DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF

Regional Planning and
Environment Division South
New Orleans Environmental Branch

DRAFT FINDING OF NO SIGNIFICANT IMPACT (FONSI)

DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

U.S. ARMY CORPS OF ENGINEERS RESPONSE TO HURRICANES KATRINA & RITA IN LOUISIANA- PLAQUEMINES PARISH NON-FEDERAL LEVEE MITIGATION AT BIG MAR PLAQUEMINES PARISH, LOUISIANA SEA #433a

Description of the Action. The CEMVN, in cooperation with its non-Federal sponsor, Plaquemines Parish, is proposing to construct 24 acres of fresh marsh as mitigation for freshwater marsh loss due to the actions of TF Unwatering as described in EA #433. The location of the project features is shown in figure 1 of the SEA. The SEA provides additional detail regarding the construction features of the proposed action.

Since the signing of EA #433, a minor design change has occurred. This design change includes the relocation of the borrow site. The relocated borrow site is more economically efficient than the proposed alternatives described in EA #433.

Factors Considered in Determination. This office is assessing the impacts of the proposed action on important resources, including cultural resources, fisheries and wildlife, non-wetland resources/upland resources, threatened or endangered species, recreational resources, aesthetic resources, air quality. No significant adverse impacts were identified for any of these important resources. The risk of encountering hazardous, toxic, and radioactive wastes (HTRW) on this project is considered low.

By a letter dated October 4, 2010 the U.S. Fish and Wildlife Service confirmed that the proposed action will have no effect on any endangered or threatened species. In a letter dated December 16, 2010, the Louisiana State Historic Preservation Officer concurred with a recommendation of no effect on historic properties. This office has concurred with, or resolved, all Fish and Wildlife Coordination Act recommendations contained in a letter from the U.S. Fish

and Wildlife Service, dated December 10 , 2010. This office will concur with, or resolved, all comments on the air quality impact analysis reviewed during the public review period.

Environmental Design Commitments. The following commitments are an integral part of the proposed action:

1) Any design changes that may cause potential impacts to the human environment would be coordinated through Regional Planning and Environment Division South, Environment Branch (PDR-RS).

2) If any unrecorded cultural resources are determined to exist within the project area boundaries, a CEMVN-PDR-RN archeologist would be notified and final coordination with the SHPO and THPO would occur. [CEMVN-PDR-RN/SHPO Standard Operating Procedure]

3) If the proposed action is changed significantly or is not implemented within one year, CEMVN will reinitiate coordination with the USFWS to ensure that the proposed action would not adversely affect any Federally-listed threatened or endangered species, or their habitat, as per USFWS letter dated October 4, 2010.

4) Due to the presence of a colonial nesting wading bird rookery within the Big Mar area, construction would need to take place outside of the USFWS and LDWF 1,000 foot buffer zone or outside of nesting season (September 1 to February 15). If this commitment cannot be met a nesting prevention plan would need to be developed and implemented.

Public Involvement. The proposed action is being coordinated with appropriate federal, state, and local agencies and businesses, organizations, and individuals through distribution of SEA #433a for their review and comment. Comments received during the public comment period will be considered and become part of the official record. SEA #433a is attached hereto, incorporated herein and made a part of this FONSI.

Conclusion. This office is assessing the potential environmental impacts of the proposed action. Based on this assessment, a review of the comments made on SEA #433a, and the implementation of the environmental design commitments listed above, a determination could be made that the proposed action would have no significant impact on the human environment. Therefore, an Environmental Impact Statement will not be prepared.

_____ _____

Date

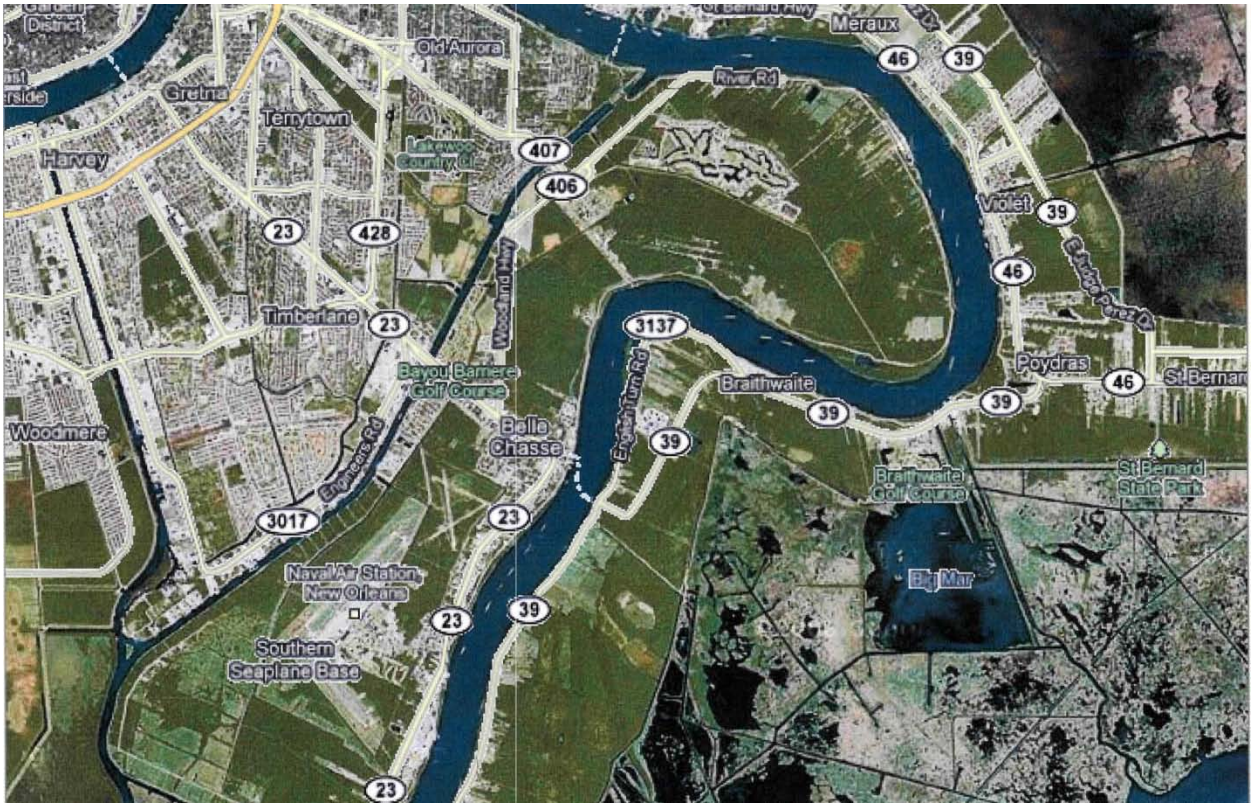
Edward R. Fleming
Colonel, US Army
District Commander

DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

U.S. ARMY CORPS OF ENGINEERS
RESPONSE TO HURRICANES
KATRINA & RITA IN LOUISIANA-
PLAQUEMINES PARISH NON-FEDERAL LEVEE
MITIGATION AT BIG MAR

PLAQUEMINES PARISH, LOUISIANA

SEA #433a



January 2011

INTRODUCTION

The U.S. Army Corps of Engineers, New Orleans District (CEMVN), has prepared this Supplemental Environmental Assessment #433a (SEA #433a) to evaluate the potential impacts associated with the proposed method and location of borrow site to support the mitigation for the impacts to fresh marsh that occurred during the Task Force (TF) Unwatering repair of breaches in the Plaquemines Parish East Bank Back Levee as described in the U.S. Army Corps of Engineers Response to Hurricanes Katrina & Rita In Louisiana Environmental Assessment EA #433 (Appendix E). For economic and real-estate reasons the preferred borrow source evaluated in EA #433 is no longer being considered which has caused the need for a supplemental. The proposed action is located to the North West of the Big Mar, which is the outfall of the Caernarvon outflow channel. Both Big Mar and the mitigation site are located on the east bank of the Mississippi River in Plaquemines Parish in the immediate vicinity of the breach repair sites. SEA #433a has been prepared in accordance with the National Environmental Policy Act of 1969 and the Council on Environmental Quality's Regulations (40 CFR 1500-1508), as reflected in the USACE Engineering Regulation, ER 200-2-2. This document includes the mitigation plan required by Section 2036(a) of the Water Resources Development Act of 2007 and relevant regulations (33 CFR 332.4(c)/40 CFR 230.94(c)). This SEA and mitigation plan provides sufficient information on the potential adverse and beneficial environmental effects to allow the CEMVN Commander to make an informed decision on the appropriateness of an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

PURPOSE AND NEED FOR THE PROPOSED ACTION

CEMVN is proposing to utilize an alternative borrow source to accomplish the mitigation for freshwater marsh loss due to the actions of TF Unwatering as described in EA #433 (Appendix E). A new borrow source is proposed for the mitigation site that has been selected for the impacts incurred during the TF Unwatering and repair of the Braithwaite and Scarsdale breaches. Construction associated with TF Unwatering resulted in the loss of 24 acres of fresh marsh. Wetland Value Assessment models (WVA) were run to determine the Average Annual Habitat Units (AAHU) needed to for mitigation of this loss. It was determined that impacts to 24 acres of fresh marsh resulted in 12.1 AAHU's of impacts.

AUTHORITY FOR THE PROPOSED ACTION

The Plaquemines Parish Non Federal Levees Project was authorized by Department of Defense, Emergency Supplemental Appropriations Act 2006 (P.L. 109-148) and the Plaquemines Parish Government. Detailed design and construction description is displayed in the report "East Bank Breaches, Plaquemines Parish non-Federal Levees Flood Protection Project" approved by the Mississippi Valley District Deputy Commander on 26 May 2006, with following amendments approved in January 2007. The environmental issues associated with the authorized project are

addressed in the USACE Response to Hurricanes Katrina and Rita in Louisiana Environmental Assessment EA #433.

PRIOR REPORTS

On July 24, 2006, the CEMVN Commander signed a Finding of No Significant Impacts (FONSI) on EA #433 U.S. Army Corps of Engineers Response to Hurricanes Katrina & Rita in Louisiana which is incorporated herein by reference.

A final Environmental Impact Statement (EIS), entitled Louisiana Coastal Area Study Interim Report on Freshwater Diversion to Barataria and Breton Sound Basin, was signed September 1984. That EIS addressed the impacts associated with the construction of a fresh water diversion into Big Mar (Caernarvon).

PUBLIC CONCERNS

This section presents a summary of the public concerns received regarding the proposed action. Comments were received from the Plaquemines Parish Government (PPG) and from the Lake Pontchartrain Basin Foundation (LPBF) during the planning phase.

The PPG has concerns about the location of the marsh creation site. The PPG has proposed that 24 acres of marsh be created directly adjacent to the Scarsdale breach. This alternative was considered in EA #433 (Appendix E) but eliminated due to the complexity of delivering material to that site with minimal economic and environmental impacts. The CEMVN has concluded that the site west of Big Mar is the preferred alternative.

LPBF has concerns that the proposed borrow site would impact cypress trees which they have recently planted. The CEMVN has reestablished the boundaries of the borrow site so as to avoid any impact to the emerging delta on which the LPBF has planted cypress.

DESCRIPTION OF THE PROPOSED ACTION

The proposed action is to utilize borrow material from an appropriate location within Big Mar to create 24 acres of fresh marsh in an area to the northwest corner of Big Mar. Big Mar is an ever changing ecosystem which has made it difficult to pin point an exact location for the borrow site. Several site visits have been conducted with differing observations each time. Because of the dynamics of this area, a decision was made to evaluate an area twice the size (130 acres) that would be needed to excavate the required 150,000 CY of material for marsh creation. The full 130 acres would not be excavated. Within the 130 acres, approximately 65 acres would be utilized for excavating material. The exact area would be determined by the existing conditions

at the time of construction (i.e. presence of submerged aquatic vegetation (SAV), colonial nesting wading birds, location of emerging delta and suitable material).

The proposed action consists of excavating approximately 150,000 CY of material from a 130 acre area within the Big Mar and just west of the mouth of the Caernarvon outflow channel (see Figure 1). The material would be excavated to a maximum elevation of (-) 10.0 ft NAVD88 and then be hydraulically pumped into the marsh creation site which is a 24 acre site adjacent to the north west corner of Big Mar. (see Figure(s) 1 and 2). Material would initially be placed to elevation (+) 3.0 ft NAVD88 and would be expected to subside to target marsh elevation, (+) 2.0 ft NAVD88, within 1 yr.

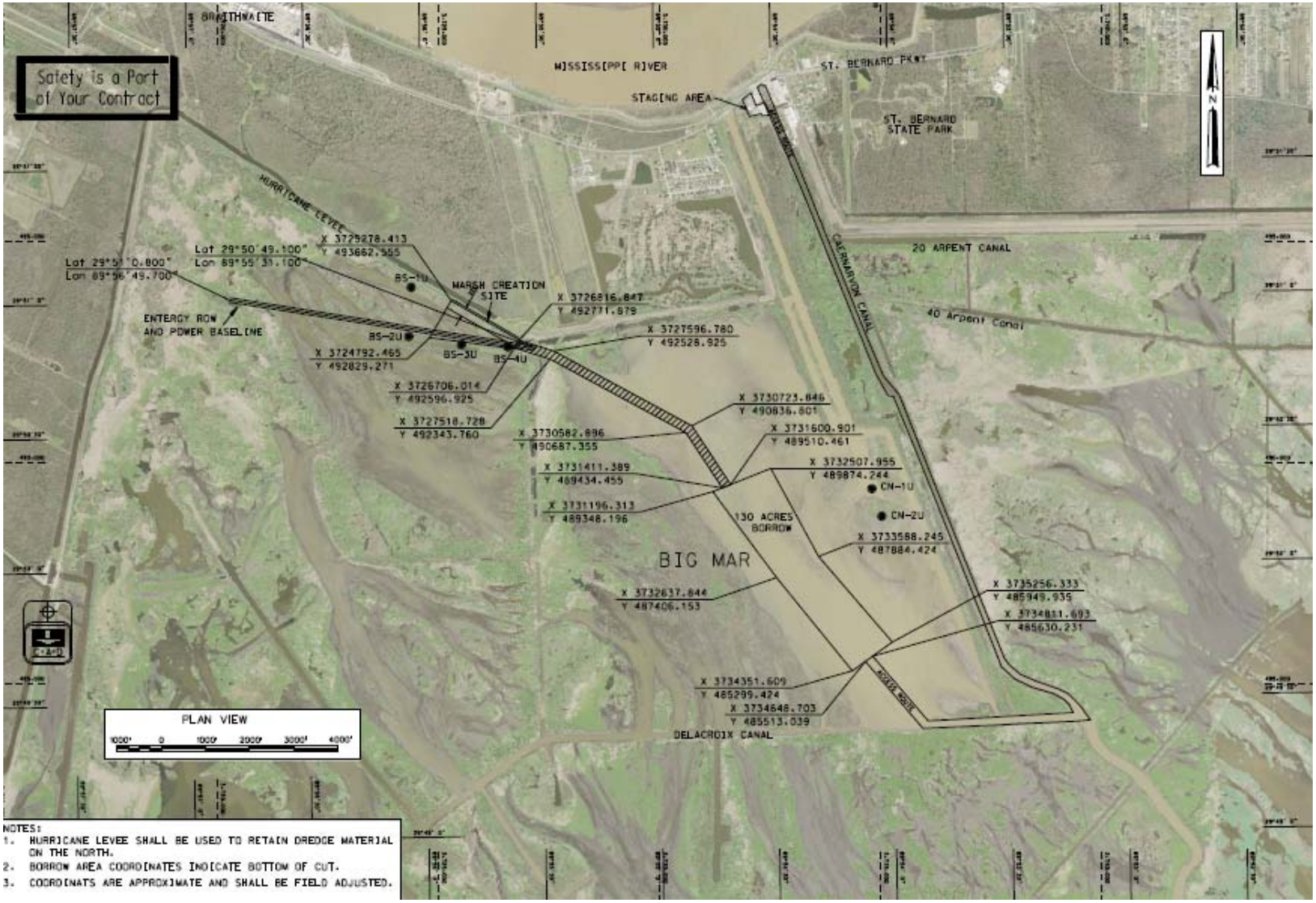


Figure 1: Locations of Proposed Borrow, Marsh Creation and Staging Sites


Figure 2: Photo of Proposed Marsh Creation Site

An excavator would be used to dig flotation to the marsh creation site. The access route would be dredged to a maximum elevation of (-) 6.0 ft NAVD88. The material would be placed directly adjacent to the access route at alternating intervals as to not disturb the hydrology of the area and not to restrict water depth.

An excavator would also be utilized to repair or construct containment dikes around the marsh creation site. The existing non-federal levee would be utilized as a retention dike for the marsh creation site. Remnant oil and gas access canal spoil banks would be utilized as the base for additional marsh creation site containment dikes. Approximately 34,500 CY of material would be excavated from within the proposed marsh creation site and Big Mar to be utilized for dike/spoil bank refurbishment.

The staging area (see Figure 1) would be located in a previously disturbed location along the northwest end of Caernarvon Canal. This area is a stone parking lot for a private boat ramp area. No wetlands would be impacted by the staging area.

Due to the presence of a colonial nesting wading bird rookery within the Big Mar area, construction would need to take place outside of the USFWS and LDWF 1,000 foot buffer zone in order to avoid any adverse impacts to the wading bird colony. If for any reason construction must take place within the 1,000 foot buffer zone, it would have to take place outside of nesting season (September 1 to February 15). As a last resort a nesting prevention plan would need to be developed and implemented in order to deter the wading birds from nesting within 1,000 feet of construction.

OPERATIONS MAINTENANCE, REPAIR, REPLACEMENT
AND REHABILITATION (OMRR&R)

CEMVN would be responsible for this mitigation project during the construction phase to verify mitigation success and to complete project features (vegetation) if necessary. The local sponsor would be responsible for OMRR&R after the CEMVN deems the construction to be complete. This OMRR&R includes monitoring of the mitigation site for continued success as described in Table 4.

It is anticipated that the marsh creation site would naturally vegetate with suitable marsh vegetation. If the marsh creation site does not naturally vegetate within 3 years of creation then planting of suitable species would occur. This task is the responsibility of CEMVN. CEMVN, if needed, would plant the area and confirm success before determining that the project is ready for OMRR&R by local sponsor.

Borrow for the marsh creation effort would be obtained from within Big Mar. There are no anticipated OMRR&R activities planned for the project borrow pits. Some degree of natural backfilling would be anticipated over the project life as a result of the Caernarvon Outflow Channel depositing sediment in the area.

ALTERNATIVES TO THE PROPOSED ACTION

Four alternatives were considered in EA #433. These alternatives included: Truck hauling of material to the currently proposed mitigation site, hydraulically pumping material from the Mississippi River to the currently proposed mitigation site, Truck hauling of material to a mitigation site directly adjacent to the Scarsdale breech repair site and hydraulically pumping material to the Scarsdale breech repair site. Three of these alternatives were eliminated in EA #433 which is incorporated into this document by reference and as appendix E. The alternative to hydraulically pump material from the Mississippi River to the currently proposed mitigation site was the preferred alternative in EA #433. That alternative has since been eliminated due to economic and real-estate reasons.

Several other sites within Big Mar were recently evaluated as potential borrow sites for this mitigation project. Due to various environmental reasons such as an existing colonial nesting wading bird rookery, an emerging delta with newly planted cypress trees and the presence of SAVs these sites were eliminated with no further consideration.

The only alternative to the proposed action being analyzed in this SEA #433 is the No-Action alternative.

No Action. Under the no action alternative, the proposed action would not be constructed by the CEMVN. Mitigation for the Braithwaite and Scarsdale breach repairs would not be achieved in this area at this time.

ENVIRONMENTAL SETTING

GENERAL

The general project area is influenced heavily by the Caernarvon freshwater diversion. The diversion has enhanced the ecosystem in the area by providing sediment and freshwater for the foundation of emerging wetlands. The freshwater has also enhanced the fisheries in the area. The existing condition of the marsh creation site consists of open water areas that were once fresh marsh. Plants currently found in this area are delta duck potato, cattails, water hyacinth, and willow.

The borrow site is within Big Mar and encompasses approximately 130 acres at an average water depth of approximately 1.5 ft. The Big Mar is bordered on the north by, freshwater shrub swamp and fresh marsh. These wetland areas provide excellent nesting grounds for colonial nesting wading birds. Several species of colonial nesting wading birds have colonized in the wetlands bordering Big Mar. These species will be further discussed in the wildlife section of this SEA. The American alligator, nutria, a variety of amphibians, reptiles, birds and small mammals can all be found within the immediate project area.

CLIMATE

The study area has a subtropical marine climate influenced by the many water surfaces of the lakes, bayous, streams, rivers, and the Gulf of Mexico. Throughout the year, these water bodies modify the relative humidity and temperature conditions decreasing the range between the extremes. When southern winds prevail, these effects are increased, thus imparting the characteristics of a marine climate.

[Plaquemines Parish, LA climate is hot during summer when temperatures tend to be in the 90's and cool during winter when temperatures tend to be in the 50's. Temperature variations between night and day tend to be fairly limited during summer with a difference that can reach 18 degrees Fahrenheit, and moderate during winter with an average difference of 20 degrees Fahrenheit. The annual average precipitation for Plaquemines Parish is 50-60 inches *(http://www.plaqueminesparish.com/Visitors.php#climate)*.

IMPORTANT RESOURCES

This section contains a description of important resources and the impacts of the proposed action on these resources. The important resources described in this section are those recognized by: laws, executive orders, regulations, and other standards of national, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public. Important resources not affected by the proposed action are non-wetland/upland resources and bottomland hardwood forests.

WETLANDS

Existing Conditions

This resource is institutionally important because of: the Clean Water Act of 1977, as amended; Executive Order 11990 of 1977, Protection of Wetlands; Coastal Zone Management Act of 1972, as amended; and the Estuary Protection Act of 1968. Wetlands are technically important because: they provide necessary habitat for various species of plants, fish, and wildlife; they serve as ground water recharge areas; they provide storage areas for storm and flood waters; they serve as natural water filtration areas; they provide protection from wave action, erosion, and storm damage; and they provide various consumptive and non-consumptive recreational opportunities. Wetlands are publicly important because of the high value the public places on the functions and values that wetlands provide.

Freshwater marsh and shrub swamp can be found in the immediate area of the proposed action. The freshwater marsh of this area consists of species such as cattail, duckweed, cutgrass and water hyacinth. The shrub swamp consists primarily of willow and Chinese tallow and freshwater grasses but may also contain ash and duckweed.

Future Conditions with No Action

Without implementation of the proposed action, there would be no direct impacts to wetlands in the project area. Indirect impacts of taking no action would include the continuing deterioration of coastal wetlands resulting in portions of existing marsh degrading to shallow open water.

Future Conditions with the Proposed Action

With implementation of the proposed action, the project area would benefit from the creation of 24 acres (12.3 AAHUs) of fresh marsh. Creation of fresh marsh would add to the acreage of coastal marshes and have beneficial effects for the coastal ecosystem.

FISHERIES

Existing Conditions

This resource is institutionally important because of the Fish and Wildlife Coordination Act of 1958, as amended, and the Magnuson-Stevens Fishery Conservation and Management Act, as amended in 1996 by the Sustainable Fisheries Act. Fisheries resources are technically important because: they are a critical element of many valuable freshwater and marine habitats; they are an indicator of the health of various freshwater and marine habitats; and many species are important commercial resources. Fisheries resources are publicly important because of the high priority that the public places on their aesthetic, recreational, and commercial value.

The primary freshwater species, which are harvested commercially in the area, include red swamp crawfish, gars, bowfin, carp, freshwater drum, buffaloes, blue catfish, channel catfish, flathead catfish, and yellow bullhead. Freshwater sport fishing occurs in the area. Species commonly taken include largemouth bass, black crappie, white crappie, warmouth, bluegill, red ear sunfish, channel catfish, blue catfish, and flathead catfish. Caernarvon freshwater diversion has benefited the fisheries in the area. The Louisiana Department of Wildlife and Fisheries has Caernarvon rated as the second best bass fisheries in the state of Louisiana and several bass tournaments have occurred in the area. Red swamp crawfish are also taken in the wooded swamps and fresh marshes. The study area supports rich populations of phytoplankton, zooplankton, benthos, macro invertebrates, and numerous small fishes. These organisms constitute vital components of the aquatic food chain.

Future Conditions with No Action

Without implementation of the proposed action, existing conditions would persist. The Caernarvon diversion would continue to enhance the existing wetlands in the area which in turn benefits the fisheries.

Future Conditions with the Proposed Action

Direct Impacts
With implementation of the proposed action, there would be a short-term direct impact to turbidity that would affect visual predators and filter feeders. Fish are transient and mobile by nature; this would lead them to avoid the construction area. The Caernarvon diversion would continue to benefit fisheries in the area.

Indirect Impacts
The direct impact of placing material in the marsh creation site to convert open water to fresh marsh would cause the loss of the benthos and epibenthos organisms due to smothering. This would cause a minimal indirect impact to the food chain.

WILDLIFE

Existing Conditions

This resource is institutionally important because of the Fish and Wildlife Coordination Act of 1958, as amended and the Migratory Bird Treaty Act (MBTA) of 1918. Wildlife resources are technically important because: they are a critical element of many valuable aquatic and terrestrial habitats; they are an indicator of the health of various aquatic and terrestrial habitats; and many species are important commercial resources. Wildlife resources are publicly important because of the high priority that the public places on their aesthetic, recreational, and commercial value.

A colonial nesting wading bird rookery has been identified within the Western half of Big Mar. Several species of birds have been observed nesting in this area. The species identified include, but are not limited to, great egret, snowy egret, white ibis, glossy Ibis and double-crested cormorant. Colonial nesting wading birds are protected under the Migratory Bird Treaty Act. The USFWS and LDWF have declared a 1,000 ft buffer zone between construction work and known wading bird rookeries or individual nests.

Due to the proximity of the borrow site to the colonial nesting wading bird rookery, all activity occurring within 1,000 feet of the rookery should be restricted to the non-nesting season (September 1 to February 15) to prevent any impacts to the species and to insure compliance with the MBTA.

Future Conditions with No Action

Without implementation of the proposed action, the existing conditions and trends would remain the same. There would be no direct impacts due to the no action alternative. However, with the no action alternative the area would not benefit from fresh marsh habitat creation. Therefore, an indirect impact due to the no action plan would likely be a continued reduction of fresh marsh habitat which supplies shelter, foraging grounds and breeding grounds for many species of reptiles, amphibians, crustaceans, spiders, insects, mammals, birds, mollusks, and more.

Future Conditions with the Proposed Action

Direct Impacts
Direct impacts would include the temporary displacement of mobile species during construction and the permanent loss of bottom dwelling immobile species due to the removal and placement of sediment within the area. With implementation of the proposed action, 24 acres of fresh marsh would be constructed by dredging and pumping material from the bottom of Big Mar. This would provide habitat which supplies shelter, foraging grounds and breeding grounds for many species of reptiles, amphibians, crustaceans, spiders, insects, mammals, birds, mollusks, and more.

Indirect Impacts
Indirect impacts would be temporary and would include disturbance to wildlife species due to noise, vibration and the presence of construction workers.

There would be no impacts to the wading bird rookery as work would either take place outside of the 1,000 foot buffer or outside of nesting season.

ESSENTIAL FISH HABITAT

Existing Conditions

This resource is institutionally important because of the Magnuson-Stevens Fishery Conservation and Management Act. Essential Fish Habitat (EFH) is technically important because, as the Act states, EFH is “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." EFH is publicly important because of the high value that the public places on fisheries and the recreational and commercial opportunities EFH provides.

Specific categories of EFH include all estuarine waters and substrates (mud, sand, shell, rock, and associated biological communities), including the sub-tidal vegetation (seagrasses and algae) and adjacent inter-tidal vegetation (marshes and mangroves). The Gulf of Mexico Fishery Management Council, through the generic amendment of the Fishery Management Plans for the Gulf of Mexico, lists the following Federally managed species or species groups as being potentially found in coastal Louisiana: brown shrimp, white shrimp, red drum, gray snapper, and Spanish mackerel. In addition, coastal wetlands provide nursery and foraging habitat that supports economically important marine fishery species such as spotted seatrout, southern flounder, Atlantic croaker, gulf menhaden, striped mullet, and blue crab. These species serve as prey for Federally-managed fish species such as mackerels, snappers, groupers, billfishes and sharks. Table 1 shows the salinity regimes in the area and the managed species that can be found in them. Table 2 shows the EFH for those managed species.

Table 1: Managed species in the Project Area							
Salinity Zone	Life Stage	Brown Shrimp	Pink Shrimp	White Shrimp	Gulf Stone Crabs	Red Drum	
0 - 0.5 ppt.	Adults					NP to R	
	Eggs						
	Juveniles	C	R	R		R	
	Larvae						
	Spawners						
0.5 -5 ppt.	Adults	R	R	R	C	R to C	
	Eggs						
	Juveniles	C to HA	C	C	C	C	
	Larvae						
	Spawners						
Relative Abundance: Blank (NP) - Not Present R - Rare C - Common A – Abundant HA - Highly Abundant (Variation in abundance due to seasonality) Modified from: NOAA SEA Division website http://christensenmac.nos.noaa.gov/gom-efh/							

Table 2: Essential Fish Habitat for Life Sages		
Species	Life Stage	Essential Fish Habitat
Brown shrimp	Adults	Gulf of Mexico <110 m, Silt sand, muddy sand
	Juvenile	Marsh edge, SAV, tidal creeks, inner marsh
Pink shrimp	Adults	Gulf of Mexico <65 m, sand/shell substrate
	Juvenile	SAV, sand/shell substrate
White shrimp	Adults	Gulf of Mexico <33 m, Silt, soft mud
	Juvenile	Marsh edge, SAV, marsh ponds, inner marsh, oyster reefs
Gulf stone crab	Adults	Shell, SAV
	Juvenile	Shell, SAV
Red Drum	Adults	Gulf of Mexico & estuarine mud bottoms, oyster reef
	Juvenile	SAV, estuarine mud bottoms, marsh/water interface

Future Conditions with No Action

Without implementation of the proposed action, existing conditions would persist. The Caernarvon diversion would continue to enhance the existing wetlands in the area, which would enhance EFH.

Future Conditions with the Proposed Action

With implementation of the proposed action, the Caernarvon diversion would continue to benefit EFH in the area. Some open water would be converted to fresh marsh. The creation of 24 acres of fresh marsh would not have direct or indirect adverse impacts to EFH but could, however, have beneficial indirect impacts by providing breeding grounds and nurseries for various species.

ENDANGERED OR THREATENED SPECIES

Existing Conditions

This resource is institutionally important because of: the Endangered Species Act of 1973, as amended; the Marine Mammal Protection Act of 1972; and the Bald and Golden Eagle Protection Act of 1940. Endangered (E) or threatened (T) species are technically important because the status of such species provides an indication of the overall health of an ecosystem. These species are publicly important because of the desire of the public to protect them and their habitats.

Threatened or protected species actually or potentially present in the area include the bald eagle, piping plover, gulf sturgeon, loggerhead sea turtle, and the green sea turtle. Endangered species actually or potentially present in the area include the brown pelican, pallid sturgeon, West Indian manatee, Kemp's ridley sea turtle, and leatherback sea turtle. The American alligator in Louisiana is classified as "Threatened due to Similarity of Appearance" to the American crocodile. They are biologically neither endangered nor threatened. Regulated harvest of the American alligator is permitted.

Based on review of existing data a conclusion was made that the proposed action would have no effect on threatened or endangered species. The USFWS concurred in a facsimile dated December 07, 2010, stating that "The project, as proposed, will have no effect on those resources." (Appendix C).

Based on past coordination with National Marine Fisheries Service (NMFS), during which they provided a list of federally protected species under their jurisdiction, and additional analysis conducted for the proposed project area, a no effect determination was made for federally protected species under the jurisdiction of the NMFS.

Future Conditions with No Action

Without implementation of the proposed action, existing conditions would persist. The Caernarvon diversion would continue to enhance the existing wetlands in the area, which would benefit any endangered or threatened species in the area.

Future Conditions with the Proposed Action

With implementation of the proposed action, there would be no significant direct or indirect impact to endangered or threatened species. Endangered or threatened species are expected to avoid the construction area and to return following completion of construction. The creation of 24 acres of fresh marsh would convert some open water to marsh habitat. This alteration is a small portion of the available habitat in the area. A facsimile from USFWS, dated December 07, 2010, states "The project, as proposed, will have no effect on those resources."

CULTURAL RESOURCES

Existing Conditions

This resource is institutionally important because of: the National Historic Preservation Act of 1966, as amended; the Native American Graves Protection and Repatriation Act of 1990; and the Archeological Resources Protection Act of 1979; as well as other statutes. Cultural resources are technically important because of: their association or linkage to past events, to historically important persons, and to design and/or construction values; and for their ability to yield important information about prehistory and history. Cultural resources are publicly important because preservation groups and private individuals support their protection, restoration, enhancement, or recovery.
Big Mar is reclaimed marsh which has little potential to contain historic properties. The area was surveyed and two prehistoric sites were identified. Neither site is eligible for inclusion to the National Register of Historic Places (Poplin et al. 1987). In a letter to the Louisiana State Historic Preservation Officer (SHPO) it was recommended that a cultural resource survey is not necessary. The same letter was also sent to the federally recognized tribes which have demonstrated an interest in projects taking place within the New Orleans District. By letter dated December 16, 2010 the SHPO concurred with CEMVN's determination. The Mississippi Band of Choctaw Indians concurred, via email dated November 05, 2010, that there seems no need for further survey and that there appears to be no historic properties affected by this undertaking.

Future Conditions with No Action

Since there are no cultural resources within the project area should the proposed project not occur, there would be no adverse effect on historic properties.

Future Conditions with the Proposed Action

As no cultural resources occur within the project area there would be no adverse effect to historic properties.

RECREATIONAL RESOURCES

Existing Conditions

This resource is institutionally important because of the Federal Water Project Recreation Act of 1965, as amended, and the Land and Water Conservation Fund Act of 1965, as amended. Recreational resources are technically important because of the high economic value of recreational activities and their contribution to local, state, and national economies. Recreational resources are publicly important because of: the high value that the public places on fishing, hunting, and boating, as measured by the large number of fishing and hunting licenses sold in Louisiana; and the large per-capita number of recreational boat registrations in Louisiana.

There is one private boat launch located at the end of Caernarvon Canal. The launch provides access to Lake Leary and Big Mar Lake. Boating and fishing occur in the lakes and surrounding canals. The area is popular for largemouth bass, speckled trout and redfish. There is the potential for bird watching because of the presence of colonial nesting wading birds. There is potential for duck hunting in the project area. Duck hunting season extends from September 11 to September 26. Alligator hunting season begins the last Wednesday in August and ends 30 days later. Due to safety factors and local requests, construction during duck and alligator hunting seasons would be avoided.

Future Conditions with No Action

Without implementation of the proposed action, the conditions within the recreational environment would continue as they have in the past and would be dictated by the natural land use patterns and processes that have dominated the area in the past. Direct, indirect and cumulative impacts would be negligible.

Future Conditions with the Proposed Action

A construction staging area for an existing HSDRRS project exists within the private boat launches' parking lot. This project would utilize this staging area. Minimal impact is expected to the launch since it would remain open and the parking is expected to be adequate. People fishing in the project area would be temporarily displaced during project construction. This impact is expected to be temporary and minimal. Alligator and duck hunting are not expected to be impacted because construction would not occur during hunting season.
Expected indirect impacts as the result of marsh creation include an increase in hunting and fishing opportunities as a result of an increase in nesting habitat for water fowl and nursery habitat for fish.

AESTHETICS (VISUAL RESOURCES)

Existing Conditions

This resource's institutional significance is derived from laws and policies that affect visual resources, most notably the National Environmental Policy Act of 1969, the Coastal Barrier Resources Act of 1990, Louisiana's Natural and Scenic Rivers Act of 1988, and National and Local Scenic Byway Programs. This resource is technically significant because of visual accessibility to unique combinations of geological, botanical, and cultural features that may be an asset to a study area. Public significance is based on expressed public perceptions and professional evaluation.

The principal distinguishing visual characteristics of the project area are its relatively flat topography, with most of the area covered by standing water and freshwater marsh. Water resources contained within Big Mar and its surrounding area include various channels, canals and bayous meandering through the marsh. Land use is primarily non-forested wetland used primarily for waterfowl hunting and fishing (see Recreational Resources).

Future Conditions with No Action

Under the no action alternative, no foreseen direct, indirect or cumulative impacts to visual resources would occur at the proposed project area. The existing landscape character would change as determined by the landowner's land use practices as regulated by the 404(b)(1) permitting process. However, the proposed project sites are remote and public access is primarily limited to boat traffic. Also, the proposed sites have no institutional or technical visual significance and public significance is undetermined.

Future Conditions with the Proposed Action

The proposed action, including the borrow and marsh creation sites, would have similar direct and indirect impacts as the No Action alternative.

AIR QUALITY

Existing Conditions

This resource is considered institutionally important because of the Louisiana Environmental Quality Act of 1983, as amended, and the Clean Air Act of 1963, as amended. Air quality is technically important because of the status of regional ambient air quality in relation to the National Ambient Air Quality Standards (NAAQS). It is publicly important because of the desire for clean air expressed by virtually all citizens.
Plaquemines Parish is currently in attainment of all NAAQS. This classification is the result of area wide air quality modeling studies.

Future Conditions with No Action

Without implementation of the proposed action, there would be no effect on air quality.

Future Conditions with the Proposed Action

Direct Impacts
With implementation of the proposed action, minimal direct impacts on air quality would result from emissions produced by construction equipment. These impacts would be localized and temporary. Because the project area is designated as an attainment area, no Conformity review is required for the proposed action.

Indirect Impacts
The indirect effects to air quality of implementing the proposed action would be related to the emissions from transportation of personnel and/or equipment to and from the job site on a daily basis until the completion of construction.

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

There must be reasonable identification and evaluation of all Hazardous, Toxic, and Radioactive Waste (HTRW) contamination within the vicinity of the proposed action. Under Engineer Regulation (ER) 1165-2-132, the reasonable identification and evaluation of HTRW contamination within a proposed area of construction is required. ER 1165-2-132 identifies the CEMVN HTRW policy to avoid the use of project funds for HTRW removal and remediation activities.

A Phase I Environmental Site Assessment (ESA) for the proposed project area, entitled Chalmette Loop - Caernarvon Floodwall, LPV 149, Caernarvon, St. Bernard Parish, Louisiana and dated March 2008 was prepared by Earth Tech, Inc. This ESA identified eleven Recognized Environmental Conditions (RECs) near the marsh creation site and associated borrow location and seventeen known, suspected, or historical RECs on adjacent and off-site properties. None of these RECs would be likely to affect the proposed marsh creation or borrow site.

An American Society of Testing Material (ASTM) E 1527-05 Phase I Environmental Site Assessment (ESA) for the proposed project area, entitled English Turn, Mississippi River and Levees, Jefferson and Plaquemines Parishes, Louisiana and dated 12 March 2010 was completed by USACE personnel for the proposed action and is on file in the Regional Planning and Environment Division, South, of CEMVN. This most recent study did not identify any additional HTRW concerns at or near the proposed marsh creation site and associated borrow site.

Based upon data collected during the 2008 Phase I investigation, and confirmed by the 2010 investigations, no RECs were found within the footprint of the proposed action; therefore, it is

unlikely that HTRW would be encountered during construction. If a REC cannot be avoided, due to construction requirements, CEMVN may further investigate the REC to confirm the presence or absence of contaminants, actions to avoid possible contaminants, and whether local, state, or Federal coordination is required. Because CEMVN plans to avoid RECs, the probability of encountering HTRW in the project area is very low.

Copies of the Phase I Environmental Site Assessments for the project area will be maintained on file at the Regional Planning and Environment Division, South, of CEMVN, and are incorporated herein by reference.

Future Conditions with No Action

With the no action alternative HTRW would not be affected.

Future Conditions with Proposed Action

With the implementation of the proposed action there would be no direct or indirect effects to HTRW.

CUMULATIVE IMPACTS

The Council on Environmental Quality (CEQ) defines "Cumulative impact" as the impact on the environment which results from the incremental impact 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. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (Sec. 1508.7). Table 3 describes the cumulative impacts to the project area.

Table 3: Cumulative impacts resulting from spatial and temporal effects on the combined direct and indirect impacts of the proposed action on significant resources						
Significant Resource	Spatial	Temporal				
	Geographic extent	Proposed Action	Past Actions	Present Actions	Reasonably Foreseeable Future Actions	Overall impacts
Wetlands	Plaquemines Parish, St. Bernard Parish, Breton Sound Basin	Create 24 acres of fresh marsh in the northwestern corner of the Big Mar area.	Reduction in wetlands from subsidence, increased tidal exchange, tidal scouring, shoreline erosion, urban development and levee systems; Reduction in sediments and nutrients from Miss. River levees reduced wetland quality and quantity; however, freshwater diversion structure reduced marsh loss.	Continued reduction in wetland resources due to subsidence, increased tidal scouring, shoreline erosion, urban development, BS: marsh management permits and CWPPRA projects moderate effects.	Reduced marsh loss in next 50 years with freshwater diversion structures, reduced damage to marsh vegetation caused by hurricanes and flooding. Reduced conversion of freshwater to saline and open water.	Overall reduction of wetland loss due to implementation of CWPPRA projects and hurricane protection structures.
Upland Habitat	Plaquemines Parish, St. Bernard Parish, Breton Sound Basin,	Create 24 acres of fresh marsh in the northwestern corner of the Big Mar area.	Loss of upland forestry due to urban development and timber harvesting. Conversion of marsh to uplands.	Continued upland loss due to wetland permits obtained for further urban development.	Reduction in upland forestry and open land due to urban development.	Overall reduction of upland forestry loss would likely occur due to the continual maintenance and development of flood control structures, some uplands are subjected to conversion or inundation.

Table 3 (continued): Cumulative impacts resulting from spatial and temporal effects on the combined direct and indirect impacts of the proposed action on significant resources

Significant Resource	Spatial	Temporal				
	Geographic extent	Proposed Action	Past Actions	Present Actions	Reasonably Foreseeable Future Actions	Overall impacts
Fisheries	Plaquemines Parish, St. Bernard Parish, Breton Sound Basin,	Create 24 acres of fresh marsh in the northwestern corner of the Big Mar area. .	Miss. River levying reduced freshwater, sediment and nutrient inputs, reducing habitat for freshwater species, and estuarine dependent fish; however freshwater diversion projects in the vicinity have aided in restoring loss habitat and increasing productivity, commercial harvesting and sporting opportunities in the study area.	Freshwater diversions in the vicinity help restore fisheries habitat by reducing salinity levels that otherwise would be affected by man-made and natural changes.	Increased production of fishery resources due to reduction in marsh loss, creation of marsh and increased nutrients.	Increased production of fishery resources due to reduction in marsh loss, creation of marsh and increased nutrients.
Wildlife	Plaquemines Parish, St. Bernard Parish, Breton Sound Basin,	Create 24 acres of fresh marsh in the northwestern corner of the Big Mar area.	Reduction in habitat and nursery areas due to urban development reduced fish and wildlife resources.	Reduction of saltwater intrusion, enhancing the quality of wetlands and marsh, increasing wildlife habitat and populations.	Conversion of open water and marsh to uplands as well as uplands into ponds and the Creation of marsh are expected to increase wildlife habitat.	Reduction in amount of wetland and wildlife habitat loss.
Essential Fish Habitat	Plaquemines Parish, St. Bernard Parish, Breton Sound Basin,	Create 24 acres of fresh marsh in the northwestern corner of the Big Mar area.	Reduction in sediments and nutrients from Miss. River levying reduced EFH quality and quantity; however, freshwater diversion structure increased EFH.	Continued reduction of saltwater intrusion through freshwater diversions would maintain EFH quality that is affected by Miss. River levying.	Reduced EFH due to continually urban development, subsidence, shoreline erosion, tidal exchange and tidal scouring. The proposed action increase EFH.	Reduced EFH due to continually urban development, subsidence, shoreline erosion, tidal exchange and tidal scouring.

Table 3(continued): Cumulative impacts resulting from spatial and temporal effects on the combined direct and indirect impacts of the proposed action on significant resources

Significant Resource	Spatial	Temporal				
	Geographic extent	Proposed Action	Past Actions	Present Actions	Reasonably Foreseeable Future Actions	Overall impacts
Endangered or Threatened Species	Plaquemines Parish, St. Bernard Parish, Breton Sound Basin,	Create 24 acres of fresh marsh in the northwestern corner of the Big Mar area.	Urban development and Miss. River Levees would have relocated or impacted any unknown endangered or threatened species in the area.	Miss. River levees would convert some open water and marsh to uplands, as well as uplands to ponds causing relocation of any endangered or threatened species.	Relocation of any unknown threatened or endangered species in the area, Known threatened or endangered species would allow restrictions on activities within the vicinity.	Overall impacts on threatened and endangered resources are expected to be minimal if any at all.
Cultural Resources	Plaquemines Parish, St. Bernard Parish, Breton Sound Basin,	Create 24 acres of fresh marsh in the northwestern corner of the Big Mar area.	Any cultural resources associated with the natural levee have probably been destroyed naturally due to the receding Miss. River bank line.	Presently, there are no cultural resources found within the vicinity and no national register of historic places properties within the project area.	It is unlikely that any prehistoric or historic sites would be found within the surrounding area due to continual receding of the Miss. River bank line, subsidence and erosion.	No overall impacts are expected to occur within the vicinity of the proposed action nor the surrounding area, however, if any cultural resources are found, construction would be halted and artifacts would be reported.
Air Quality	Plaquemines Parish, St. Bernard Parish, Breton Sound Basin,	Create 24 acres of fresh marsh in the northwestern corner of the Big Mar area. .	Impacts to air quality have occurred in the past by urbanization and other construction related activities.	Minor short term changes in air quality from actual construction, but standards are met.	With Recognition of air quality standards and Clean air Act, emissions are expected to decrease.	Short-term air quality impacted during actual construction, but standards are met.

COORDINATION

Preparation of this draft SEA and a draft Finding of No Significant Impact (FONSI) has been coordinated with appropriate Congressional, Federal, state, and local interests, as well as environmental groups and other interested parties. The following agencies, as well as other interested parties, are receiving copies of this draft SEA and draft FONSI:

U.S. Department of the Interior, Fish and Wildlife Service
U.S. Environmental Protection Agency, Region VI
U.S. Department of Commerce, National Marine Fisheries Service
U.S. Natural Resources Conservation Service, State Conservationist
Advisory Council on Historic Preservation
Governor's Executive Assistant for Coastal Activities
Louisiana Department of Wildlife and Fisheries
Louisiana Department of Natural Resources, Coastal Management Division
Louisiana Department of Natural Resources, Coastal Restoration Division
Louisiana Department of Environmental Quality, PER-REGC
Louisiana Department of Environmental Quality, EP-SIP
Louisiana State Historic Preservation Officer

The USFWS' programmatic recommendations applicable to this project will be incorporated into project design studies to the extent practicable, consistent with engineering and public safety requirements. The USFWS' programmatic recommendations applicable to this project, and the CEMVN's response to them, are listed below:

Recommendation 1. The Corps should ensure that the proposed mitigation is in compliance with Section 2036(a) of the Water Resources Development Act of 2007. Compliance documents should be developed in coordination with the natural resource agencies.

CEMVN Response 1. Concur. This document serves as the required mitigation plan (33 CFR 332.4(c)/40 CFR 230.92.4(c)) and has been developed in coordination with the natural resource agencies.

Recommendation 2. Any proposed change in mitigation features or plans should be coordinated in advance with the Service, Louisiana Department of Wildlife and Fisheries (LDWF) and the National Marine Fisheries Service (NMFS).

CEMVN Response 2. Concur.

MITIGATION

The appropriate application of mitigation is to determine whether sufficient measures to mitigate the project's likely adverse impact on the aquatic ecosystem have been taken, by avoiding, minimizing, rectifying, reducing, or compensating for resource losses.. –Citation – 33 CFR 320.4(r). This SEA evaluates the potential impacts associated with the proposed fresh marsh

creation at Big Mar mitigation project that would be constructed to mitigate impacts associated with the habitat loss caused by the repair of the Braithwaite and Scarsdale breaches. This document is also the required mitigation plan (33 CFR 332.4(c)/40 CFR 230.92.4(c)). The twelve components of a compensatory mitigation plan can be found in various sections of this document (table 4).

Table 4: Twelve Components of a Compensatory Mitigation Plan

Components	**Sections and Pages**
1. Objectives	See purpose and need pg. 2
2. Site Selection	See purpose and need pg. 2 and Alternative to proposed action pg. 6
3. Site Protection Instrument	The CEMVN would acquire the mitigation site in fee in the name of the non-Federal sponsor. The non-Federal sponsor would be responsible for protecting lands contained within the mitigation site in perpetuity.
4. Baseline Information	See Environmental Setting pg. 6 and Important Resources pg. 7
5. Determination of Credits	See purpose and need pg. 1, Wetlands pg. 7 and Wildlife pg. 9
6. Mitigation Work Plan	See Proposed Action pg. 3
7. Maintenance Plan	The local sponsor would be responsible for maintenance. See OMRR&R section pg. 5
8. Performance Standards	To be used to compensate for unavoidable impacts to wetland and wildlife habitat, the sites must be shown to progress from their current state (as described in the baseline conditions) towards vegetated wetland platform. Elements that can be measured to show this progression include: height of wetland platform, % plant cover, % native plants and USGS land loss rates. After at least two full years following construction, no less than 90% of the marsh creation site is within the "functional marsh" elevation range. At least 80% of the dredge material disposal area should be vegetated. Five years after construction, at least 75% of the marsh creation remains within the "functional marsh" target elevation range. Demonstrated use of area by estuarine-dependent marine fishery species. Observed use of created marsh by wildlife species typically found in natural marsh habitats of similar salinity regime.

9. Monitoring Requirements	During the three year construction period, CEMVN would perform monitoring, as necessary, to determine whether the marsh creation area is vegetating naturally. Post-construction monitoring would be performed by the non-federal sponsor and would be performed during the spring. The non-federal sponsor would provide to the CEMVN Chief of Environmental Planning and Restoration Branch (Chief CEMVN PDR-RS) reports for all monitoring events by June 1 of each monitoring year beginning in the first year after the three year construction period. Reports would be submitted as follows: 1. A baseline data report with initial fill height of wetland platform, 2. A one year post construction report with settled height of wetland platform, 4. An initial success criteria report (three years after construction period), 4. An interim success criteria report (two years after successfully meeting the initial success criteria). 5. Long-term success criteria reports (five years after successfully meeting the interim success criteria and every fifth year thereafter for 50 years). The reports starting at year 3 and after would include a summary of where the data was collected, dates of inspection, height of the wetland platform, percent coverage, percent native and USGS land loss. Data collected for initial, interim, and long-term monitoring would be the same as for baseline conditions using the same sample plots.
10. Long-Term Management Plan	CEMVN is responsible for this mitigation project for the duration of construction phase to verify mitigation success and to complete project features if necessary. The local sponsor would be responsible for OMRR&R once the CEMVN deems the construction to be complete. The non-Federal sponsor would be responsible for maintaining the mitigation site in perpetuity.
11. Adaptive Management Plan	In the event reports in component 9 submitted to CEMVN reveals that any success criteria have not been met, the non-Federal sponsor, or their assigns, would take all necessary measures to modify management practices in order to achieve these criteria in the future. Exceptions to the above statements are the following responsibility of CEMVN: If the marsh creation sites do not naturally vegetate within 3 years of creation then planting of suitable species would occur. If survival is less than 30 percent of the initial number of plants two years after planting, as determined by sampling or by observing high mortality at any location within the planted tract, CEMVN, or their assigns, would take appropriate actions to address the causes of mortality and replace all dead plants. If openings do not naturally develop in the containment dikes by year three, they would be constructed by CEMVN or their assigns to provide nekton access and water exchange.

12. Financial Assurances	The purposes of financial assurances are twofold: (1) to ensure that sufficient funds are available for performance of the ecologic restoration of the site or acquisition of similar or preferable ecological value in the case of site failure, and (2) to provide a source of funding for the perpetual maintenance of the site. To accomplish these goals, sufficient funds to perform the restoration work must be ensured and a Long-Term Management Fund established. The Plaquemines Parish Government (PPG) would serve as the non-federal sponsor for this mitigation consistent with the Cooperation Agreement that the PPG has signed.

COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Environmental compliance for the proposed action would be achieved upon: coordination of this EA and draft Finding of No Significant Impact (FONSI) with appropriate agencies, organizations, and individuals for their review and comments; U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) confirmation that the proposed action would not be likely to adversely affect any endangered or threatened species; Louisiana Department of Natural Resources concurrence with the determination that the proposed action is consistent, to the maximum extent practicable, with the Louisiana Coastal Resources Program; receipt of a Water Quality Certificate from the State of Louisiana; public review of the Section 404(b)(1) Public Notice; signature of the Section 404(b)(1) Evaluation; receipt of the Louisiana State Historic Preservation Officer Determination of No Effect on cultural resources; receipt and acceptance or resolution of all USFWS Fish and Wildlife Coordination Act recommendations; receipt and acceptance or resolution of all Louisiana Department of Environmental Quality comments on the air quality impact analysis documented in the EA; and receipt and acceptance or resolution of all NMFS Essential Fish Habitat recommendations. The FONSI will not be signed until the proposed action achieves environmental compliance with applicable laws and regulations, as described above.

CONCLUSION

The proposed action consists of dredging material from approximately 65 acres within an overall area of 130 acres at Big Mar and pumping it into a 24 acre site adjacent to the North West corner of Big Mar to create fresh marsh. This office has assessed the environmental impacts of the proposed action and has determined that the proposed action would meet the need of providing mitigation for the impacts to fresh marsh caused by TF Unwatering while having no impact upon cultural resources and no significant impact on wetlands, upland habitat, fisheries, wildlife, essential fish habitat, endangered or threatened species, and air quality. The risk of encountering HTRW for the proposed action is low, based on the ESA.

PREPARED BY

SEA # 433a and the associated draft FONSI were prepared by Tammy Gilmore, biologist, with relevant sections prepared by: Christopher Brown - HTRW; Gary DeMarcay - Cultural Resources; Debbie Wright- Recreational Resources; Richard Radford-Aesthetics and Gigi Coulson - Plan Formulator. The address of the preparers is: U.S. Army Corps of Engineers, New Orleans District; Planning, Programs, and Project Management Division, CEMVN-PD; P.O. Box 60267; New Orleans, Louisiana 70160-0267.

LITERATURE CITED

Poplin, Eric C., Carol J. Poplin, and Paul C. Armstrong,1987, *Cultural Resources Survey of the Caernarvon Diversion Site, Mississippi Delta Region, Louisiana.* Prepared for the U.S. Army Corps of Engineers, New Orleans District by R. Christopher Goodwin & Associates, Inc., New Orleans.

APPENDIXES

Appendix A: List of Acronyms and Definitions of Common Terms
Appendix B: Public Comment and Responses Summary
Appendix C: Interagency Correspondence
Appendix D: 404 (b)(1) evaluation
Appendix E: Link to EA #433

Appendix A - List of Acronyms and Definitions of Common Terms

AAHUs	Annual Average Habitat Units
AD	Anno Domini
ASTM	American Society for Testing and Materials
BFI	Browning-Ferris Industries Landfill
BLH	Bottomland Hardwood Forest
BNSF	Burlington Northern Santa Fe
BOD	Biological Oxygen Demand
CED	Comprehensive Environmental Document
CEMVN	Corps of Engineers, Mississippi Valley Division, New Orleans District
CEQ	The President's Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CFS	Cubic Ft Per Second
CW	Civil Works Program
CWA	Clean Water Act
CY	Cubic Yard
CSMA	Consolidated Metropolitan Statistical Area
CZM	Coastal Zone Management
dBA	Decibels
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EM	Engineering Manual
EO	Executive Order
EPW	Evaluation Of Planned Wetlands
ER	Engineering Regulation
ESA	Environmental Site Assessment
FCU	Functional Capacity Units
FCI	Functional Capacity Index
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FWCA	Fish and Wildlife Coordination Act
DPR	Detailed Project Report
DPR/EA	Detailed Project Report/Environmental Assessment
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration
FWCA	Fish and Wildlife Coordination Act
HSDRRS	Greater New Orleans Hurricane and Storm Damage Risk Reduction System
HTRW	Hazardous, Toxic, and Radioactive Waste
HPS	Hurricane Protection System
IER	Individual Environmental Report
LCRP	Louisiana Coastal Resources Program
LDEQ	Louisiana Department of Environmental Quality
LDNR	Louisiana Department of Natural Resources
LDWF	Louisiana Department of Wildlife and Fisheries
LPV	Lake Ponchartrain and Vicinity

MBTA	Migratory Bird Treaty Act
ML	Milliliters
MPH	Miles per Hour
MSA	Metropolitan Statistical Area
NAA	Non Attainment Area
NAAQS	National Ambient Air Quality Standards
NAVD	North American Vertical Datum of 1988
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHP	Natural Heritage Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRCS	National Resources Conservation Service
NWR	National Wildlife Refuge
O&M	Operations And Maintenance
OMRR&R	Operations, Maintenance, Repair, Replacement, & Rehabilitation
OSE	Other Social Effects
PA	Programmatic Agreement
PDT	Project Delivery Team
PL	Public Law
PPA	Project Partnering Agreements
PSI	Pounds Per Square Inch
P&G	Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RED	Regional Economic Development
ROD	Record of Decision
ROW	Right-of-Way
SCORP	State Comprehensive Outdoor Recreation Plan
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SPH	Standard Project Hurricane
TMDL	Total Maximum Daily Load
USACE	United States Army Corps Of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish And Wildlife Service
USGS	United States Geological Survey
VOC	Volatile Organic Compounds
WBV	West Bank and Vicinity
WRDA	Water Resources Development Act
WVA	Wetlands Value Assessment

Appendix B - Public Comment and Response Summary

To be added after 30 day public review period

Appendix C: Interagency Correspondence

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▶ 1

To Jimmy Gilmore	From David Walther
Dept./Agency	Phone #
Fax #	Fax #

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

NON-FEDERAL PLA
REPARE M
At Big Mar

I. Introduction

CEMVN Task Force (TF) Unwatering rehabilitated breaches in two non-Federal Levee systems in Plaquemines Parish, Louisiana after Hurricanes Katrina and Rita. Breaches in the Plaquemines Parish East Bank Back levee (Braithwaite and Scarsdale) and the West Bank Back levee (Citrus Lands) were rehabilitated. The actions taken by TF Unwatering resulted in the loss 21.3 acres of fresh intermediate marsh.

The USFWS quantified unavoidable project impacts on fresh/intermediate marsh wildlife resources and calculated mitigation needs for the TF Unwatering effort through the use of Wetland Value Assessment (WVA). These models were used to calculate a total of 12.1 Average Annual Habitat Units (AAHU) of freshwater marsh impacted by TF Unwatering efforts.

II. Purpose and Need for the Proposed Action

CEMVN is proposing to mitigate for freshwater marsh loss due to the actions of TF Unwatering. This site has been chosen as mitigation for the impacts incurred during the TF Unwatering and rehabilitation of the Braithwaite and Scarsdale breaches.

III. Proposed Action

The proposed marsh creation site is located to the west of the Big Mar, which is the outfall of the Caernarvon outflow channel. Both Big Mar and the marsh creation site are located on the east bank of the Mississippi River in Plaquemines Parish in the immediate vicinity of the Braithwaite and Scarsdale breach repair sites (Figure1). The existing condition of the marsh creation site consists of open water areas that were once fresh marsh. Some plants currently found in this area are delta duck potato, cattails, water hyacinth, and willow (Figures 2 and 3).

This project has been reviewed for effects to Federal trust resources under our jurisdiction and currently protected by the Endangered Species Act of 1973 (Act). The project, as proposed,
(x) Will have no effect on those resources
( ) Is not likely to adversely affect those resources.
This finding fulfills the requirements under Section 7(a)(2) of the Act.

David A. Walther 7 Dec 2010

Acting Supervisor — Date
Louisiana Field Office
U.S. Fish and Wildlife Service

BOBBY JINDAL
GOVERNOR

SCOTT A. ANGELLE
SECRETARY

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

December 17, 2010

Joan M. Exnicios
Chief, New Orleans Environmental Branch
Corps of Engineers- New Orleans District
P.O. Box 60267
New Orleans, LA 70160-0267

RE: **C20100344,** Coastal Zone Consistency
New Orleans District, Corps of Engineers
Direct Federal Action
Supplemental EA 433a for Mitigation at Big Mar for rehabilitation of the Plaquemines Parish non-federal levees following Hurricanes Katrina and Rita, **Plaquemines Parish, Louisiana**

Dear Ms. Exnicios:

The above referenced project has been reviewed for consistency with the Louisiana Coastal Resources Program in accordance with Section 307 (c) of the Coastal Zone Management Act of 1972, as amended. The project, as proposed in this application, is consistent with the LCRP.

If you have any questions concerning this determination please contact Brian Marcks of the Consistency Section at (225) 342-7939 or 1-800-267-4019.

Sincerely yours,

Gregory J. DuCote
Administrator
Interagency Affairs/Field Services Division

GJD/JDH/bgm

cc: Tammy Gilmore, COE-NOD
David Butler, LDWF
Albertine Kimble, Plaquemines Parish
Frank Cole, OCM FI

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
646 Cajundome Blvd.
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Lafayette, Louisiana 70506

December 10, 2010

Colonel Edward Fleming
District Commander
U.S. Army Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160-0267

Dear Colonel Fleming:

Please refer to the mitigation efforts for Task Force Guardian/Task Force Unwatering being conducted by the Corps of Engineers' New Orleans District (Corps). The Fish and Wildlife Service (Service) provides this supplemental Fish and Wildlife Coordination Act Report (CAR) addressing changes to the proposed mitigation efforts. This report is provided in accordance with but does not fulfill our responsibilities under, Section 2(b) of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). This CAR supplements our previous May 10, 2006, Planning-Aid Report and our December 15, 2009, and November 10, 2010, CARs. The Fish and Wildlife Service (Service) has provided copies of this report to the National Marine Fisheries Service and the Louisiana Department of Wildlife and Fisheries (LDWF) and their comments will be incorporated into our final report.

Hurricane Katrina was a Category 3 storm that made landfall on the west bank of the Mississippi River and continued northeastward with the eye crossing Plaquemines, St. Bernard, Orleans and St. Tammany parishes. Hurricane surge inundated lower elevation areas in southeast Louisiana, and overtopped hurricane and flood control levees. The Corps restored Hurricane Katrina-damaged hurricane/flood protection projects to their authorized or previously permitted/constructed protection levels; these efforts are referred to as Task Force Guardian. The emergency restoration of hurricane and flood control projects and unwatering activities are authorized by Section 5 of the Flood Control Act of 1961 (Public Law 72-228) and the Flood Control and Coastal Emergencies Act (FCCE; Public Law 84-99).

Task Force Guardian activities and the proposed mitigation are located in the Mississippi River Deltaic Plain. Habitats (bottomland hardwoods, swamp, and estuarine marshes) within this area have decreased because of urbanization, especially adjacent to the New Orleans metropolitan area, and conversion to agriculture along the adjacent natural river levees. Other factors contributing to the loss of those habitats include hydrologic alterations associated with navigation channels, isolation from historic riverine overbank flows by flood-control levees, oil and gas exploration, extraction and transportation activities, sea-level rise, and subsidence. Due to their value and scarcity, in-kind compensation for project-induced losses to marshes would be implemented. A more detailed description of the habitats and their value to fish and wildlife resources was presented in our 2006 Planning-aid letter and is herein incorporated by reference.

TAKE PRIDE IN AMERICA

Task Force Guardian impacts and mitigation were previously addressed in our 2006 Planning-aid Report and 2009 and 2010 CARs. The description of impacts remains unchanged since that 2009 CAR and is therefore incorporated herein by reference. As described in the 2009 report, excavation of borrow sites impacted the largest acreage of wetlands (69.9 acres), followed by levee re-alignments (32.9 acres). The largest acreage of habitat impacted was forested wetlands (58 acres), followed by fresh/intermediate marsh (21.3 acres), while wet open land acreage (16.4 acres) was the least-impacted habitat type. Our 2009 report documented changes in impacts to forested habitat and subsequent re-analysis of mitigation needs, and provided more detailed mitigation requirements and our 2010 report addressed relocation of the Big Mar borrow area. However, since the 2010 report, relocation of the marsh mitigation area borrow site has again occurred; therefore, that change is addressed in this report.

The proposed marsh mitigation plan to offset losses to fresh/intermediate marshes (21.3 acres, 12.1 AAHUs) includes purchase of protective easements in perpetuity (or fee-title), marsh restoration and revegetation efforts on 24 acres in the vicinity of the two levee breaches near Braithwaite, Louisiana (Figure 1).

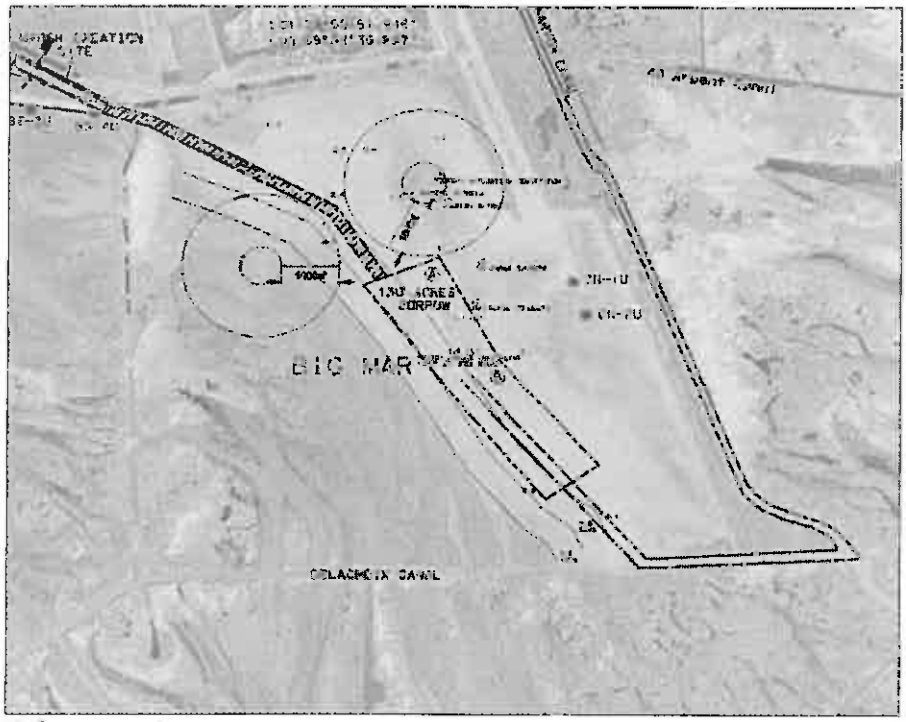


Figure 1.

The Service quantified unavoidable project impacts to fresh/intermediate marsh and calculated mitigation needs for Task Force Guardian through the use of Wetland Value Assessment (WVA). That methodology utilizes an assemblage of variables considered important to the suitability of each habitat type to support a diversity of fish and wildlife species. A numeric comparison of each future condition (i.e., future with and future with-out the project) provides an estimate of project-related effects on fish and wildlife habitat quality and quantity. That estimate

provides the basis for determining impacts and mitigation. An explanation of the assumptions affecting habitat quality and quantity values in those analyses is available for review at the Service's Lafayette, Louisiana, Field Office.

The proposed borrow area is located within "Big Mar" a former agricultural pump-off that failed and converted to open water. Location of the Caernarvon Freshwater Diversion outfall canal in the Big Mar has provided a source of sediments that has begun to fill that area. The original location of the proposed borrow area was at the downstream end of the outfall canal where a subaqueous delta was developing (west of the current proposed location in Figure 1). That location was selected to take advantage of possible heavier grain sediments being deposited in Big Mar that would be most probably remain within that area and to also address possible future maintenance needs of the diversion outfall channel. However, during the subsequent years following the identification of that site a sub-aerial delta emerged and became vegetated. To avoid impacts to this newly emerged marsh the location of the borrow area was moved to the east but remained within Big Mar. Further relocation and expansion of the borrow area is again necessary to avoid impacts to submerged aquatic vegetation, wading bird rookeries, and recently accredited marsh. The borrow area is larger than the area needed to allow future relocation of the borrow site to avoid the above mentioned resources if local conditions change.

Because this represents a change in the location of the borrow area which is not significantly different from the previous location the Service does not believe that any revisions to the mitigation analysis are warranted at this time. The Service encourages the Corps to monitoring during and post construction to ensure the success of the mitigation plan. The Service supports the timely implementation of this mitigation provided the following recommendations modified from our previous report are implemented as part of the mitigation plan:

> The Corps should ensure that the proposed mitigation is in compliance with Section 2036(a) of the Water Resources Development Act of 2007. Compliance documents should be developed in coordination with the natural resource agencies.
>
> Any proposed change in mitigation features or plans should be coordinated in advance with the Service, Louisiana Department of Wildlife and Fisheries (LDWF) and the National Marine Fisheries Service (NMFS).

Should your staff have any questions regarding this report, please have them contact David Walther (337/291-3122) of this office.

Sincerely,

James F. Boggs
Supervisor
Louisiana Field Office

cc: National Marine Fisheries Service, Baton Rouge, LA

Environmental Protection Agency, Dallas, TX
LA Dept. of Wildlife and Fisheries, Baton Rouge, LA
LA Dept. of Natural Resources (CMD), Baton Rouge, LA
LA, OCPR, Baton Rouge, LA

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267
NOVEMBER 2, 2010

Regional Planning and
Environmental Division, South
New Orleans Environmental Branch

No known historic properties will be affected by this undertaking. This effect determination could change should new information come to our attention.

Phil Boggan 12-16-10
Phil Boggan Date
Deputy State Historic Preservation Officer

Mr. Phil Boggan
Deputy State Historic Preservation Officer
Office of Cultural Development
Department of Culture, Recreation and Tourism
P.O. Box 4427
Baton Rouge, Louisiana 70804

Re: Non-Federal Levee Rehabilitation Mitigation, Big Mar, Plaquemines Parish, Louisiana

Dear Mr. Boggan:

The New Orleans District of the US Army Corps of Engineers (CEMVN) is proposing to mitigate for freshwater marsh loss due to the actions of unwatering. The proposed marsh creation site is located to the west of the Big Mar, which is the outfall of the Caernoarvon outflow channel. Material for the marsh creation will be dredged from the Big Mar wich is located on the east bank of the Mississippi River in Plaquemines Parish in the immediate vicinity of the Braithwaite and Scarsdale. Borrow material from the area marked A on the attached figure will be deposited in the area marked B on the same figure.

Under the Swamp Lands Act of 1849, 1850 and 1860 marsh lands were granted to the State of Louisiana to be converted into viable agricultural fields (USGS 2010). In Louisiana there is a legacy of failed wetland reclamation in which estuarine-influenced wetlands were enclosed by levees and then drained. Examples include Delta Farms, The Pen, Guste Island, East New Orleans and Big Mar (Lake Pontchartrain Basin Foundation 2008).

In 1987 in support of the Caernarvon Diversion Site R.C. Goodwin and Associates, Inc. surveyed the bankline of Big Mar and all of the small marsh islands within Big Mar (Poplin et al. 1987). Two sites were identified during this effort along the edge of Big Mar. Both sites 16PL148 and 16Pl149 were very poorly preserved and were recommended as not eligible to the National Register of Historic Places.

Since the Big Mar was at one time an agricultural field any cultural resources that may have been located within the once reclaimed wetland have been destroyed. The two site mentioned above are not eligible to the National Register and are located outside the proposed project area. Therefore, CEMVN believes that a Phase I cultural resource inventory is not necessary to support this project as it has no potential to cause effects on historic properties (36 CFR § 800.3(a)(1).

DEC 15 2010

Appendix D: 404 (b)(1) evaluation

Section 404(b)(1) Evaluation

The following short form 404(b)(1) evaluation follows the format designed by the Office of the Chief of Engineers, (OCE). As a measure to avoid unnecessary paperwork and to streamline regulation procedures while fulfilling the spirit and intent of environmental statutes, New Orleans District is using this format for all proposed project elements requiring 404 evaluation, but involving no adverse significant impacts.

PROJECT TITLE: **NON-FEDERAL PLAQUEMINES LEVEE REHABILITATION MITIGATION Big Mar**

PROJECT DESCRIPTION. CEMVN Task Force (TF) Unwatering rehabilitated breaches in two non-Federal Levee systems in Plaquemines Parish, Louisiana after Hurricanes Katrina and Rita. Breaches in the Plaquemines Parish East Bank Back levee (Braithwaite and Scarsdale) and the West Bank Back levee (Citrus Lands) were rehabilitated. The actions taken by TF Unwatering resulted in the loss 21.3 acres of fresh intermediate marsh.

The USFWS quantified unavoidable project impacts on fresh/intermediate marsh wildlife resources and calculated mitigation needs for the TF Unwatering effort through the use of Wetland Value Assessment (WVA). These models were used to calculate a total of 12.1 Average Annual Habitat Units (AAHU) of freshwater marsh impacted by TF Unwatering efforts.

CEMVN is proposing to mitigate for freshwater marsh loss due to the actions of TF Unwatering. This site has been chosen as mitigation for the impacts incurred during the TF Unwatering and rehabilitation of the Braithwaite and Scarsdale breaches.

PROPOSED ACTION

The proposed marsh creation site is located to the west of the Big Mar, which is the outfall of the Caernarvon outflow channel. Both Big Mar and the marsh creation site are located on the east bank of the Mississippi River in Plaquemines Parish in the immediate vicinity of the Braithwaite and Scarsdale breach repair sites (Figures 1 and 4). The existing condition of the marsh creation site consists of open water areas that were once fresh marsh. Some plants currently found in this area are delta duck potato, cattails, water hyacinth, and willow (Figures 2 and 3).

Figure 1. Big Mar Project Area

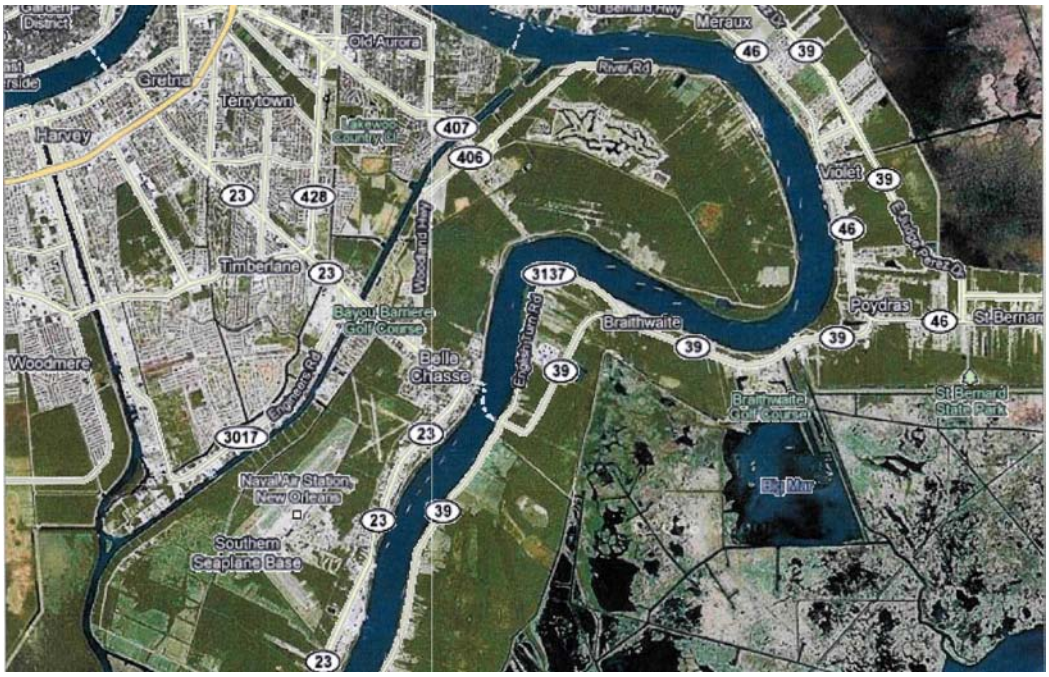
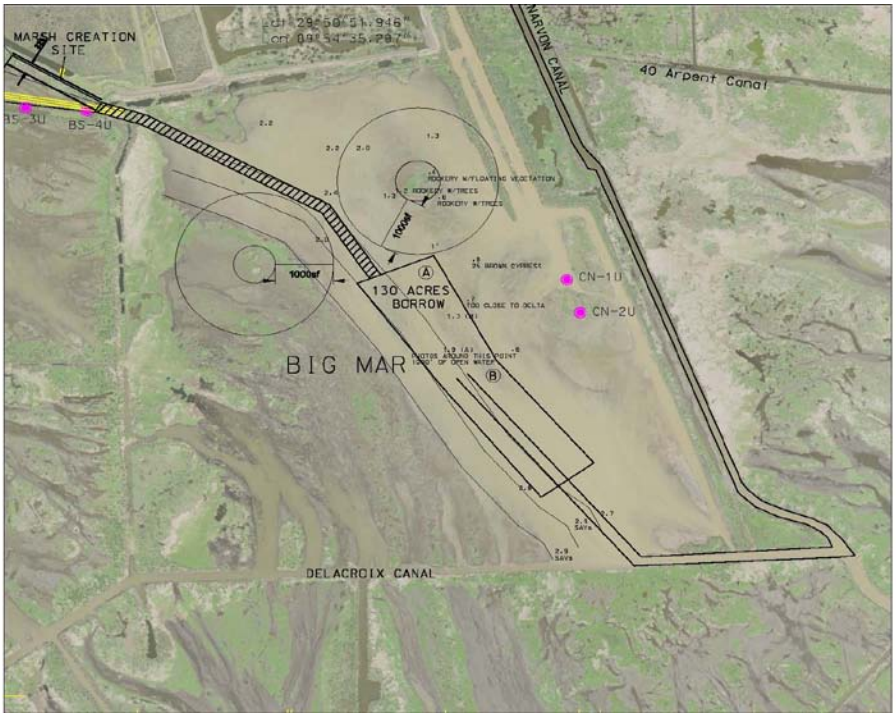


Figure 2. Image of proposed marsh creation site

Figure 3. Image of proposed marsh creation site

Figure 4: New Proposed Borrow Site



Approximately 150,000 CY of material would be excavated and hydraulically pumped from the borrow area (an area of 130 acres) to the marsh creation site. Approximately 150,000 CY would be deposited in the marsh creation site to create approximately 24 acres of new marsh. Material would be placed to elevation (+) 3.0 ft NAVD88. An excavator would be used to dig flotation to the marsh creation site. The access route would be dredged to a depth of (-) 6.0 ft. The material would be placed directly adjacent to the access route at alternating intervals as to not disturb the hydrology of the area and not to restrict water depth. The construction access flotation channels will be backfilled with the original substrate after the project is finished.

A bucket dredge would also be utilized to repair or construct containment dikes around the marsh creation site. The existing non-federal levee and remnant oil and gas access canal spoil banks would be utilized as the base for the marsh creation site containment dikes. Approximately 34,500 CY of material would be excavated from within Big Mar and the proposed marsh creation site to be utilized for dike/spoil bank refurbishment.

The staging area would be located in a previously disturbed location along the northwest end of Caernarvon Canal. This area is a stone parking lot for a private boat ramp area. No wetlands would be impacted by the staging area.

1. Review of Compliance (§230.10 (a)-(d)).	Preliminary[1]		Final[2]	
A review of this project indicates that:				
a. The discharge represents the least environmentally damaging practicable alternative and if in a special aquatic site, the activity associated with the discharge must have direct access or proximity to, or be located in the aquatic ecosystem to fulfill its basic purpose (if no, see section 2 and information gathered for environmental assessment alternative);	YES	NO*	YES	NO
b. The activity does not appear to: (1) violate applicable state water quality standards or effluent standards prohibited under Section 307 of the Clean Water Act; (2) jeopardize the existence of Federally listed endangered or threatened species or their habitat; and (3) violate requirements of any Federally designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies);	YES	NO*	YES	NO
c. 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 organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, esthetic, and economic values (if no, see section 2);	YES	NO*	YES	NO
d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (if no, see section 5).	YES	NO*	YES	NO

2. Technical Evaluation Factors (Subparts C-F).	N/A	Not Significant	Significant*
a. Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C).			
(1) Substrate impacts.			x
(2) Suspended particulates/turbidity impacts.		x	
(3) Water column impacts.		x	
(4) Alteration of current patterns and water circulation.		x	
(5) Alteration of normal water fluctuations/ hydroperiod.		x	
(6) Alteration of salinity gradients.		x	
b. Biological Characteristics of the Aquatic Ecosystem (Subpart D).			
(1) Effect on threatened/endangered species and their habitat.		x	
(2) Effect on the aquatic food web.		x	
(3) Effect on other wildlife (mammals, birds, reptiles, and amphibians).		x	
c. Special Aquatic Sites (Subpart E).			
(1) Sanctuaries and refuges.	x		
(2) Wetlands.		x	
(3) Mud flats.	x		
(4) Vegetated shallows.	x		
(5) Coral reefs.	x		
(6) Riffle and pool complexes.	x		
d. Human Use Characteristics (Subpart F).			
(1) Effects on municipal and private water supplies.	x		
(2) Recreational and commercial fisheries impacts.		x	
(3) Effects on water-related recreation.		x	
(4) Esthetic impacts.	x		
(5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves.	x		

Remarks. Where a check is placed under the significant category, the preparer has attached explanation.

2.a.(1) – Substrate Impacts: There would be significant impacts to the substrate due to the overlay of dredged material into the targeted area, changing it from mostly open water to freshwater marsh. This action would restore the area to historical substrate elevations, which is expected to result in long-term environmental benefits to the area. Dredged material discharge into the project area would adversely affect immobile organisms, as they would be smothered by dredged material placed within the site. Aquatic organisms are expected to gradually reestablish from adjacent areas not affected by the dredging and disposal activities. It is expected that organisms present in adjacent marsh would migrate to this area with the establishment of new marsh vegetation.

3. Evaluation of Dredged or Fill Material (Subpart G).[3]

a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material.

(1) Physical characteristics	x
(2) Hydrography in relation to known or anticipated sources of contaminants	x
(3) Results from previous testing of the material or similar material in the vicinity of the project	x
(4) Known, significant sources of persistent pesticides from land runoff or percolation	
(5) Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances	x
(6) Other public records of significant introduction of contaminants from industries, municipalities, or other sources	x
(7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	
(8) Other sources ..See references below.....	x

Appropriate references:

a. U.S. Army Corps of Engineers (USACE), 404 (b)(1) Evaluation (Long Form) - MRGO Restoration, July 2010

b. USACE, White's Ditch Diversion Water Quality Assessment, September 2010

c. US Coast Guard, National Response Center: http://www.nrc.uscg.mil/nrchp.html

d. US EPA, CERCLIS Database of Hazardous Waste Sites: www.epa.gov/superfund/sites/cursites/index.htm

e. US EPA, EnviroMapper StoreFront: http://www.epa.gov/enviro/html/em/index.html

f. US EPA, National Recommended Water Quality Criteria, 2006: http://epa.gov/waterscience/criteria/wqcriteria.html

g. US EPA, Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material, July 2004: http://www.epa.gov/owow/wetlands/pdf/40cfrPart230.pdf

h. Louisiana Department of Environmental Quality (LDEQ) 2008a. Ambient Surface Water Quality Monitoring Data website. http://www.deq.louisiana.gov/portal/Default.aspx?tabid=2421. Last accessed on January 13, 2009.

i. LDEQ 2008b. Chapter 11 Surface Water Quality Standards. http://www.deq.louisiana.gov/portal/LinkClick.aspx?link=planning%2fregs%2ftitle33%2f33v09.pdf&tabid=1674. Last accessed on November 17, 2008

j. National Oceanic and Atmospheric Administration (NOAA) 2006. *Screening Quick Reference Tables.* http://response.restoration.noaa.gov/type_topic_entry.php?RECORD_KEY%28entry_topic_type%29=entry_id,topic_id,type_id&entry_id(entry_topic_type)=90&topic_id(entry_topic_type)=2&type_id(entry_topic_type)=2. Last accessed on November 18, 2008

b. An evaluation of the appropriate information in 3a above indicates that there is reason to believe the proposed dredge or fill material is not a carrier of contaminants, or the material meets the testing exclusion criteria.

YES NO*

4. Disposal Site Delineation (§230.11(f)).

a. The following factors, as appropriate, have been considered in evaluating the disposal site.

(1) Depth of water at disposal site	x
(2) Current velocity, direction, and variability at disposal site	x
(3) Degree of turbulence	x
(4) Water column stratification	x
(5) Discharge vessel speed and direction	
(6) Rate of discharge	
(7) Dredged material characteristics (constituents, amount, and type of material, settling velocities)	x
(8) Number of discharges per unit of time	
(9) Other factors affecting rates and patterns of mixing (specify)	

Appropriate references:

Same as 3(a)

b. An evaluation of the appropriate factors in 4a above indicates that the disposal site and/or size of mixing zone are acceptable.

YES NO*

5. Actions to Minimize Adverse Effects (Subpart H).

All appropriate and practicable steps have been taken, through application of the recommendations of §230.70-230.77 to ensure minimal adverse effects of the proposed discharge.

YES NO*

Actions taken: All newly dredged flotation access channels would be backfilled at the conclusion of the project. The construction of containment dikes around the marsh creation site would lessen the impacts of increased turbidity and other water column impacts during the placement of the dredged material into the marsh creation area and its subsequent dewatering. The staging area for the project will be located in a previously disturbed location along the northwest end of the Caernarvon Canal (see Figure 4). The location is a stone parking lot for a private boat launch area, and no wetlands would be impacted by the staging area.

6. Factual Determination (§230.11).

A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short- or long-term environmental effects of the proposed discharge as related to:

a. Physical substrate at the disposal site (review sections 2a, 3, 4, and 5 above).	YES	NO*
b. Water circulation, fluctuation and salinity (review sections 2a, 3, 4, and 5).	YES	NO*
c. Suspended particulates/turbidity (review sections 2a, 3, 4, and 5)	YES	NO*
d. Contaminant availability (review sections 2a, 3, and 4).	YES	NO*
e. Aquatic ecosystem structure and function (review sections 2b and c, 3, and 5).	YES	NO*
f. Disposal site (review sections 2, 4, and 5).	YES	NO*
g. Cumulative impact on the aquatic ecosystem.	YES	NO*
h. Secondary impacts on the aquatic ecosystem.	YES	NO*

*A negative, significant, or unknown response indicates that the project may not be in compliance with the Section 404(b)(1) Guidelines.

[1]Negative responses to three or more of the compliance criteria at this stage indicates that the proposed projects may not be evaluated using this "short form procedure". Care should be used in assessing pertinent portions of the technical information of items 2a-d, before completing the final review of compliance.

[2]Negative responses to one of the compliance criteria at this stage indicates that the proposed project does not comply with the guidelines. If the economics of navigation and anchorage of Section 404(b)(2) are to be evaluated in the decision-making process, the "short form" evaluation process is inappropriate.
[3]If the dredged or fill material cannot be excluded from individual testing, the "short form" evaluation process is inappropriate.

7. Evaluation Responsibility.

a. Water Quality input provided by: Stephen T. Servay

Position: Chemist

Date : 10/21/2010

b. This evaluation was reviewed by: Rodney Mach

Position: Supervisory Hydraulic Engineer, ED-HN

Date: 10/21/2010

8. Findings.

a. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines ……..... X

b. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines with the inclusion of the following conditions ……..... _____

c. The proposed disposal site for discharge of dredged or fill material does not comply with the Section 404(b)(1) guidelines for the following reason(s):

(1) There is a less damaging practicable alternative ……..... _____
(2) The proposed discharge will result in significant degradation of the aquatic ecosystem ……..... _____
(3) The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem ……..... _____

Date: _____

_____
Joan M. Exnicios
Chief, New Orleans Environmental Branch

Appendix E: Link to EA #433

www.nolaenvironmental.gov
Projects
Hurricane EA