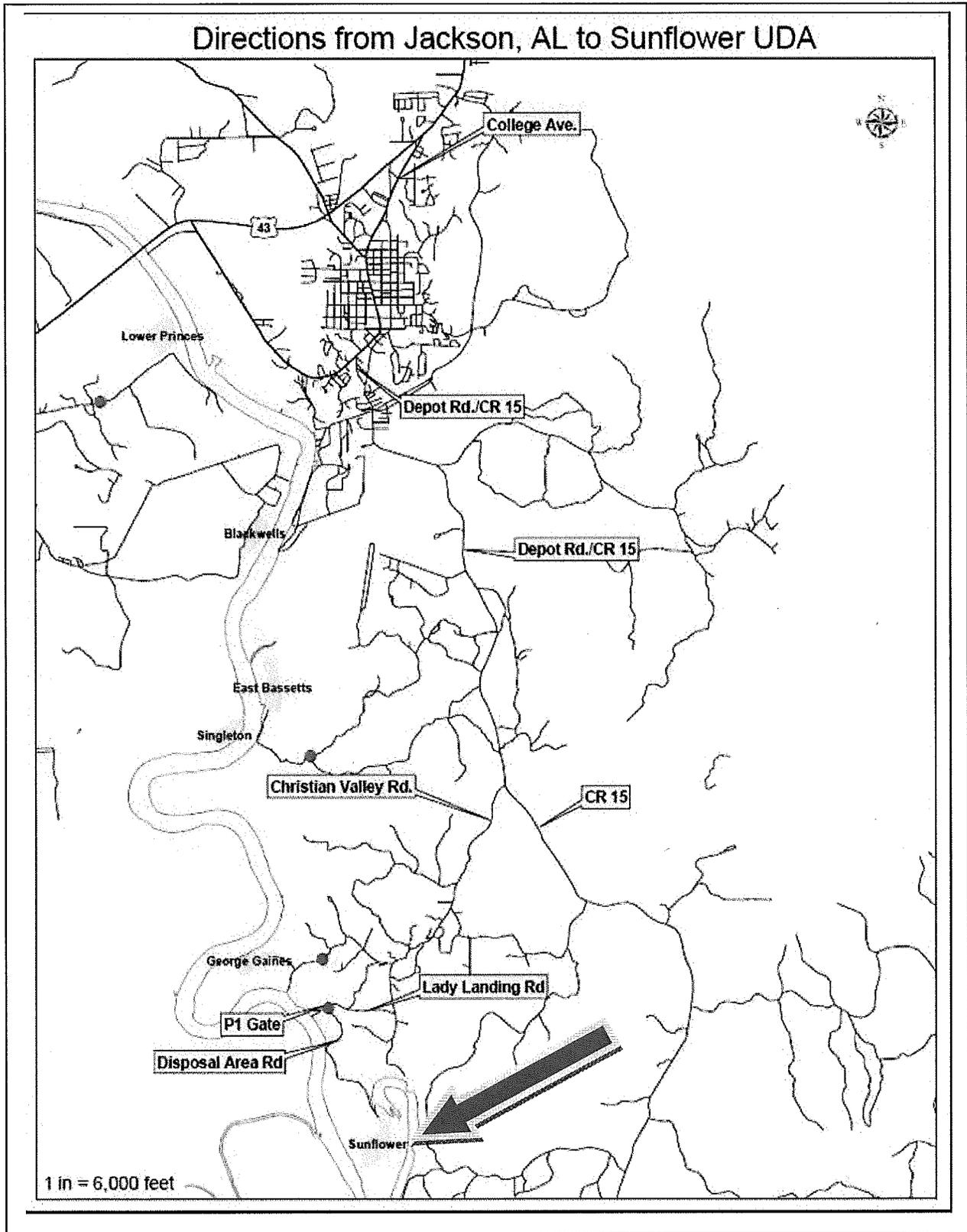


Figure 2. Location Map of Sunflower Disposal Area

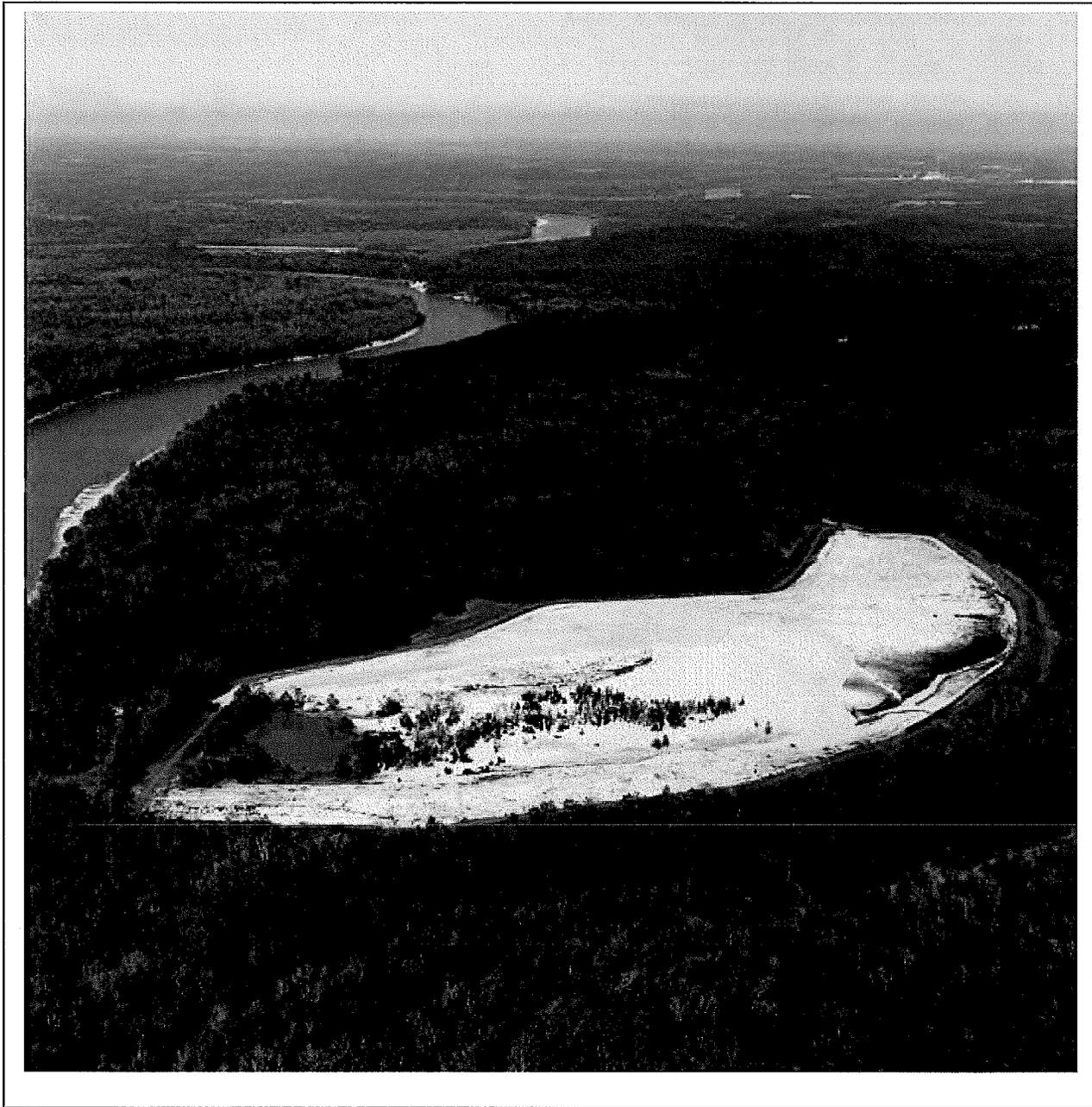


Figure 3. Aerial View of Sunflower Disposal Area

EA – DEER ISLAND MARSH RESTORATION II BENEFICIAL USE SITE

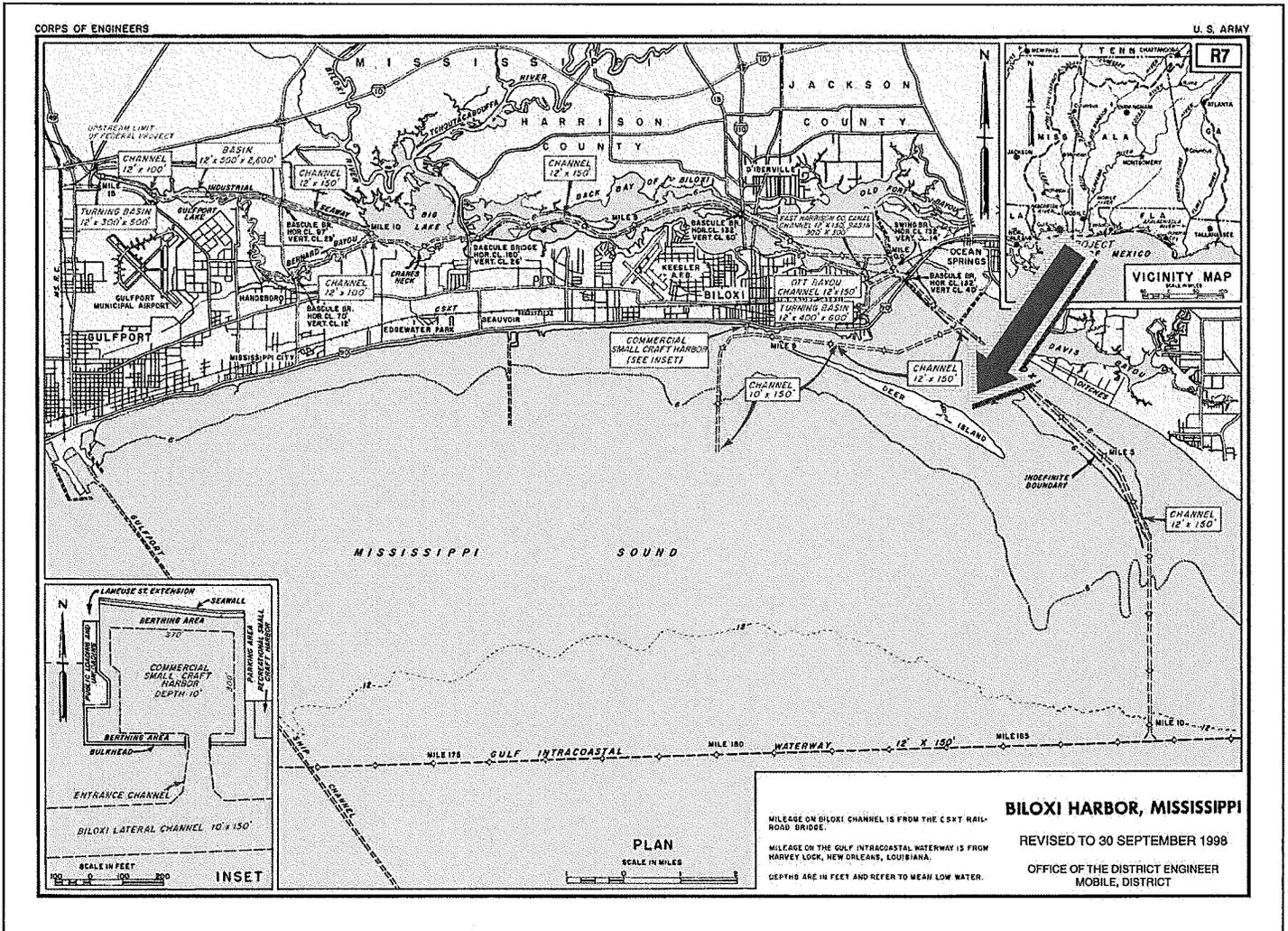


Figure 4. Deer Island Marsh Restoration Area II Location

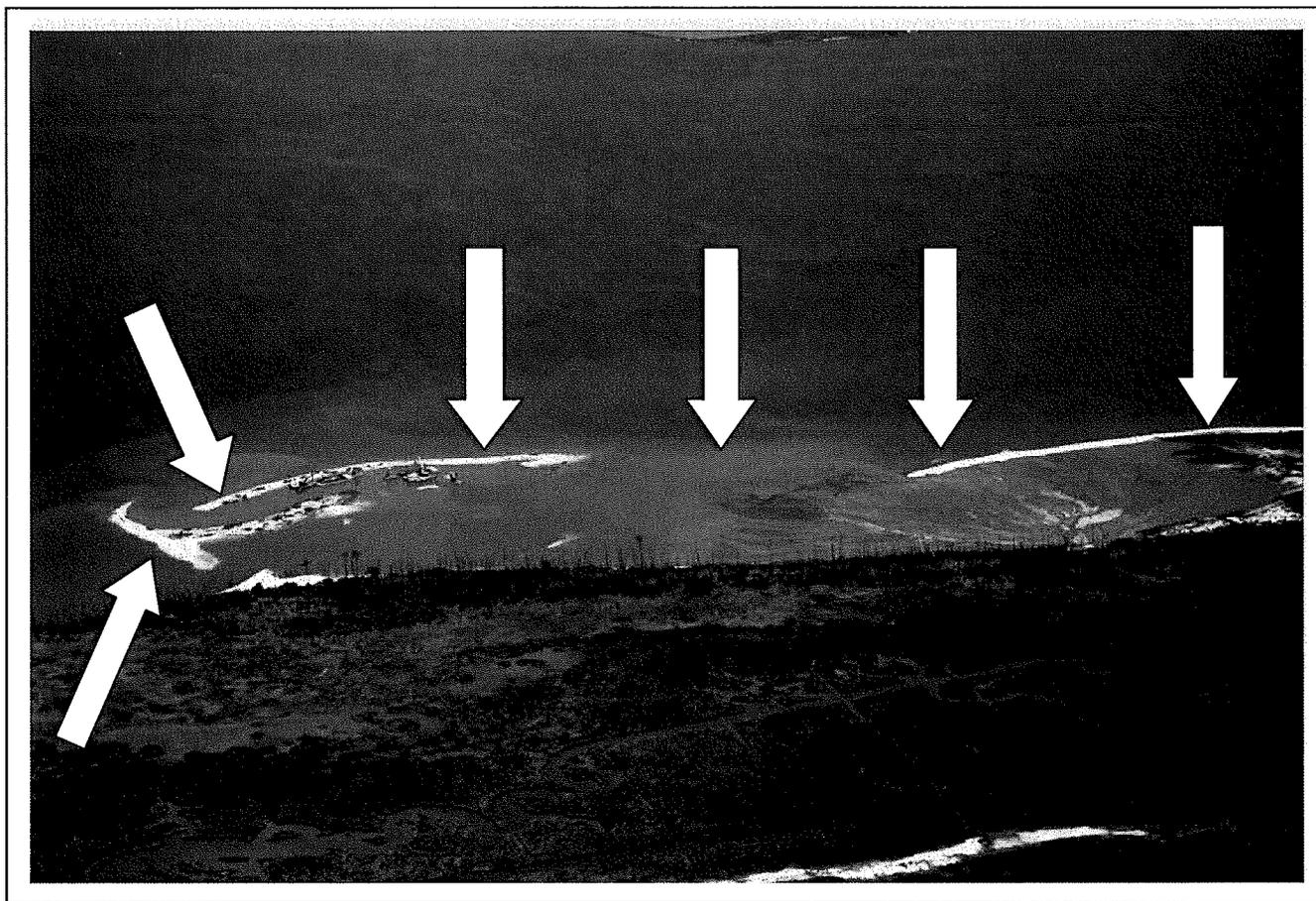
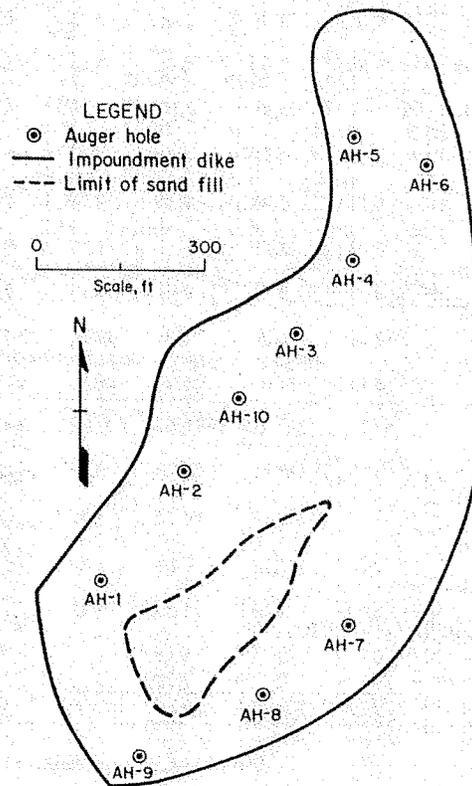


Figure 5. DIMR II Beneficial Use Area where containment structure is needed.

SUNFLOWER

The Sunflower site is located at mile 78 on the Tombigbee River in sec. 20, T. 5N., R. 2E., Clarke County, AL. The site lies approximately 400 ft from the edge of the river and covers approximately 80 acres. The site presently contains approximately 835,610 yd³ of material and it is estimated that an additional 85,000 yd³ will be added to the disposal area each year. Heavy minerals identified, in decreasing order of occurrence, include zircon, ilmenite, rutile, kyanite, hematite, tourmaline, and garnet. Figure 6 shows the approximate location and depth of each sample hole. The material consists of 4.37 pct coarse aggregate, 94.66 pct fine aggregate, 0.97 pct undersize, and contains 0.45 pct heavy minerals. Table 10 gives the screen analysis of each sample. Table 11 gives the chemical analysis for the minor impurities present in the sample. Table 12 gives the results of the TCLP for a composite sample from the site.

Figure 6



Sample locations in Sunflower test site.

Enclosure 1a. Summary of Sediment Sample Results for Sunflower Disposal Area

Table 10.—Screen analysis of Sunflower samples

| Size | Hole 1 | Hole 2 | Hole 3 | Hole 4 | Hole 5 | | | | Hole 6 | Hole 7 | Hole 8 | Hole 9 | Hole 10 |
|--------------------------------------|--------|--------|--------|--------|--------|---------|----------|----------|--------|--------|--------|--------|---------|
| | | | | | 0-5 ft | 5-10 ft | 10-15 ft | 15-20 ft | | | | | |
| Plus 1.0 in | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.62 | 0 | 0 |
| Minus 1.0 plus 0.75 in | 0 | 0.22 | 0.61 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.31 | 0.12 | 0.32 |
| Minus 0.75 plus 0.50 in | 0.81 | 0.50 | 1.78 | 0.04 | 0.49 | 0.54 | 0.26 | 0 | 0.15 | 0.88 | 0.64 | 1.52 | 1.28 |
| Minus 0.50 plus 0.37 in | 1.34 | 0.64 | 2.34 | 0.38 | 0.82 | 0.90 | 0.84 | 0.56 | 0.32 | 1.74 | 0.59 | 1.33 | 1.54 |
| Minus 0.37 in plus 3 mesh . . . | 1.62 | 0.82 | 2.35 | 0.58 | 0.70 | 0.87 | 1.63 | 1.15 | 0.60 | 2.43 | 0.84 | 1.80 | 1.61 |
| Minus 3 plus 4 mesh | 1.42 | 0.66 | 1.63 | 0.55 | 0.97 | 0.74 | 1.51 | 0.89 | 0.74 | 2.61 | 0.66 | 1.62 | 1.35 |
| Minus 4 plus 6 mesh | 1.36 | 0.76 | 1.41 | 0.61 | 1.06 | 0.50 | 1.82 | 1.12 | 0.76 | 2.49 | 0.64 | 1.60 | 1.19 |
| Minus 6 plus 8 mesh | 1.13 | 0.60 | 1.18 | 0.62 | 0.75 | 0.47 | 1.92 | 1.08 | 0.57 | 2.15 | 0.55 | 1.22 | 1.11 |
| Minus 8 plus 10 mesh | 0.85 | 0.43 | 0.94 | 0.46 | 0.40 | 0.25 | 1.60 | 0.89 | 0.47 | 1.49 | 0.44 | 0.74 | 0.89 |
| Minus 10 plus 14 mesh | 0.76 | 0.45 | 0.94 | 0.52 | 0.28 | 0.19 | 1.52 | 1.00 | 0.41 | 1.31 | 0.48 | 0.77 | 0.93 |
| Minus 14 plus 20 mesh | 4.41 | 3.32 | 4.02 | 3.04 | 1.73 | 1.74 | 8.80 | 6.21 | 2.18 | 5.80 | 2.63 | 3.08 | 3.88 |
| Minus 20 plus 28 mesh | 6.52 | 5.17 | 4.35 | 4.59 | 2.60 | 2.80 | 14.94 | 12.12 | 4.00 | 6.72 | 4.97 | 5.43 | 7.29 |
| Minus 28 plus 35 mesh | 10.24 | 12.52 | 9.27 | 9.65 | 4.81 | 4.23 | 14.29 | 21.77 | 7.48 | 7.11 | 11.22 | 10.47 | 10.28 |
| Minus 35 plus 48 mesh | 23.84 | 32.59 | 35.38 | 26.19 | 28.74 | 25.19 | 24.17 | 16.35 | 28.55 | 34.26 | 45.10 | 39.72 | 38.18 |
| Minus 48 plus 65 mesh | 25.03 | 27.53 | 21.70 | 33.07 | 38.50 | 40.86 | 16.33 | 22.88 | 33.15 | 18.78 | 18.61 | 17.98 | 17.36 |
| Minus 65 plus 100 mesh | 14.93 | 10.44 | 8.48 | 14.10 | 13.07 | 14.71 | 6.95 | 10.59 | 14.64 | 8.15 | 8.18 | 8.38 | 8.70 |
| Minus 100 plus 150 mesh | 3.29 | 2.18 | 1.98 | 3.24 | 2.86 | 3.69 | 1.64 | 2.03 | 3.35 | 2.00 | 1.82 | 2.14 | 2.10 |
| Minus 150 plus 200 mesh | 1.26 | 0.69 | 0.79 | 1.21 | 1.24 | 1.25 | 0.84 | 0.68 | 1.38 | 1.08 | 0.79 | 1.04 | 0.94 |
| Minus 200 mesh | 1.19 | 0.48 | 0.85 | 1.15 | 0.98 | 1.07 | 0.94 | 0.68 | 1.25 | 1.00 | 0.91 | 1.04 | 1.05 |
| Composite | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Enclosure 1b. Summary of Sediment Sample Results for Sunflower Disposal Area

Table 11.—Chemical analysis of minor elements in Sunflower samples

| Hole | Depth, ft | Chemical analysis, ¹ ppm | | | | | | | |
|------|-----------|-------------------------------------|-----|-------|-------|----|-----|-----|-----|
| | | Al | Ca | Fe | K | Mn | Mg | Na | Ti |
| 1 | 0-24 | 1,550 | <35 | 3,540 | 1,250 | 55 | <22 | 216 | 611 |
| 2 | 0-23 | 1,350 | <34 | 3,100 | 877 | 54 | <22 | 127 | 484 |
| 3 | 0-21 | 1,340 | <34 | 3,160 | 721 | 51 | <22 | 171 | 469 |
| 4 | 0-23 | 1,900 | <44 | 3,570 | 1,270 | 62 | <22 | 207 | 733 |
| 5 | 0-5 | 1,910 | 41 | 3,750 | 1,200 | 67 | <22 | 314 | 776 |
| 5 | 5-10 | 2,190 | 66 | 3,930 | 1,620 | 60 | <22 | 301 | 771 |
| 5 | 10-15 | 1,490 | <35 | 3,380 | 879 | 59 | <22 | 203 | 479 |
| 6 | 15-20 | 1,290 | <34 | 3,180 | 989 | 48 | <22 | 202 | 464 |
| 6 | 0-19 | 1,950 | <34 | 3,370 | 1,310 | 49 | <22 | 167 | 505 |
| 7 | 0-22 | 1,720 | <34 | 3,220 | 811 | 48 | <22 | 65 | 499 |
| 8 | 0-21 | 1,360 | <35 | 3,230 | 844 | 53 | <22 | 69 | 534 |
| 9 | 0-22 | 1,970 | 59 | 3,430 | 1,120 | 59 | 25 | 187 | 503 |
| 10 | 0-22 | 1,760 | <35 | 3,290 | 1,060 | 50 | <22 | 132 | 507 |

¹<0.02 ppm Hg for all holes.

Table 12.—TCLP results for Sunflower test site

| Contaminant | Conc, ppm | Contaminant | Conc, ppm |
|-------------|-----------|-------------|-----------|
| Ag | <0.014 | Cr | <0.037 |
| As | 0.556 | Hg | <0.001 |
| Ba | 0.262 | Pb | 0.332 |
| Cd | <0.005 | Se | <0.300 |

Enclosure 1c. Summary of Sediment Sample Results for Sunflower Disposal Area

Last Page of EA



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Mississippi Field Office
6578 Dogwood View Parkway, Suite A
Jackson, Mississippi 39213

January 27, 2015

IN REPLY REFER TO:
2015-CPA-040

Mr. John Ettinger
Acting Director, Environmental Compliance
Gulf Coast Ecosystem Restoration Council
New Orleans, Louisiana

Dear Mr. Ettinger:

The Fish and Wildlife Service (Service) has received your electronic mail dated January 9, 2015, regarding the proposed submission for Restore Act funding titled "Restoration of Deer Island with Beneficial Use of Dredged Material" in Harrison County, Mississippi. Our comments are in accordance with the National Environmental Policy Act (83 Stat. 852; 42 U.S.C. 4321 et seq.), the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), the Migratory Bird Treaty Act (40 Stat. 775, as amended; 16 U.S.C. 703 et seq.), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), the Coastal Barrier Resources Act (16 U.S.C. 3501 et seq), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667e.).

The proposed habitat restoration project includes the creation of a 40 acre beneficial use site on the northeastern shore of Deer Island. Primary work activities include the construction of an earthen containment structure in which readily available sediment material from the Biloxi Harbor navigation project and smaller private channels would be placed. The containment features include the construction of a five acre ridge along the southern boundary of the site (against the current island shoreline) and the rehabilitation/completion of a previously initiated northern containment berm.

Several federally listed species can be found within the proposed project area. The threatened **piping plover** (*Charadrius melodus*) is a small shorebird approximately seven inches long with sand-colored plumage on their backs and crown and white underparts. The piping plover breeds from central Canada south to Nebraska and Iowa, east along the Great Lakes and Newfoundland,

and south along the Atlantic Coast to Virginia. Plovers depart for the wintering grounds from mid-July through late October. Breeding and wintering plovers feed on exposed wet sand in wash zones; intertidal ocean beach; wrack lines; washover passes; mud-, sand-, and algal flats; and shorelines of streams, ephemeral ponds, lagoons, and salt marshes by probing for invertebrates at or just below the surface. They use beaches adjacent to foraging areas for roosting and preening. Small sand dunes, debris, and sparse vegetation within adjacent beaches provide shelter from wind and extreme temperatures. The piping plover does not nest in Mississippi but winters along the coastal beaches and barrier islands. These feeding areas have been threatened by urban development, recreational beach use, oil spills etc. Hence, critical habitat has been designated along many sand beach areas along the Mississippi Gulf Coast. Major threats to this species along the Gulf of Mexico include the loss and degradation of habitat due to erosion and shoreline stabilization development, disturbance by humans and pets, and predation.

The threatened **red knot** (*Calidris canutus rufa*) is a medium-sized shorebird about 9 to 11 inches in length with a proportionately small head, small eyes, short neck, and short legs. The red knot can be found in Mississippi during the winter months (generally October through March). In the southeastern United States, red knots forage along sandy beaches, tidal mudflats, salt marshes, and peat banks. Observations along the Texas coast indicate that red knots forage on beaches, oyster reefs, and exposed bay bottoms and roost on high sand flats, reefs, and other sites protected from high tides. In wintering and migration habitats, red knots commonly forage on bivalves, gastropods, and crustaceans. Coquina clams (*Donax variabilis*), a frequent and often important food resource for red knots, are common along many gulf beaches. Major threats to this species along the Gulf of Mexico include the loss and degradation of habitat due to erosion and shoreline stabilization development, disturbance by humans and pets, and predation.

The majority of work activities related to the proposed restoration project will occur in open water and would not impact suitable habitat for the piping plover and red knot. A small portion of the southern containment dike would tie into the existing shoreline where such species could be found foraging, however, due to the limited size and duration of proposed impacts and the amount of available foraging habitat remaining on Deer Island, the proposed work activities are not expected to adversely impact these species or designated critical habitat. Therefore the proposed project “may affect, but is not likely to adversely affect” the red knot, piping plover, or piping plover critical habitat.

The endangered **West Indian manatee** (*Trichechus manatus*) is an aquatic mammal that occurs in rivers, estuaries, and coastal areas of the Gulf of Mexico. The manatee is an occasional visitor to Mississippi. Because manatees are not permanent inhabitants of the project area, there is a low likelihood that the project would result in adverse impacts to this species. However, we recommend that the project sponsor implement the attached standard conditions for in-water work in areas that may have manatees (see attachment). Based on adoption of these standards, the Service has determined the proposed project “may affect, but is not likely to adversely affect”

the West Indian manatee. The standard conditions described in the attachment would also avoid take under the Marine Mammal Protection Act of 1972.

Deer Island may also contain suitable nesting habitat for federally protected **sea turtles**, however, the majority of the island on the northeastern side is unsuitable nesting habitat due to the lack of sandy sediments and low elevations that are subject to inundation during high tide events. Therefore, it is the Service's determination that the proposed project "may affect, but is not likely to adversely affect" nesting sea turtles.

Based on the nature of the proposed marsh restoration activities, we do not anticipate impacts to birds protected under the Migratory Bird Treaty Act. We do however recommend that nesting shorebird surveys be conducted just prior to construction where the containment dike will tie into the existing shoreline of Deer Island. If shorebird nesting sites are found, then further consultation with the Service will be required. Also, since the proposed work will take place in the nearshore and away from where potential bald eagle nesting could occur, bald eagles or their nests are not likely to be affected by the proposed restoration activities.

Finally, the proposed project is located within the John H. Chaffee Coastal Barrier Resource System (Deer Island Unit R02), which limits new federal expenditures and financial assistance unless the activities qualify for exception under Section 6 of the Coastal Barrier Resources Act (16 U.S.C. §3505). Since the proposed project is for the management, protection, and enhancement of fish and wildlife resources and habitat, the Service has determined the proposed project meets the exceptions listed under Section 6 of the Coastal Barrier Resources Act and is consistent with the purposes of the Act.

If you have any questions, please contact David Felder in this office, telephone (601) 321-1131.

Sincerely,



for Stephen M. Ricks
Field Supervisor
MS Field Office

Attachment: Guidelines for Manatees

Guidelines for Activities in Proximity to Manatees and Their Habitat

- A. All personnel associated with the project should be informed of the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. Such personnel instruction should also include a discussion of the civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973.**
- B. All contract and/or construction personnel are responsible for observing water-related activities for the presence of manatee(s).**
- C. Temporary signs should be posted prior to and during all construction/dredging activities to remind personnel to be observant for manatees during active construction/dredging operations or within vessel movement zones (i.e., work area), and at least one sign should be placed where it is visible to the vessel operator.**
- D. Siltation barriers, if used, should be made of material in which manatees could not become entangled, and should be properly secured and regularly monitored. Barriers should not impede manatee movement.**
- E. If a manatee is sighted within 100 yards of the active work zone, special operating conditions should be implemented, including: no operation of moving equipment within 50 feet of a manatee; all vessels should operate at no wake/idle speeds within 100 yards of the work area; and siltation barriers, if used, should be re-secured and monitored. Once the manatee has left the 100-yard buffer zone around the work area on its own accord, special operating conditions are no longer necessary, but careful observations would be resumed.**
- F. Any manatee sighting should be immediately reported to the Dolphin Island Sea Lab's Manatee Sighting Network Hotline at (866-493-5803) or at manatee.disl.org and the U.S. Fish and Wildlife Service's Jackson MS Field Office (228-493-6631).**