

**ENVIRONMENTAL ASSESSMENT
FOR
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**

HARRISON AND JACKSON COUNTIES, MISSISSIPPI

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Enclosure 6 – MDEQ Letter, July 1, 2002

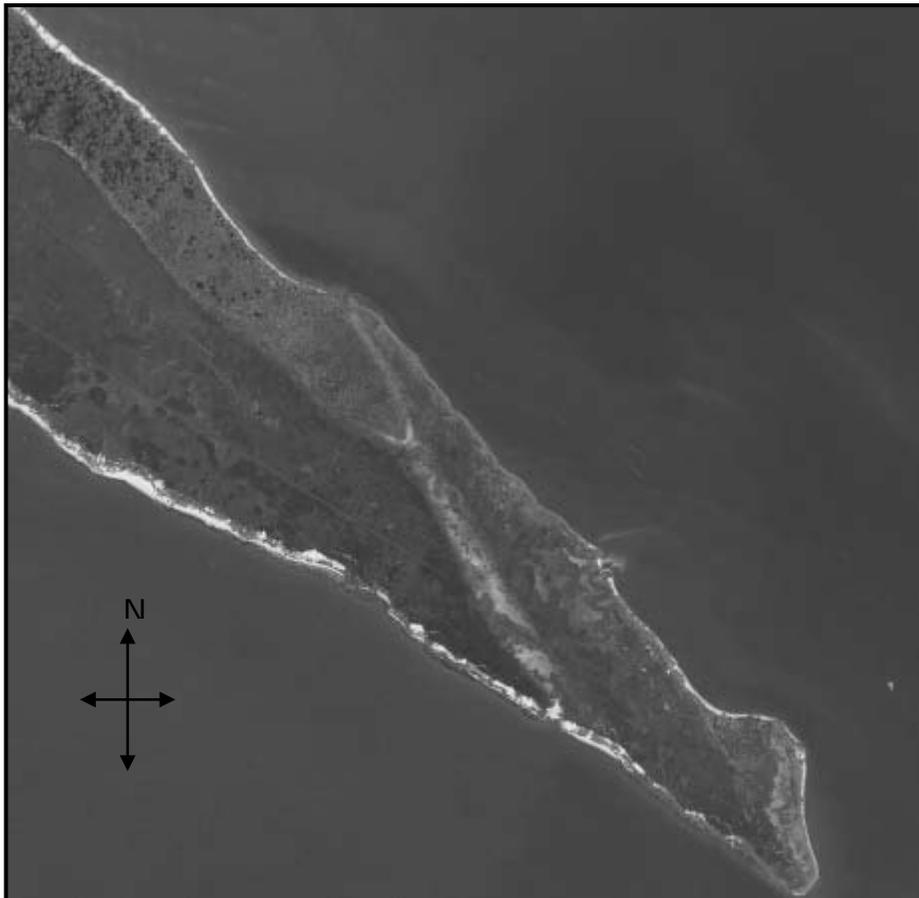
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1.0 INTRODUCTION

This Environmental Assessment (EA) presents impacts that would potentially result from re-establishing marsh along coastal Mississippi at the northeast corner of Deer Island, Harrison County, Mississippi (**Photograph 1**). The purpose of this EA is to determine whether or not 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.



Photograph 1: Northeast Corner of Deer Island

2.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of this proposed action is to re-establish marsh along the coast of Mississippi. The proposed marsh project site would be located adjacent to the northeast corner of Deer Island, Mississippi. Material from the maintenance dredging of the Federally authorized Biloxi Harbor navigation channel (East Access and Lateral Access Channels) would be utilized to construct the proposed marsh at Deer Island. Dredged material from this operations and maintenance (O&M) project would be beneficially utilized through the Continuing Authority through the Section 204 of the Water Resources Development Act (WRDA) of 1992, as amended.

The Biloxi Harbor navigation project was authorized by 1966 River and Harbor and Section 107 River and Harbor Act of 1960. A map of the Biloxi Harbor navigation project is provided in **Figure 1**.

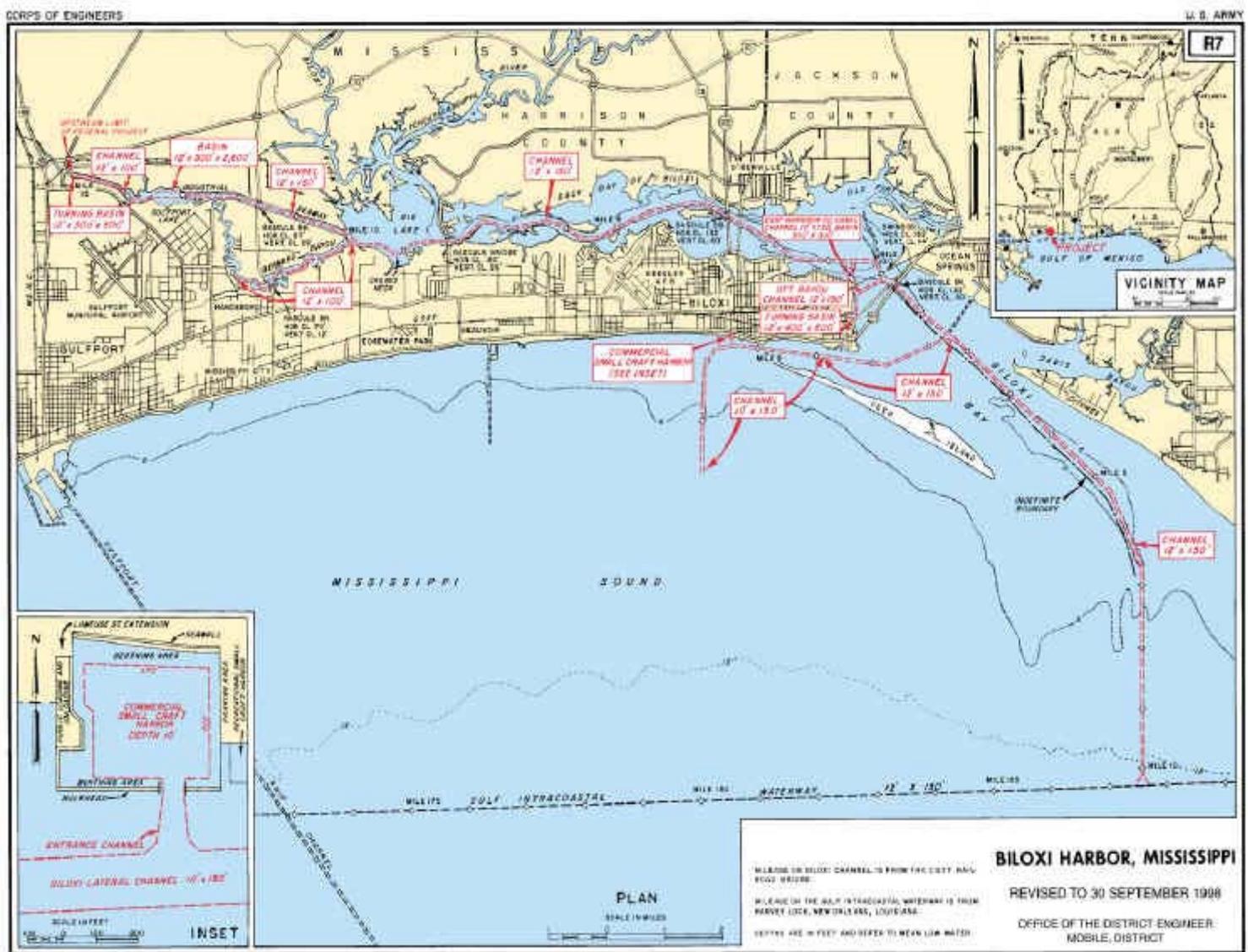


Figure 1: Biloxi Harbor Navigation Project, MS

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

Lower Harbor:

a. The East Access Channel extends from mile 188.0 on the Gulf Intracoastal Waterway in Mississippi Sound to its junction with the West Access Channel and the Biloxi Back Bay Channel (**Figure 2**). The channel is approximately 9.2 miles in length. Authorized dimensions are 12 feet deep by 150 feet wide.

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

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

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

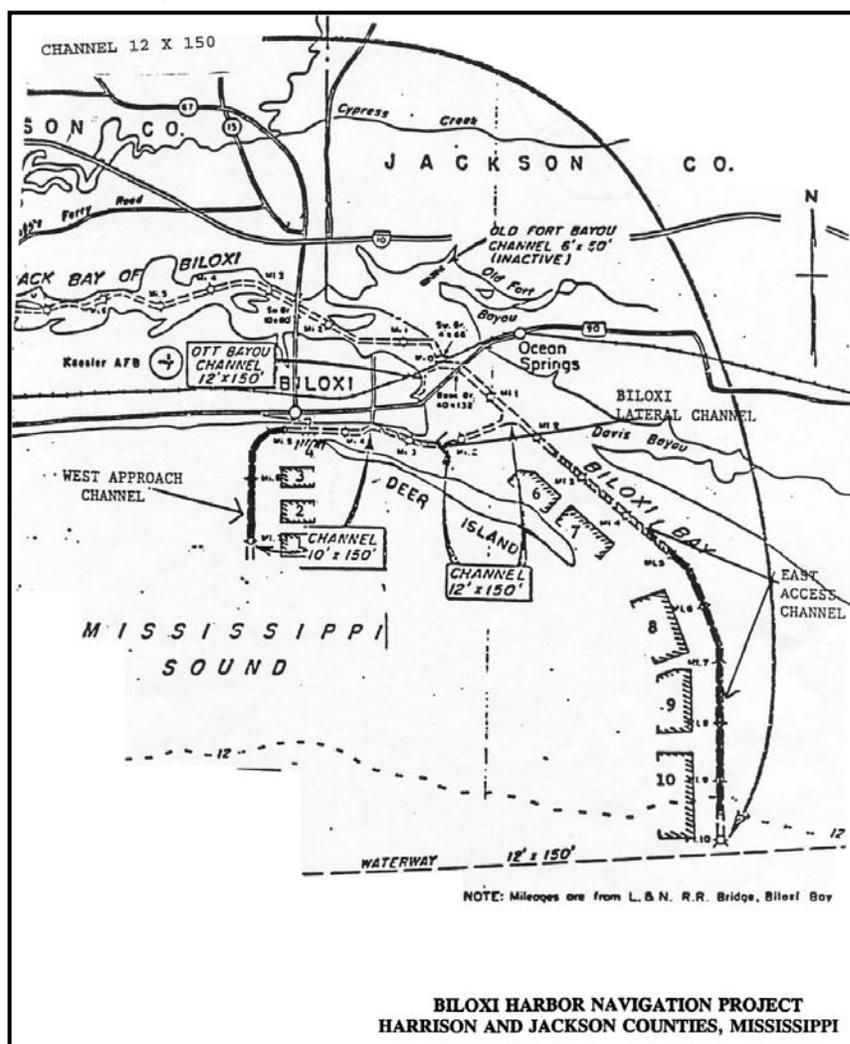


Figure 2: Biloxi Harbor Navigation Project, Harrison and Jackson Counties, MS

Upper Harbor:

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

b. The 12 feet deep by 150 feet wide Ott Bayou Channel which extends from a 400 feet by 600 feet turning basin at the junction with the main Back Bay Channel for a distance of 1.2 miles and terminating at a 12 feet deep by 600 feet turning basin located opposite Ott Bayou.

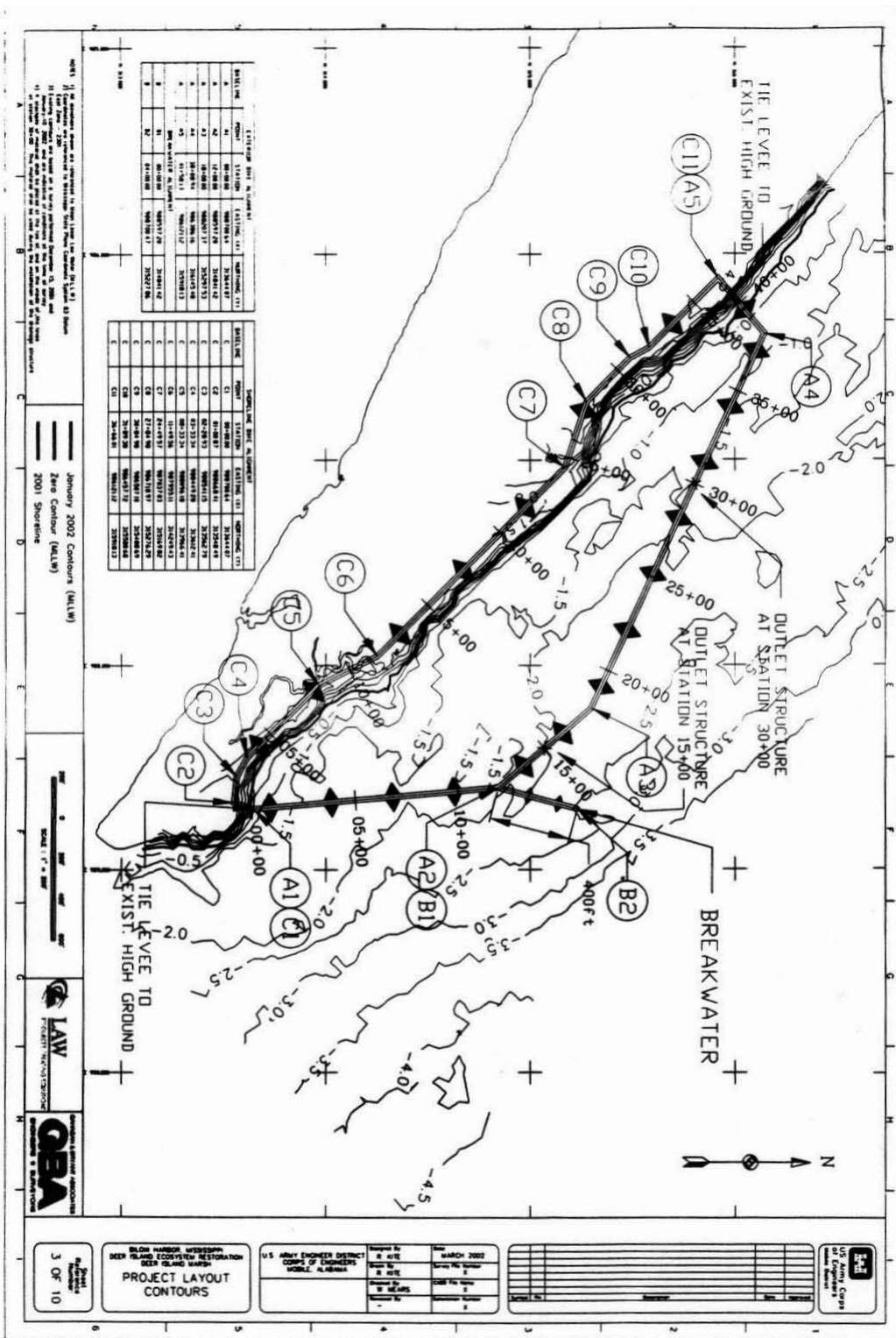
c. The 12 feet deep by 150 feet wide by 2100 feet long East Harrison County Industrial Canal channel which extends from its junction with the main Back Bay Channel in a southerly direction and terminating in a turning basin which fronts the northeast shore of the Biloxi Peninsula.

Deer Island Marsh Re-Establishment:

Material from the maintenance dredging of the Federally authorized Biloxi Harbor navigation project (East Access and Lateral Access Channels) would be utilized to re-establish marsh habitat along the northeastern portion of Deer Island, Harrison County, Mississippi. The Congress of the United States has delegated Continuing Authority through Section 204 of the WRDA of 1992, as amended. Section 204 provides the authority for “the U.S. Army Corps of Engineers (USACE) to restore, protect, and create aquatic and wetland habitats in connection with construction or maintenance dredging of an authorized project.”

A containment dike would be mechanically constructed from borrow areas within the site (**Figure 3**). The predominate sediment type associated with the Deer Island site is primarily composed of slightly silty fine sands which would be used to construct the perimeter dike to an elevation of +7 feet mean lower low water (MLLW). The dike from the southeastern tip of Deer Island site would continue north for about 1200 feet. This dike would be armored and would absorb most of the wave energy associated with the southeastern tip of the island. To provide protection to the remaining dike alignment, a semi-permeable breakwater approximately 400 feet in length, and constructed to an elevation of +4.0 feet MLLW would extend from the 1200-foot long dike (**Figure 4**). The first point of intersection in the perimeter dike alignment redirects the dike towards the west and runs parallel to the shoreline of Deer Island for about 3000 feet. Through a series of subtle alignment changes, the dike will curve towards the southwest, intersecting the shoreline of Deer Island. The exterior dike cross-section profile would be shaped on a 3:1 slope to the natural bay bottom. An interior dike will also be constructed to further contain the dredged material. The preliminary interior dike cross-section has an eight-foot crown width, one vertical on two horizontal (1V-2H) side slopes, or angle of repose, which ever is lower, requiring an average of seven cubic yards of fill per running foot of levee. In the future, the interior dike could be leveled to a lower elevation to provide bird-nesting habitat, habitat diversity (higher marsh).

Material dredged from the East Access and Lateral Access Channels, which consists primarily of clays and silts with some traces of oyster shells, would be disposed of in the contained diked area at Deer Island. The proposed Deer Island site would have the capacity to contain about 364,000 cubic yards of fine-grained dredged material in an approximate 45-acre area. Two outflow pipes would be



utilized to provide ample time for ponding and clarification before the return water enters waters of the United States. Dredged material would consolidate to plus or minus 0.5 feet from the MLLW.

Emergent aquatic vegetation would be planted at the site following adequate draining time and the re-working, if necessary, of dredged material at the site. *Spartina alterniflora* (saltmarsh cordgrass), the low marsh species, would be planted at an elevation ranging from -0.5 to 1-foot National Geodetic Vertical Datum (NGVD) 83. The middle marsh species, *Juncus roemerianus* (black needlerush), would be planted at

elevations ranging between 1- and 2-foot NGVD 83 while *Spartina patens* (saltmeadow cordgrass) would be planted above the 2-foot NGVD 83 as the high marsh species.

Plants would either be purchased from a greenhouse-grown source or borrowed from a source site of similar habitat. Individual plants, depending upon their size, would be spaced approximately 18-inches to 4 feet apart from one another. The planting would be distributed throughout the site in patches to allow for further propagation of adjacent areas. In addition, the plants would be planted at the appropriate elevations described in the paragraph above. Fabric mats specifically designed for marsh planting would be utilized to stabilize the plants and sediment. Depending on seasonal factors, weather conditions, and the intensity of site work, the consolidation process may take from 12 to 24 months to accomplish.

2.1 Authority and Scope. The Congress of the United States has delegated Continuing Authority through Section 204 of the WRDA of 1992, as amended. Section 204 provides the authority for “the USACE to restore, protect, and create aquatic and wetland habitats in connection with construction or maintenance dredging of an authorized project.” Cooperation of a non-Federal sponsor is required to provide 25 percent of the project cost.

The National Environmental Policy Act (NEPA) of 1969, as amended, excuses or excludes USACE from the preparation of any formal environmental analysis with respect to actions that result in minor or no environmental effects, which are known as "categorical exclusions." An intermediate level of analysis, an EA, is prepared for an action that is not clearly categorically excluded, but does not clearly require an Environmental Impact Statement (EIS) [40 Code of Federal Regulations (CFR) §1501.3 (a) and (b)]. Based on the EA, USACE either prepares an EIS, if one appears warranted, or issues a "Finding of No Significant Impact" (FONSI), which satisfies the NEPA requirement. This EA is prepared according to the Engineer Regulation (ER) 200-2, Procedures for Implementing NEPA, and the Council of Environmental Quality (CEQ) Regulations (40 CFR § 1508.27) for Implementing the Procedural Provisions of NEPA (40 CFR § 1500-1508).

3.0 DESCRIPTION OF THE PROPOSED ACTION

3.1 Introduction. The Deer Island site is approximately two miles due west of station 250+00 East Access Channel (**Figure 5**). The site is somewhat exposed and vulnerable to wind and wave energy from the southeast. Containment dikes constructed to support the re-establishment of marsh habitat would most likely require some degree of armor protection, such as rip rap, to withstand the energy forces at this location. While the wave energy at this site may pose a challenge, techniques are sufficiently advanced to design and construct productive marsh ecosystems with a high degree of confidence in moderate energy environments (EM 1110-2-5026, 1987).

3.2 Quantity of Material. The anticipated quantity of sediment to be dredged during the proposed operation is about 250,000 cubic yards (cys). About 250,000 will be pumped into the diked areas adjacent to the northeast corner at Deer Island.

3.3 Quality of Material. Dredged material from the East Access and Lateral Channels consists primarily of clays and silts with some traces of oyster shells. Sediment borings conducted at the proposed project area indicated that the sediment adjacent to the Deer

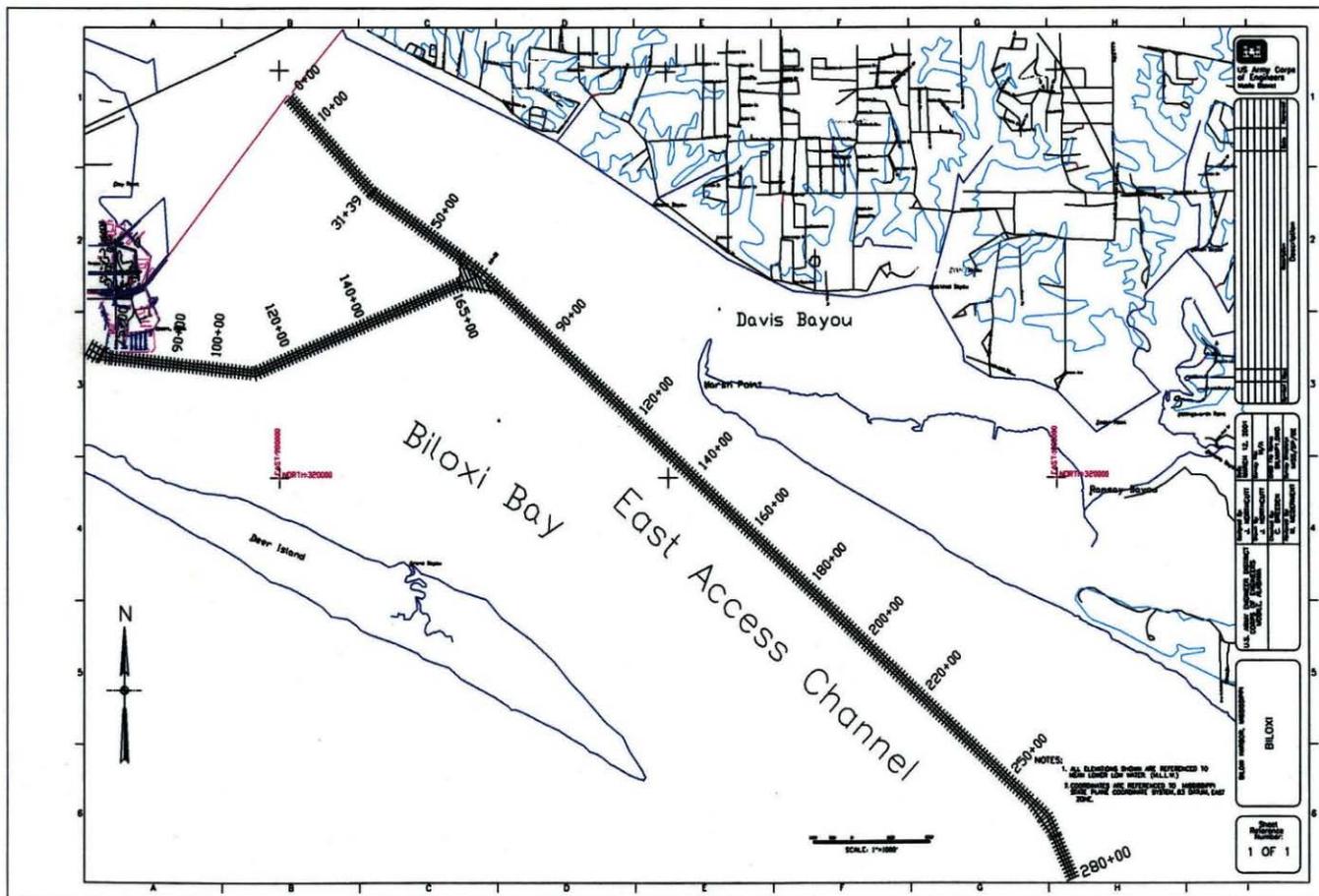


Figure 5: Deer Island, MS Vicinity Map

Island is composed mostly of slightly silty fine sands. These borings also indicated that sediment is primarily loose to dense firm sand.

4.0 ALTERNATIVES TO THE PROPOSED ACTION

4.1 Introduction. In addition to the ‘no action’ alternative, several alternatives were evaluated to determine the most environmentally and engineeringly suitable location for the re-establishment of marsh habitat and to what extent of an area that marsh would consist of. A thorough discussion of the alternatives is presented below, including comparative evaluations leading to the recommended alternative for the construction of the proposed marsh project at Deer Island, Mississippi.

4.2 Marsh Re-Establishment Site. Several sites located near the Federally authorized Biloxi Harbor navigation project were investigated as potential areas for the proposed marsh re-establishment site. Field and laboratory subsurface testing was conducted on potential dredged material from the East Access and Lateral Channels and the possible three marsh creation sites that were suggested by the resource agencies during an Special Management Area (SMA) meeting.

4.2.1 Alternative One - No Action. The implementation of the “no action” alternative would result in no marsh being restored in Jackson or Harrison County. The implementation of this alternative would result in continued disposal of dredged material in the previously designated open-water disposal sites located adjacent to the channels (Disposal Sites 1 through 7). This continued disposal of dredged material would benefit neither Jackson nor Harrison County. In addition, continued use of these open-water sites would not address future disposal constraints of not exceeding the –4 feet below mean low water (MLW) requirements. Therefore, the “no action” alternative was deemed unacceptable and not considered further.

4.2.2 Alternative Two – Davis Bayou. This site is located within the entrance to Davis Bayou approximately $\frac{3}{4}$ of a mile due north of station 160+00 East Access Channel (**Figure 6**). The location is sheltered from the forces of wind and wave action, which affects the other possible alternative sites. This site is eroding at a lesser rate than the other sites and potential benefits attributed to shoreline habitat protection would be less. Following

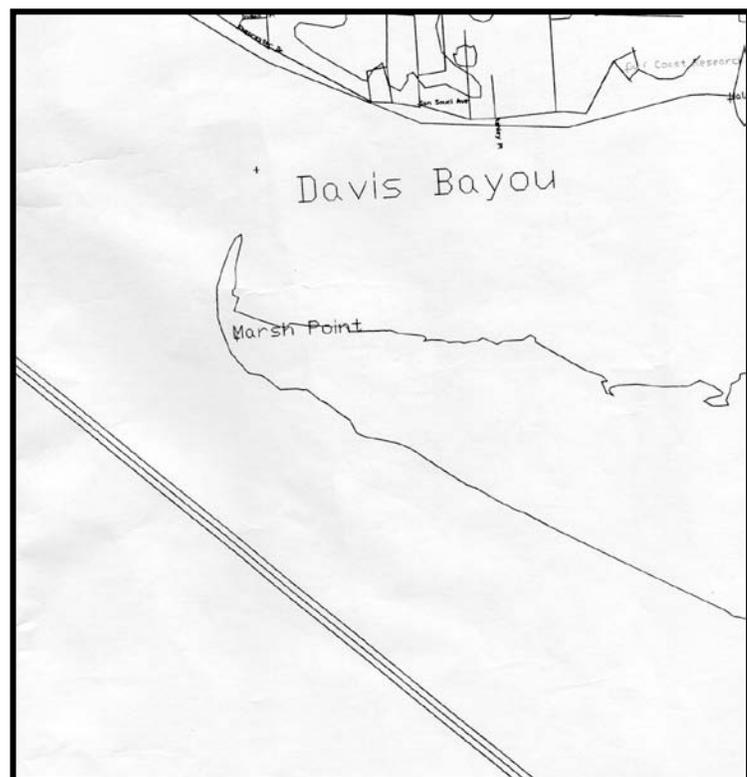


Figure 6: Davis Bayou & Marsh Point

discussions with Mississippi Department of Marine Resources (MDMR) and Congressman Gene Taylor's Office, this site was eliminated from any further consideration due to its lack of environmental benefits when compared to the other possible alternatives.

4.2.3 Alternative Three – Marsh Point. This site is approximately a ½ of a mile due north of station 160+00 East Access Channel on the south side of the peninsula (**Figure 5**). This area, of all three sites, had the most disadvantages. Two sides of the proposed site were exposed to winds and wave action from the dominant southeast direction, and the third side was primarily exposed to the strong north winds during the winter. In addition, there was no good solid foundation material at the site. This limited containment alternatives available to evaluate for the proposed site. Upon evaluating these constraints, this site was eliminated as a possible alternative because the cost would greatly exceed the other possible alternatives.

4.2.4 Alternative Four – Deer Island. The southeastern portion of Deer Island was the final site evaluated and had the most benefits when compared to the other alternative sites. The proposed site is located on the north side of Deer Island, at the southeast tip. This location oriented the site with only one dominant side fully exposed to environmental forces from the southeast. Strong north wind is a factor, but due to the relatively short fetch length, and the shallow water encompassing the site, waves from the north would neither have the water depth nor time to fully develop. The foundation for this site was also found to be suitable with medium to fine dense sand, offering acceptable foundation and quality construction materials for several containment alternatives. Deer Island was selected as the proposed site for the marsh re-establishment after assessing all of the factors.

4.3 Shore Protection Alternatives. Several alternatives were assessed to address shore protection from environmental forces, such as wind and wave energy.

4.3.1 Alternative One – No Action. The implementation of the “no action” alternative would result in no containment structure being constructed. This alternative would not be acceptable due to the State of Mississippi's requirements for water quality certification. Thus, this alternative was not considered any further.

4.3.2 Alternative Two - Rip Rap Revetment. Rip rap revetment is a surface layer of natural stones (or processed concrete rubble) that depends on their individual weights to remain stable and provide protection from wave action. This structure is considered to be flexible in its response to waves because some of the stones may move without degrading the protection of the layer as a whole. The Shore Protection Manual guidelines suggest that the design wave height for flexible structures usually range from Hs to H5. For the condition at the Deer Island site, a design wave height of H5 is recommended. The cost of rip rap was far less than that of the other possible alternatives. The team evaluated this alternative based on economic, engineering, and environmental principles and determined it to be the most suitable alternative.

4.3.3 Alternative Three – Gravel Revetment. Gravel revetment refers to a thick layer of gravel (natural, processed stone, or processed concrete rubble) covering the slope to be protected. The gravel layer conforms to the surface of the dike. The gravel is somewhat similar to the rip rap except that the stone sizes are smaller, the layer is thicker, and the gravel is not only considered more flexible but is expected to deform in response to the wave energy. The Shore Protection Manual guidelines suggest that the design wave height for flexible structures usually range from Hs to H5. A design wave height of Hs is recommended for gravel at the Deer Island site. The increased dike construction costs of this alternative were a prohibiting factor against selecting this alternative.

4.3.4 Alternative Four – Geo-tubes. The geo-tube is a sausage-shaped bag made of geo-textile fabric and filled with sand. The geo-tube relies on the weight of the sand-filled bag and the strength of the fabric to retain the sand as protection from wave action. This structure is considered to be semi-rigid in its response to waves because the bag is not expected to move but the fabric may flex and deform after exposure to waves. The Shore Protection Manual guidelines suggest that the design wave height for semi-rigid structures usually range from H10 to H1. For the conditions at the Deer Island site, a design wave height of H5 is recommended. Due to the possibility of tearing and cost, the alternative was not selected.

4.4 Relationship to Deer Island. Two alternatives were evaluated to address the proximity of the marsh habitat to Deer Island.

4.4.1 Alternative One – Adjacent to Deer Island. The first alternative considered constructing a containment dike along the existing shoreline, using materials within the proposed site to construct the dike. As the site is prepared for final planting, the diked material would be used to fill the void on the island, restoring the elevation of the adjacent habitat. Excess materials could be used to create habitat diversity features, such as bird nesting mounds or higher marsh. This was the selected alternative due to it being more environmentally acceptable than offsetting the marsh site from the island.

4.4.2 Alternative Two – Offset from Deer Island. Marsh would be offset from the island. The interior dike would be constructed at a lower base elevation in Biloxi Bay, leaving inter-tidal access to the site via a channel. The leading edge (southeast) dike of the site must still be tied to the island to prevent the focus of water energy down the offset area and possibly eroding the lesser structure, the island. This alternative was not selected as the preferred alternative because this configuration may lead to erosion to the island and reduced dissolved oxygen in the channel located between the island and re-established marsh habitat.

5.0 AFFECTED ENVIRONMENT

5.1 History. Local and congressional interest requested Federal Action to address possible beneficial use of dredged material in Harrison and Jackson Counties. Particular concern has been expressed from the resource agencies that any improvements be constructed in a manner that minimizes adverse impacts on the area's resources.

5.2 Climate. The coastal area is a humid, warm-temperature to sub-tropical climate. Occasional subfreezing temperatures occur in the area. The Gulf of Mexico greatly influences air temperatures of the coastal counties. During the spring months of March through May, synoptic scale weather systems, highlighted by very active frontal passages, move through the region on an average of every 5 to 7 days. The average temperature during these months is 67° Fahrenheit (F) with a mean minimum of 57° F and a mean maximum of 77° F. The prevailing wind direction is typically east-southeast to southeast at 6 to 12 knots outside of thunderstorms. Passage of frontal systems is significantly reduced during the summer months of June through August. Hot and hazy conditions are normal with an average temperature of 81.7° F while the mean minimum temperature is 72.8° F and the mean maximum is 91.2° F. The prevailing wind direction maintains a southerly component at 4 to 8 knots, outside of thunderstorms. Thunderstorms and rain showers diminish during the September to November time period. The average temperature is 69° F with a mean minimum temperature of 58.5° F and a mean maximum temperature of 78.5° F. A 4 to 7 knot north-northwest prevailing wind is dominant during this period. From December to February, synoptic scale weather systems pass through the region with a northerly prevailing wind direction of 5 to 11 knots. The average temperature is 52° F with a mean minimum of 41.5° F and a mean maximum of 62.1° F. The record low temperature for the region, 5° F, was recorded during this period. Annual rainfall is between 55 and 64 inches per year (USACE 1984).

5.3 Topography. Mississippi Sound is 81 miles long, 7 to 15 miles wide and averages 9.9 feet in depth (Eleuterius 1976). Its seaward limit is formed by five barrier islands, and on the southwest, between Half Moon (Grand) Island and Isle au Pitre, by marsh island remnants of the St. Bernard subdelta. The five barrier island system is comprised of Cat, East Ship, West Ship, Horn, Petit Bois and Dauphin Island.

5.4 Geology. Geologic processes have shaped the present configuration and geomorphology of the Mississippi Gulf Coast for the past 1.6 million years, particularly in the past 18,000 years, and efforts of man to stabilize an eroding shoreline with structures and artificial fill. The Biloxi Formation is a transgressive unit deposited in marine and brackish water both nearshore and offshore. This formation is not exposed along the coast, but is visible in the excavated banks of the Industrial Seaway in Gulfport. It consists of clays, fine sands, and sandy clays with abundant fossils, including both shells and microscopic fossils called foraminifers, which help to identify its environment of deposition (Otvos 1985). It ranges from 15 to 45 feet in thickness in Harrison County to as much as 120 feet thick in Jackson County.

The Prairie Formation is the alluvial (river system) equivalent of the marine Biloxi Formation. It was deposited in the river channels and inter-channel swamps, which formed where the rivers met the coast marine environment. It is composed of primarily sands and muddy sands with fossil tree trunks, leaves, and occasionally pine cones. The Prairie Formation ranges from 15 to 40 feet thick, and is visible in the Industrial Seaway cut in Harrison County.

The Gulfport Formation is the most prominent and probably the most exploited geologic formation on the coast. It is a regressive sand unit deposited during the highest sea level stage of the Pleistocene. It forms the high ridge upon which the cities along the Harrison County coast are built (i.e. Pass Christian – Long Beach – Gulfport – Biloxi). The Gulfport Formation beach ridges probably extended several miles south from the present shoreline immediately after they were deposited, but subsequent erosion has resulted in their current geographic extent. All sand on the mainland beaches of Mississippi comes indirectly from the Gulfport Formation. Two islands in the Mississippi Sound, Round Island in Jackson County and Deer Island in Harrison County, are remnant Gulfport Formation sand ridges, which were once connected to the ancient mainland (Otvos, 1985).

5.5 Soils. The Jackson County coastal area can be classified as a terraced deltaic plain. The coastal lowlands have a gently undulating topography with elevations ranging from 0 to 30 feet above mean sea level. These barrier islands' sands make up the Barrier Island facies which grade into the silty clays towards the mainland where Marsh Point and Davis Bayou are located. The southerly boundary of the Sound is defined by a series of barrier islands that consist primarily of sands deposited by longshore currents and wave action. Deer Island is not considered a barrier island but rather an extension of the mainland geological structure. The island is high, sandy, and extensively wooded with pine. Sediment surrounding the island is composed primarily of poorly graded sands, gravelly sands, silty sands, and sands.

5.6 Surface Water. Mississippi Sound is 140 miles long and about 13.5 miles in width; however, the Sound averages only 9.9 feet in depth. Mississippi Sound is less salty than that of the Gulf of Mexico due to the constant freshwater influx from the surrounding rivers. This mixing of fresh and saltwater produces the brackish water of the Sound that ranges between 3 to 27 parts per thousand (ppt). The Gulf of Mexico keeps Mississippi's three coastal counties warmer in winter and cooler in summer. The average surface temperatures are provided in Table 1 below.

TABLE 1:

Month	Average Sea Surface Temperature (F°)	Month	Average Sea Surface Temperature (F°)
January	56.8	July	84.4
February	57.7	August	84.7
March	62.2	September	82.2
April	68.5	October	75.0
May	76.5	November	67.3
June	82.2	December	60.8

Mississippi Sound is classified for recreational uses expect in areas that are approved for shellfish harvesting. These areas carry more stringent bacteria standard than that of recreation waters. Mississippi Sound has high fecal coliform concentrations and has once been classified as “the most serious water quality problem in the state.” Nutrients within the Mississippi Sound reflect the influence of the freshwater discharges from the Mobile, Pascagoula, and Pearl River systems. During spring, nitrate concentrations increased and orthophosphate concentrations decreased through the Sound due to high freshwater discharge. The reverse relationship was confirmed for the low summer freshwater inflow period (June-September).

5.7 Flora. Some of the lowland elevations bordering Mississippi Sound are subject to daily tidal inundation. Three zones of emergent wetlands can be identified within the project area. Saline marshes bordering Mississippi Sound integrate into brackish marshes. Freshwater marshes exist further inland in all of the bays in the area.

The vegetative community in brackish to saline marshes consists of plants that have adapted physiologically to higher levels of salinity. Brackish marshes are more diverse than saline marshes. Saline marshes are dominated by black needlerush (*Juncus roemerianus*). Smooth cordgrass (*Spartina alterniflora*) is locally abundant in the intertidal zone of the saline marsh. Other common species include marsh-hay cordgrass (*Spartina patens*), big cordgrass (*Spartina cynosuroides*), olneyi rush (*Scirpus olneyi*), saltmarsh bulrush (*Scirpus robustus*), sea lavender (*Limonium carolinianum*), and sea marsh aster (*Aster tenuifolius*). Submerged seagrass beds were historically found at Deer Island; however, in the 1998 report entitled “Mapping of Seagrass Resources in Mississippi Sound,” no seagrass beds were identified at the Island (Moncreiff 1998). The proposed marsh project could possibly provide more suitable characteristics that would promote the re-establishment of seagrass beds.

5.8 Fauna. The very diverse invertebrate and vertebrate population indigenous to Mississippi Sound transfers energy through the coastal food web. Estuarine zooplankton, such as copepods, protozoans, tunicates, ctenophores, and larval stages of benthic organisms, provide an integral portion to the estuarine food web. In addition, epibenthic crustaceans and infaunal polychaetes transfer organic material from detritus and other benthic species into an available food source, which is then consumed by higher trophic levels. These epibenthic crustaceans and infaunal polychaetes dominate the diets of higher trophic levels, such as flounder, catfish, croaker, porgy, and drum.

The fish species composition of the estuarine and offshore area along the northern Gulf of Mexico is of a high diversity due to the variety of environmental conditions that exist within the area. The major fisheries landed along the Mississippi and Alabama Gulf coast are menhaden (*Brevoortia patronus*), mullet (*Mugil cephalus*), croaker (*Micropogonias undulates* and *Leiostomus xanthurus*), shrimp (*Penaeus axetecus*, *P. setiferus*, and *P. duorarum*), blue crab (*Callinectes sapidus*), and oyster (*Crassostrea virginica*). The coast of Mississippi supports a large population of passerine birds, waterfowl, wading birds, and shore birds. Coastal mammals are primarily restricted to terrestrial or semi-terrestrial habitats of the barrier islands and mainland. Mammals such as the bottle-nosed dolphin, marsh rabbit, cotton rat, swamp rabbit, river otter, and raccoon are prevalent in the area.

5.9 Endangered and Threatened Species. Tables 2 and 3 provide a list of endangered and threatened species identified in Harrison and Jackson Counties, Mississippi, respectively.

Table 2:

Federally Listed Endangered and Threatened Species in Harrison County, Mississippi (USFWS 2002)
T – Piping plover (<i>Charadrius melodus</i>)
T – Eastern indigo snake (<i>Drymarchon corais couperi</i>)
T – Gopher tortoise (<i>Gopherus polyphemus</i>)
E – Alabama red-belly turtle (<i>Pseudemys alabamensis</i>)
T – Loggerhead sea turtle (<i>Caretta caretta</i>)
E - Kemp's ridley sea turtle (<i>Lepidochelys kempi</i>) (P)
T – Green sea turtle (<i>Chelonia mydas</i>) (P)
T - Gulf sturgeon (<i>Acipenser oxyrinchus desotoi</i>)
T – Flatwoods salamander (<i>Ambystoma cingulatum</i>) (P)
E – Louisiana quillwort (<i>Isoetes louisianensis</i>) (P)
C - Black pine snake (<i>Pituophis melanoleucus lodingi</i>)
Key to codes on list: E – Endangered T – Threatened C – Candidate Species (P) – Possible Occurrence

Table 3:

Federally listed Endangered and Threatened Species Jackson County, Mississippi (USFWS 2002)
T – Piping plover (<i>Charadrius melodus</i>)
T - Bald eagle (<i>Haliaeetus leucocephalus</i>)
T – Gopher tortoise (<i>Gopherus polyphemus</i>)
T - Yellow-blotched map turtle (<i>Graptemys flavimaculata</i>)
T - Louisiana black bear (<i>Ursus a. luteolus</i>)
T - Eastern indigo snake (<i>Drymarchon corais couperi</i>)
T – Loggerhead sea turtle (<i>Caretta caretta</i>)
E – Kemp's ridley sea turtle (<i>Lepidochelys kempii</i>) (P)
T – Green sea turtle (<i>Chelonia mydas</i>) (P)
E - Brown pelican (<i>Pelecanus occidentalis</i>)
E - Mississippi sandhill crane (<i>Grus canadensis pulla</i>)
T – Gulf sturgeon (<i>Acipenser oxyrinchus desotoi</i>)
E - Red-cockaded woodpecker (<i>Picoides borealis</i>)
E - Louisiana quillwort (<i>Isoetes louisianensis</i>)
C- Pearl darter (<i>Percina aurora</i>) (Pascagoula River System)
Key to codes on list: E – Endangered T – Threatened C – Candidate Species (P) – Possible Occurrence

Of these species listed, those most likely to be found within the project area include the Kemp's ridley and loggerhead sea turtles, and the piping plover. Kemp's ridley sea turtles are usually found in water with low salinity, high turbidity, high organic content, and where shrimp are abundant. This species of sea turtle is the most commonly found species along the Mississippi coast. The continual influx of freshwater and high organic content associated with the northern Gulf of Mexico provides ideal foraging habitat for this species. Loggerhead sea turtles inhabit continental shelves, bays, estuaries, and lagoons in temperate, subtropical, and tropical waters. In the Atlantic, loggerhead sea turtles' range extends from Newfoundland to as far south as Argentina. During summer, sea turtles nest in the lower latitudes. Primary Atlantic nesting sites are along the east coast of Florida, with additional sites in Georgia, the Carolinas, and along the Gulf coast. Beaches at Deer Island and its surrounding areas could be possible habitat for the loggerhead and Kemp's ridley turtles.

The piping plover is a small, stocky shorebird resembling a sandpiper. Piping plovers arrive on their breeding grounds, such as the Gulf Coast barrier islands, in late March or early April. Critical Habitat for the piping plover has been designated by the U.S. Fish and Wildlife Service (USFWS) along the Gulf Coast barrier islands. Thus, the beaches of Deer Island could be possible habitat for the piping plover.

6.0 ENVIRONMENTAL EFFECTS

6.1 Introduction. The proposed action would have minor adverse environmental impacts on the existing environment. The proposed marsh re-establishment site will provide additional aquatic marsh habitat, which would support additional species of fauna and flora at Deer Island. In fact, the proposed project would also provide more protection to Deer Island from current erosion. The impacts of the proposed restoration are discussed in the following paragraphs.

Impacts associated with the use of a hydraulic pipeline dredge to dredge material from the channel include: 1) temporary water quality degradation during operations; 2) minor loss of bottom dwelling organisms; 3) avoidance of the operation area by pelagic and benthic fauna; and 4) a temporary reduction in air quality due to exhaust emissions.

Environmental benefits associated with the beneficial use of dredged material from the East Access and Lateral Access Channels of the Federally authorized Biloxi Harbor navigation project to re-establish marsh habitat include: 1) provide protection to larvae and juvenile species; 2) offset erosion; 3) improve water quality; 4) possibly re-establish the once-supported commercial fisheries; and 5) provide additional aquatic habitat for associated flora and fauna. In light of the environmental benefits that are anticipated to occur as a result of the proposed action implementation, these described adverse impacts are minor, short-duration, and insignificant impacts that are typical of these operations.

6.2 Benthos, Motile Invertebrates, and Fishes. There would be temporary disruption of the aquatic community. Non-motile benthic fauna within the area may be destroyed by the proposed operations, but should be repopulated within several months after dredging completion. Some of the motile benthic and pelagic fauna, such as crabs, shrimp, and fishes, are able to avoid the disturbed area and should return shortly after the activity is completed. Larval and juvenile stages of these forms may not be able to avoid the activity due to limited mobility. The overall impact to these organisms is expected to be minimal. In addition, in light of these adverse impacts, the re-establishment of marsh habitat at the northeastern portion of Deer Island would benefit various motile and non-motile benthic fauna by providing additional aquatic habitat. The environmental habitat of Deer Island following the proposed activities would provide suitable conditions for benthic fauna, motile invertebrates, and fishes.

6.3 Wildlife/Wildlife Habitat. There would be a temporary disruption to the wildlife and its habitat due to the presence of heavy equipment and its associated activities. The overall impact to these organisms is expected to be minimal because the wildlife is anticipated to avoid this activity. The large population of passerine birds, waterfowl, wading birds, and shore birds along the coast of Mississippi would benefit from the marsh re-establishment project. In addition, coastal mammals, which are primarily restricted to terrestrial or semi-terrestrial habitats of the barrier islands and mainland, would also benefit by the additional habitat for shelter and food supply.

6.4 Esthetics. Esthetics will be temporarily reduced in the immediate vicinity of the proposed project operations. Some residents and visitors to the area may be disturbed by the presence of the dredge and associated heavy equipment. However, this action is temporary in nature so the disturbance will be minimal. Upon settling and planting of the proposed project site, the marsh site would provide residents and visitors with a more esthetically pleasing view of Deer Island. The proposed project would provide additional aquatic habitat to numerous marine birds. From an environmental viewpoint, this proposed marsh re-establishment project is anticipated to enhance the existing aquatic habitat along Deer Island, Mississippi. Esthetic benefits associated with the implementation of the proposed project include: 1) increased marsh habitat in Harrison County; and 2) additional aquatic habitat for flora and fauna.

6.5 Water Quality. Water quality in the immediate vicinity of the dredge and the disposal placement site would be slightly impaired for a short period of time due to the removal of material by the dredge and the return water from the disposal site. Disposal of material would not significantly impact water quality because these operations are minor, short-duration, and insignificant impacts that are typical of these operations. Best management practices (BMP) would be implemented to reduce disturbance to the area. Water quality is anticipated to improve by the additional aquatic marsh plants filtering runoff before it enters into the Sound. In light of the described environmental benefits that are anticipated to occur, the following described adverse impacts are minor, short-duration, and insignificant impacts that are typical of these operations.

6.5.1 Turbidity. Minor increases in turbidity will occur from the proposed project operations in the vicinity. Hydraulic pipeline dredges result in lower turbidity levels, in comparison, to that of mechanical dredges. Turbidity increases from dredging operations and the pumping of that dredged material to the proposed project site will reduce light penetration through the water column, thereby reducing photosynthesis, surface water temperatures, and esthetics. These conditions could potentially alter visual predator-prey relations in the immediate project vicinity. In addition, sediment adheres to fish gills, resulting in respiratory stresses, and natural movement of eggs and larvae could be potentially altered as a result of the sediment adherence. Removal of dredged material from the East Access and Lateral Access Channels in order to restore the authorized depth and re-establish marsh habitat at Deer Island could result in all of the above-described adverse impacts. However, as a result of this assessment, the short duration of these operations would minimize the described adverse impacts and would result in additional aquatic habitat for various species of flora and fauna. In addition, the proposed project would also abate erosion along the northeastern portion of Deer Island.

6.5.2 Suspended Sediment. Although, resuspension of sediment will likely occur within the vicinity of the proposed operations, these described impact will be typically minor and of short duration.

6.6 Noise. Noise from the engine and other job-related equipment is expected to increase during the proposed operations in the project vicinity. Noise levels will resume

to prior conditions once the removal of sediment is completed. Noise is not anticipated to be a significant impact.

6.7 Navigation. Navigation will be temporarily affected due to associated dredging operations and the construction and disposal activities at the dredging site. The restricted maneuverability of the equipment may result in incoming/outgoing vessels waiting for short periods of time. While the presence of the dredge is expected to be a slight inconvenience, no adverse impacts are expected to occur to navigation due to these operations being of a short duration.

6.8 Air Quality. Harrison County has been designated in attainment with the National Ambient Air Quality Standards (NAAQS). Air quality in the immediate vicinity of the heavy equipment would be slightly affected for a short period of time by the fuel combustion and resulting engine exhausts. The standards would not be violated by the implementation of the proposed project. In light of prevailing winds in the area, these emissions are insignificant.

6.9 Implementation of Mitigation Action. No mitigation actions will be implemented during the proposed project.

6.10 Environmental Justice. Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations* (February 11, 1994) requires that federal agencies conduct their programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under such programs, policies, and activities because of their race, color, or national origin. On February 11, 1994, the President also issued a memorandum for heads of all departments and agencies, directing that U.S. Environmental Protection Agency (EPA), whenever reviewing environmental effects of proposed actions pursuant to its authority under Section 309 of the Clean Air Act (CAA), ensure that the involved agency has fully analyzed environmental laws, regulations, and policies.

The proposed project is not designed to create a benefit for any group or individual. The re-establishment of marsh habitat at Deer Island does not create disproportionately high or adverse human health or environmental impacts on minority or low-income populations of the surrounding community. Review and evaluation of the proposed project have not disclosed the existence of identifiable minority or low-income communities that would be adversely impacted by the proposed project.

6.11 Protection of Children. The EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (April 21, 1997), recognizes a growing body of scientific knowledge that demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because children's bodily systems are not fully developed; because children eat, drink,

and breathe more in proportion to their body weight; because their behavior patterns may make them more susceptible to accidents. Based on these factors, the President directed each federal agency to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. The President also directed each federal agency to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

Deer Island is uninhabited; thus, no changes in demographics, housing, or public services would occur as a result of the proposed project. With respect to the protection of children, the likelihood of disproportionate risk to children is not significant. Re-establishing marsh habitat at Deer Island does not involve activities that would pose any disproportionate environmental health risk or safety risk to children.

6.12 Cultural Resources. The National Register of Historic Places has been consulted and no properties listed on, being nominated to, or that have been determined eligible for the National Register are located in the vicinity of the proposed work (Enclosure 1).

6.13 Endangered and Threatened Species. In letters dated January 10, 2002 and March 22, 2002, the USFWS, Daphne and Jackson field offices, respectively, concurred with Mobile District's determination that no Federally listed species would be impacted as a result of the proposed project (Enclosures 2 and 4).

6.14 Hazardous, Toxic, and Radioactive Waste. A Preliminary Assessment Screening (PAS) is not required since this site is not an upland site.

6.15 Essential Fish Habitat. Essential Fish Habitat (EFH) is defined by Congress as "those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity," the designation and conservation of EFH seeks to minimize adverse effects on habitat caused by fishing and non-fishing activities. The National Marine Fisheries Service (NMFS) has identified EFH habitats for the Gulf of Mexico in its Fishery Management Plan Amendments. These habitats include estuarine areas, such as estuarine emergent wetlands, seagrass beds, algal flats, mud, sand, shell, and rock substrates, and the estuarine water column. In addition, marine areas, such as the water column, vegetated and non-vegetated bottoms, artificial and coral reefs, geologic features, continental shelf features, and the Mississippi shelf, have also been identified. Table 4 lists the species managed by the Gulf of Mexico Fishery Management Council. Of these the following would be expected to utilize the project area: brown shrimp (*Penaeus aztecus*), pink shrimp (*P. duorarum*), and white shrimp (*P. setiferus*).

This proposed marsh re-establishment project at Deer Island would provide habitat that has been lost due to coastal erosion. Erosion along the eastern end of the island occurs at a rate of about 6.6 feet per year (Schmid personal communication). This re-establishment of marsh habitat would benefit many of the juvenile and larval stages

listed by NMFS as managed species. As a result, it is anticipated that providing a nursery ground for juvenile fish and crustaceans would enhance EFH. In addition, the proposed marsh project is anticipated to increase nutrient processing through plant detrital mass influx. Transfer of this nutrient supply to higher trophic levels would further benefit the described managed species. It is anticipated that finfish and shellfish production would be re-established several years following the completion of the project. Although, the re-establishment of this marsh would result in the temporary disruption of the aquatic community, non-motile benthic fauna within the area should repopulated within several months after the completion of the activities. Some of the motile benthic and pelagic fauna, such as crab, shrimp, and fish, are able to avoid the disturbed area and should return shortly after the activity is completed. The long-term impact of benefits gained by these organisms is anticipated to outweigh the short-term impact. The re-establishment of the tidal marsh habitat would provide protection to larvae and juvenile species, offset erosion, and possibly re-establish the once-supported commercial fisheries present in the area. The long-term impact from proposed marsh project is anticipated to enhance EFH by providing these described environmental benefits at Deer Island.

Table 4:

Fishery Management Plans and Managed Species for the Gulf of Mexico. (NMFS 1999)	
Shrimp Fishery Management Plan	Red Drum Fishery Management Plan
Brown shrimp (<i>Penaeus aztecus</i>)	Red drum (<i>Sciaenops ocellatus</i>)
Pink shrimp (<i>P. duorarum</i>)	
Rock shrimp (<i>Sicyonia brevirostris</i>)	Golden Crab Fishery Management Plan
Royal Red Shrimp (<i>Pleoticus robustus</i>)	Golden crab (<i>Chaceon feneri</i>)
White Shrimp (<i>P. setiferus</i>)	
Snapper Grouper Fishery Management Plan	
Blackfin snapper (<i>Lutjanus buccanella</i>)	Silk snapper (<i>L. vivanus</i>)
Blueline tilefish (<i>Caulolatilus microps</i>)	Snowy grouper (<i>E. niveatus</i>)
Gray snapper (<i>L. griseus</i>)	Speckled hind (<i>E. drummondhayi</i>)
Greater amberjack (<i>Seriola dumerili</i>)	Yellowedge grouper (<i>E. flavolimbatus</i>)
Jewfish (<i>Epinephelus itajara</i>)	Warsaw grouper (<i>E. nigritus</i>)
Mutton snapper (<i>L. analis</i>)	White grunt (<i>Haemulon plumieri</i>)
Red porgy (<i>Pargus pargrus</i>)	Wreckfish (<i>Polyprion americanus</i>)
Red snapper (<i>L. campechanus</i>)	Scamp (<i>Mycteroperca phenax</i>)
Vermillion snapper (<i>Rhomboplites aurorubens</i>)	
Coastal Migratory Pelagics Fishery Management Plan	
Dolphin (<i>Coryphaena hippurus</i>)	
Cobia (<i>Rachycentron canadum</i>)	
King mackerel (<i>Scomberomorus cavalla</i>)	
Spanish mackerel (<i>S. maculatus</i>)	
Spiny Lobster Fishery Management Plan	
Spiny lobster (<i>Panulirus argus</i>)	
Calico Scallop Fishery Management Plan	
Calico scallop (<i>Argopecten gibbus</i>)	
Coral and Coral Reef Fishery Management Plan	
Varied coral species and coral reef communities	
Comprised of several hundred species	
Sargassum Habitat Fishery Management Plan	
Sargassum (and associated fauna) where it occur in the EEZ and state waters	

The NMFS concurred with USACE, Mobile District’s determination that EFH would not be adversely affected as a result of the proposed marsh re-establishment project.

6.16 Coastal Zone Management. The Mobile District, USACE has determined that the proposed restoration project is consistent with MS Coastal Program. The MDMR concurred with Mobile District’s determination in a letter dated June 20, 2002 (Enclosure 5).

6.17 State Water Quality Certification. The Mobile District, USACE has determined that the proposed restoration project may exceed the State’s water quality standards. This matter was discussed among staff representatives from the Mississippi Department of Environmental Quality (MDEQ) and USACE. Following those discussions, the MDEQ stated that due to anticipated environmental benefits that would result from the proposed project a waiver of turbidity would be issued. Mobile District is

anticipated to receive Section 401 certification from the State of Mississippi following the required public comment period.

7.0 CONCLUSION

The implementation of the proposed action would not have a significant adverse impact on the quality of the environment and an environmental impact statement is not required.

8.0 LIST OF AGENCIES, INTERESTED GROUPS AND PUBLIC CONSULTED

Mississippi Department of Environmental Quality
 Mississippi Department of Marine Resources
 Mississippi State Historic Preservation Officer
 National Marine Fisheries Service
 National Register of Historic Places
 U.S. Environmental Protection Agency, Region IV
 U.S. Fish and Wildlife Service, Daphne Field Office, Alabama
 U.S. Fish and Wildlife Service, Jackson Field Office, Mississippi

9.0 ACRONYMS

BMP	Best Management Plan
CAA	Clean Air Act
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ER	Engineer Regulation
EFH	Essential Fish Habitat
F	Fahrenheit
FONSI	Finding of No Significant Impact
MDEQ	Mississippi Department of Environmental Quality
MLLW	Mean Lower Low Water
MLW	Mean Low Water
MDMR	Mississippi Department of Marine Resources
NAAQS	National Ambient Air Quality Standard
NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum
NMFS	National Marine Fisheries Service
O&M	Operations and maintenance
PAS	Preliminary Assessment Screening
ppt	parts per thousand
SMA	Special Management Area

USACE U.S. Army Corps of Engineers
USFWS U.S. Fish and Wildlife Service
WRDA Water Resources Development Act

10.0 REFERENCES

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11.0 LIST OF PREPARERS

The following individuals listed below participated in the preparation of this EA.

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ENCLOSURES



DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

May 30, 2001

06-014-01 EL
RECEIVED
JUN 03 2001

Department of Archives & History

REPLY TO
ATTENTION OF

Inland Environment Team
Planning and Environmental Division

Mr. Elbert R. Hilliard
Mississippi State Historic Preservation Officer
ATTN: Mr. Tom Waggoner
Post Box 571
Jackson, Mississippi 39205

Dear Mr. Hilliard:

The Mobile District, U.S. Army Corps of Engineers is proposing a tidal marsh creation project near Deer Island, Harrison County, Mississippi. Three sites are being considered. The locations of the three sites are shown on the attached drawing. The recommended site will be selected based on environmental suitability, engineering, and cost information developed during the planning and design phase of the project.

Materials for the marsh creation will be obtained from maintenance dredging of the existing East Access channel, the Lateral channel or previously used open water disposal sites. Rip-rap will be placed in the water fronting the shoreline and dredged materials back filled into the semi-confined area. Upon settling, marsh flora would be planted. It is estimated that approximately 30 acres of marsh habitat would be created.

All construction will be confined to the waters of Mississippi Sound or Davis Bayou with no upland disturbance. It is our opinion that the project as currently proposed will have no effect on cultural resources. If you agree with this determination, please sign this letter in the space provided below and return it to me at your earliest convenience. An expeditious response will be appreciated.

Should you have questions or require additional information, please contact Mobile District archeologist, Ms. Dottie Gibbens at (334) 694-4114.

Sincerely,

Hugh A. McClellan
Chief, Environment and Resource
Branch

CONCUR: Elbert R. Hilliard 6-6-01 By Thomas H. Waggoner
Elbert R. Hilliard (Date) review + completion
Mississippi State Historic Preservation Officer officer

Enclosure



IN REPLY REFER TO
02-0288a

UNITED STATES DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
P. O. Drawer 1190
Daphne, Alabama 36526

January 10, 2002

District Engineer
U. S. Army Corps of Engineers
Planning and Environmental Division
Coastal Environment Team
P.O. Box 2288
Mobile, AL 36628

ATTN: Ms. Jennifer Jacobson

Dear Sir:

This letter is in response to an April 10, 2001 letter from the U.S. Fish and Wildlife Service's (Service) Jackson, Mississippi, Ecological Services Field Office and a telephonic inquiry from your staff concerning possible effects of the proposed marsh creation adjacent to Deer Island, Biloxi, Mississippi on proposed critical habitat for the threatened piping plover (*Charadrius melodus*) or conflict with the Coastal Barrier Resources Act (CBRA), respectively.

Because the project will not affect piping plover habitat, or any landward portions of the island, the Service believes there will be no effect on Federally listed species in accordance with the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). The project site lies within CBRA Unit R02 and is therefore technically ineligible for development using Federal funds. We recommend that you consult with this office to determine whether the project would qualify for an exemption. We believe that the project may be allowed under Section 6. Exceptions. Subsection (a) (6) (A) Projects for the study, management, protection and enhancement of fish and wildlife resources and habitats. However, a formal analysis and statement from the Service will be necessary before work could proceed, that process should begin as soon as possible.

For further discussion, please contact Patric Harper at (251) 441-5181 x 34.

Sincerely,

Larry E. Goldman
Field Supervisor

JAN 14 2002

PHONE: 334-441-5181

www.fws.gov

FAX: 334-441-6222

SHIPPING ADDRESS: 1208-B Main Street, Daphne, AL 36526

Enclosure 2



DEPARTMENT OF
MOBILE DISTRICT, CORPS
P.O. BOX 22
MOBILE, ALABAMA

OPTIONAL FORM NO (7-00) **FYI**

FAX TRANSMITTAL # of pages = 1

To: <u>Jenny J.</u>	From: <u>Patric</u>
Dept/Agency	Phone #
Fax #	Fax #

N8N 7540-01-317-7309 6099-101 GENERAL SERVICES ADMINISTRATION

January 11, 2001

REPLY TO
ATTENTION OF

Coastal Environment Team
Planning and Environmental Division

Mr. Larry Goldman
U.S. Fish and Wildlife Service
1208-B Main Street
Daphne, Alabama 36526

Dear Mr. Goldman:

This letter is in response to your January 10, 2001 letter regarding possible conflicts with the Coastal Barrier Resources Act (CBRA) as a result of the proposed marsh project at Deer Island, Mississippi. The project site lies within CBRA Unit R02. The U.S. Army Corps of Engineers, Mobile District believes that this site would qualify for an exemption under Section 6 Exemptions. Subsection (a) (6) (A) Projects for the study, management, protection and enhancement of fish and wildlife resources and habitats.

Your concurrence on this matter would greatly be appreciated. If we can be of any further assistance to you, please call Ms. Jenny Jacobson at 251/690-2724 or e-mail her at Jennifer.L.Jacobson@sam.usace.army.mil

Sincerely,

Susan Ivester Rees, Ph.D.
Leader, Coastal Environment Team

Concur: Jenny J. Goldman 1-16-02
Larry Goldman (Date)
U.S. Fish and Wildlife Service

Enclosure 3



United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

March 22, 2002

Colonel Robert B. Keyser
District Engineer
U.S. Army Corps of Engineers
P.O. Box 2288
Mobile, Alabama 36628-0001

Dear Colonel Keyser:

The U.S. Fish and Wildlife Service (Service) has reviewed Public Notice FP02-GU06-11, for proposed maintenance dredging of the Gulfport Harbor Project, Harrison County, Mississippi, and Public Notice FP02-BH01-10, for proposed maintenance dredging of the Biloxi Harbor Project, Jackson and Harrison Counties, Mississippi, both dated February 27, 2002. The Mobile District Corps of Engineers would maintenance dredge several channels and harbor areas and deposit the material in:

- a) EPA-designated ocean dredged material sites,
- b) thin-layer disposal in the Mississippi Sound,
- c) a littoral zone disposal site southeast of Cat Island,
- d) existing upland sites, and
- e) at a new site for marsh re-establishment adjacent to the northeast side of Deer Island, Harrison County, Mississippi.

The deposition for marsh re-establishment is pursuant to Section 204 of the Water Resources Development Act of 1992, which authorizes the Corps to restore, protect, and create aquatic and wetland habitat in connection with the maintenance dredging of an authorized project. This report is prepared in accordance with the requirements of the Endangered Species Act {(ESA) 16 U.S.C. 1531 et seq.} and the Fish and Wildlife Coordination Act {(FWCA) (16 U.S.C. 661-667e)}.

The threatened Gulf sturgeon (*Acipenser oxyrinchus desotoi*) occurs in the project area. The sturgeon utilizes the Mississippi Sound, and once Gulf sturgeon leave their river mouth estuary, they tend to be found near barrier islands or in barrier island passes (Ross, et al., 2002). Some of the proposed dredging and deposition of material could be in areas where this species is found.

Enclosure 4

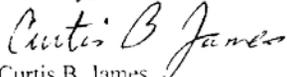
However, at this life stage, these sturgeon are able to swim away from danger. Therefore, the Service has determined that the subject maintenance project activities are not likely to adversely affect the Gulf sturgeon.

As you are aware from the March 12, 2002, meeting at your District office, the Service and the National Marine Fisheries Service are proposing to designate Critical Habitat (CH) for the Gulf sturgeon. If the designation is finalized, it has been recommended that a Programmatic Consultation be conducted for Corps activities affecting Gulf sturgeon CH. (The statement in Public Notice FP02-GU06-11 that the Service's Daphne Office has initiated a biological opinion on the impacts of maintenance dredging on the Gulf sturgeon including the Gulfport Harbor project is incorrect).

With respect to the FWCA, the Service supports the Corps' marsh restoration project adjacent to Deer Island. We appreciate the opportunity to provide our comments on the proposed Biloxi and Gulfport Harbor maintenance dredging projects and the Section 204 marsh restoration project.

If you have any questions concerning our comments, please contact me (601-321-1131).

Sincerely,


Curtis B. James
Acting Field Supervisor

cc: U.S. Environmental Protection Agency, Atlanta, GA
MS Office of Pollution Control, Jackson, MS
MS Dept. of Marine Resources, Biloxi, MS
Fish and Wildlife Service, Panama City, FL and Daphne, AL

LITERATURE CITED

Ross, S.T., R. J. Heise, W.T. Slack, and M.A. Dugo. 2002. Patterns of habitat use of Gulf Sturgeon (*Acipenser oxyrinchus desotoi*) in the northern Gulf of Mexico. *Unpublished report* submitted to the Mississippi-Alabama Sea Grant Consortium. Ocean Springs, MS.

MISSISSIPPI
DEPARTMENT OF MARINE RESOURCES

June 20, 2002

Ms. Jenny Jacobson
U.S. Army Corps of Engineers
Mobile District
Coastal Environment Team
Planning and Environmental Division
P.O. Box 2288
Mobile, AL 36628

RE: DMR-02526: Public Notice No. FP02-BH01 I0; Report of Subsurface Dredge Material Investigation and Site Selection Analysis for Ecosystem Restoration, Biloxi Bay, Biloxi, MS

Dear Ms. Jacobson:

The Department of Marine Resources (DMR) in cooperation with other state agencies is responsible under the Mississippi Coastal Program (MCP) for managing the coastal resources of Mississippi. Proposed activities in the coastal area are reviewed to ensure that the activities are in compliance with the MCP.

DMR staff has reviewed your request to perform continued maintenance dredging and disposal associated with the Low- and Back Bay portions of the Biloxi Harbor Navigation Project and found it consistent with the MCP in a letter dated May 29, 2002 (enclosed). The DMR has further reviewed the proposal to use 365,000 cubic yards of dredged material for marsh creation at the northeastern tip of Deer Island, Biloxi, MS. The proposal includes creating an earthen dike from on-site material, disposal of dredge material, construction of an armored jetty, and the establishment of marsh vegetation. This proposal has been reviewed based upon provisions of the MCP and Section 307 of the Coastal Zone Management Act of 1972 (as amended). The activity has been determined to be consistent with the Mississippi Coastal Program to the maximum extent practicable provided all issues with the Mississippi Department of Environmental Quality are resolved. However, as noted in the report, additional data will be obtained during the final design process. We request the opportunity to review the final design, including any changes to the original proposal, and the vegetation establishment plans.

Deer Island has recently been purchased to be included within the management care of Mississippi's Coastal Preserves Program, a partnership program between the DMR and the Mississippi Secretary of State. As it is the responsibility of the Coastal Preserves Program to manage this land, consultation with their program coordinators should be beneficial. For more information regarding the Coastal Preserves Program, Jeff Clark may be contacted at (228) 374-5000.

Enclosure 5

1141 Bayview Ave., Suite 101 Biloxi, Mississippi 39530 ' (228) 374-5000

If you have any questions regarding this correspondence, please contact Allison Felsher with the Bureau of Wetlands Permitting at (228) 374-5022 extension 5366.

Sincerely,

W. Daryl Jones, Ph.D.
Director, Office of Coastal Ecology

WDJ/alf

Enclosure

cc: Mildred Tharpe, A-95
Margaret Bretz, SOS
Jeff Clark, DMR
Robert Seyfarth, OPC

Enclosure 5

MISSISSIPPI
DEPARTMENT OF MARINE RESOURCES
May 29, 2002

Jenny Jacobson
U.S. Army Corp of Engineers
Mobile District
Coastal Environment Team
Planning and Environmental Division
P.O. Box 2288
Mobile, AL 36628

RE: DMR-02526; Public Notice No. FPO2-BH01-10; Biloxi Harbor Navigation Project

Dear Ms. Jacobson:

The Department of Marine Resources (DMR) in cooperation with other state agencies is responsible under the Mississippi Coastal Program (MCP) for managing the coastal resources of Mississippi. Proposed activities in the coastal area are reviewed to ensure that the activities are in compliance with the MCP.

DMR staff has reviewed your request to perform continuous maintenance dredging and disposal associated with the Lower and Back Bay portions of Biloxi Harbor Navigation Project. Dredged material will be placed in previously approved, open-water disposal areas and existing upland sites. Also proposed is the creation of marsh habitat at the northeast end of Deer Island.

Staff of the DMR is unable to make a consistency determination on the marsh creation portion of the proposal and will be requesting a 15-day extension (enclosed).

However, the maintenance dredging and open water disposal has been reviewed based upon provisions of the MCP and Section 307 of the Coastal Zone Management Act of 1972 (as amended). The activity has been determined to be consistent with the Mississippi Coastal Program to the maximum extent practicable provided all issues with the Mississippi Department of Environmental Quality are resolved.

If you have any questions regarding this correspondence, please contact Allison Felsher with the Bureau of Wetlands Permitting at (228) 374-5022 extension 5366.

Sincerely,

Jerry Brashier
Director, Bureau of Wetlands Permitting

JB/alf

Enclosure
cc: Mildred Tharpe, A-95

Enclosure 5

MISSISSIPPI
DEPARTMENT OF MARINE RESOURCES

May 29, 2002

Jenny Jacobson
U.S. Army Corps of Engineers
Mobile District
Coastal Environment Team
Planning and Environmental Division
P.O. Box 2288
Mobile, AL 36628

RE: DMR-02526; Public Notice No. FP02-BH01- I 0; Biloxi Harbor Navigation Project

Dear Ms. Jacobson:

Since the State has recently acquired a portion of Deer Island, the Department of Marine Resources(DMR), Coastal Preserves Program has been appointed to manage the island. In light of the new management duties, the DMR is requesting a 15-day extension from June 6, 2002. We need the additional time to review the project as it compass with the overall goals for Deer Island.

We have reviewed the maintenance dredging and open water disposal based upon provisions of the MCP and Section 307 of the Coastal Zone Management Act of 1972 (as amended). Please find our consistency certification enclosed.

If you have any questions concerning this correspondence, please contact Allison Felsher with the Bureau of Wetlands Permitting at (228) 374-5022 extension 5366.

Sincerely,

Jerry Brashier
Director, Bureau of Wetlands Permitting

JB/alf

Enclosure

Enclosure 5