

1. Project Information

Project Name: Mid-Breton Sediment Diversion

Sector: Water Resources

Type: Other Water Resources Projects (incl. Waste/Storm-water Infrastructure; Flood Risk Management; Navigation; Restoration activities associated with non-Bureau of Reclamation infrastructure)

Location: Plaquemines Parish, Louisiana

2. Project Sponsor

Lawrence B. Haase

Executive Director

Coastal Protection and Restoration Authority

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3. Statement of the Purposes and Objectives of the Project

The purpose of the proposed Mid-Breton Sediment Diversion is to reconnect and re-establish the deltaic sediment deposition process between the Mississippi River and the Breton Sound Basin through a large-scale sediment diversion that is consistent with the Louisiana Coastal Master Plan. The Mid-Breton Sediment Diversion will deliver sediment, freshwater, and nutrients to Breton Sound Basin in order to create, preserve, restore, and sustain wetlands and counteract the effects of subsidence, sea level rise, recent hurricane events, and the DWH oil spill. The Mid-Breton Sediment Diversion is needed as a long-term resilient, sustainable strategy to reduce land loss rates and sustain and restore wetlands.

A. *Historical Land Loss on the Louisiana Coast*

The Breton Sound Basin is an abandoned Mississippi River delta lobe, the St. Bernard Delta, and is approximately 676,400 acres in size. Bayou Terre aux Bouefs and River aux Chenes are abandoned delta distributaries. Historically, the basin and river were connected with the basin receiving fresh water and sediment from the river. Navigation and flood protection levees constructed along the Mississippi River in the 1930s have reduced fluvial interaction and material transport (freshwater, sediment, and nutrients) to the basin wetlands, which continue to deteriorate as tidal influence is exacerbated by oil and gas canals dredged through abandoned distributary ridges created when the river and basin were connected.

Since 1932, the basin has lost 105,267 acres (426 km²) of its wetlands (Couvillion et al. 2017). The causes of wetland loss in Breton Sound Basin are both natural and human-induced, including drivers such as sea level rise, subsidence, and saltwater intrusion (Boesch et al., 1994). While the man-induced and natural causes of wetland loss are difficult to separate, the upper Breton Sound Basin has been severed from river-born subsidies of freshwater, sediment, and nutrients that historically created and sustained the deltaic wetlands.

Further contributing to land loss, on April 2010, the Deepwater Horizon (DWH) mobile drilling unit exploded, caught fire, and sank in the Gulf of Mexico approximately 50 miles off the Louisiana coast, resulting in a massive release of oil and other substances into the northern Gulf of Mexico. Oil spread from the deep ocean to the surface and nearshore environment. In Louisiana, oil spread into the Breton Sound Basin, injuring wetland habitats and multiple species of wildlife.

B. History of the Mid-Breton Sediment Diversion

Both the State of Louisiana and the federal government have long recommended using diversions to restore these eroding wetlands. Sediment diversions have been recommended in 17 plans dating back to 1973 (Gagliano et al. 1973). The U.S. Army Corps of Engineers (USACE) New Orleans District evaluated a sediment diversion into Mid-Breton Sound known as the Medium Diversion at White Ditch under the Louisiana Coastal Area (LCA) program as a long-term restoration opportunity to bring significant reversal of the wetland loss trend in the Breton Sound Basin. USACE recommended the diversion as a critical near-term restoration project in the Final Programmatic Environmental Impact Statement (PEIS) in 2005. The subsequent Chief's Report recommended conditional authorization for construction of the project and inclusion in the LCA Restoration Plan. The Water Resources Development Act (WRDA) of 2007 authorized USACE to carry out the Medium Diversion at White Ditch in accordance with the 2005 LCA Restoration Plan. USACE released the Final Integrated Feasibility Study and SEIS in September 2010; the Record of Decision was issued in December 2010. Further development of the project was suspended, however, due to lack of Congressional funding.

The State of Louisiana has included a Mid-Breton Sound Basin sediment diversion in all iterations of the Comprehensive Master Plan for a Sustainable Coast (Master Plan) since 2007. The Master Plan was developed through a rigorous technical effort with extensive public outreach and collaboration with local, state, and national stakeholders and currently serves as the foundation of the State of Louisiana's coastal program.

As this Project is a keystone project of CPRA's Master Plan, CPRA began engineering and designing the Mid-Breton Sediment Diversion Project in April of 2018. During the initial phase of engineering and design, CPRA's design firm determined that due to the morphology and sediment dynamics in the river at the proposed project location, and the profile of sediment concentrations in the incoming water across the river, a larger capacity diversion would provide greater efficiency of sediment capture and delivery resulting in greater ecosystem benefits. In January 2019, CPRA decided to pursue the Mid-Breton Sediment Diversion with a maximum capacity of 75,000 cfs. On January 25, 2019, CPRA submitted a permit application to USACE to construct the Mid-Breton Sediment Diversion.

C. Objectives of the Proposed Mid-Breton Sediment Diversion

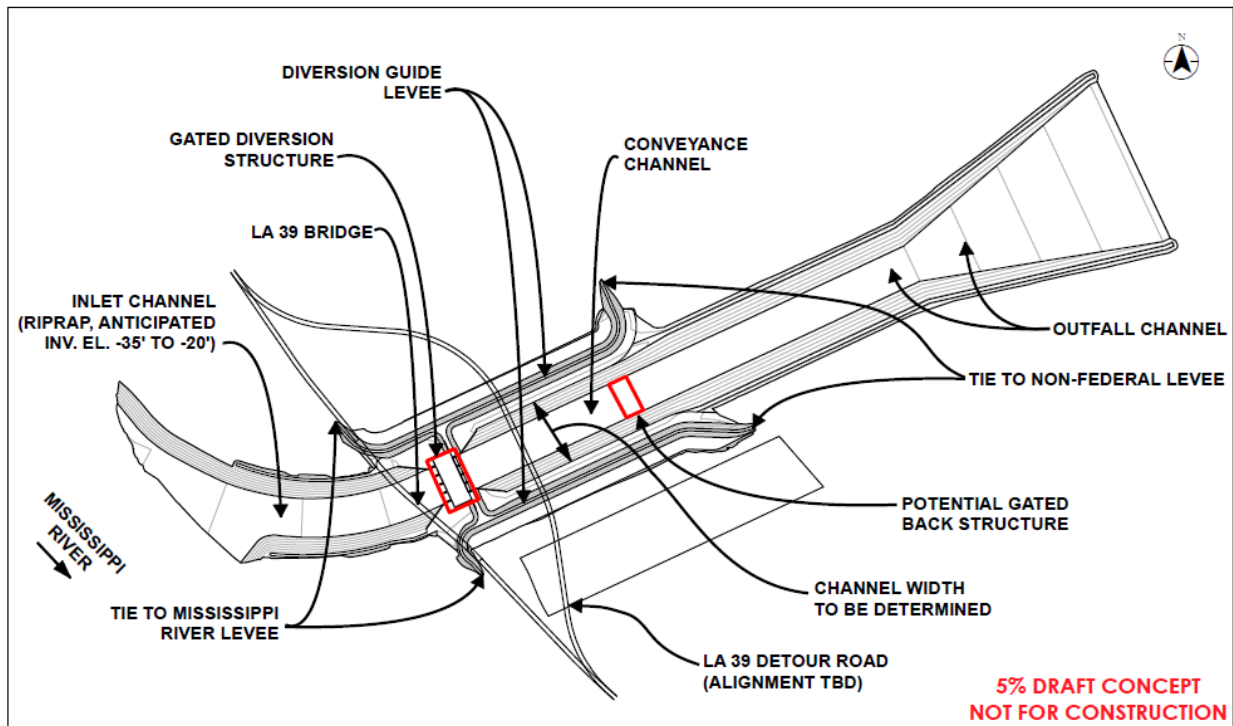
The objective of the Mid-Breton Sediment Diversion is to divert sediment from the Mississippi River into the Breton Sound Basin in order to create, preserve, restore, and sustain wetlands and counteract the effects of subsidence, sea level rise, recent hurricane events, and the DWH oil spill. Based on recent geomorphology and wetland habitat models, it is anticipated that the proposed

75,000 cubic foot per second sediment diversion will create and sustain wetland habitat by introducing approximately 190 million tons of new sediment into the Breton Sound Basin over a 50 year project (compared to a future without the project scenario), and the benefits are anticipated to extend beyond this time. The Project will also create and sustain a gradient of estuarine habitats that would otherwise be lost in the future without the Project. Through new habitat creation and the restoration of an estuarine gradient, resident and estuarine-dependent species productivity will be sustained in a manner not achievable through mechanical wetland creation approaches alone.

The creation of estuarine habitats by the Project is the primary short- and long-term benefit. During the early phase of sediment diversion operation, it is anticipated that existing natural wetlands and recently created wetlands near the diversion outfall will benefit from the subsidy of mineral sediments. Given the oiling impacts to wetlands in Breton Sound Basin from the DWH oil spill, the Project will overall create new wetlands that offset the deterioration of wetlands due to oil impacts.

4. Project Description and General Location

The Mid-Breton Sediment Diversion will be located in Plaquemines Parish, LA north of the Mid-Barataria location on the east bank of the Mississippi River, near Wills Point at Mississippi River Mile 68. The diversion complex is anticipated to include an inlet channel, a gated structure at the Mississippi River Levee, a conveyance channel, outfall channel, interior drainage improvements, and highway improvements.



River Mile 68 on the left descending bank of the Mississippi River;
 Latitude 29° 45' 2.36" Longitude 90° 0' 38.38"

Township T15S Range 12E Section 4
Township T15S Range 12E Section 5
Township T15S Range 12E Section 6



5. Locations of environmental, cultural, or historic resources

USACE’s Engineer Research Development Center (ERDC) Environmental Laboratory conducted a pallid sturgeon census in the Mississippi River between 2005 and 2011. The stretch of the Mississippi River studied was between River Mile 0 and River Mile 320. The goal of the census was to determine the probability of pallid sturgeon entrainment in existing diversion structures. No pallid sturgeon were documented below River Mile 95.5. ERDC’s conclusion was pallid sturgeon entrainment risk below New Orleans is low and unlikely below River Mile 50 (ERDC-EL 2013).

The east bank of the Mississippi River and the Breton Sound Basin have a long history of human occupation. The Breton Sound Basin is within the ancestral homeland of the Chitimacha Tribe of Louisiana and the post-European contact homeland of several Native American Tribes—the Alabama-Coushatta Tribe of Texas, the Coushatta Tribe of Louisiana, the Choctaw Nation of Oklahoma, the Mississippi Band of Choctaw Indians, the Jena Band of Choctaw Indians, the Seminole Nation of Oklahoma, the Seminole Tribe of Florida, and the Tunica-Biloxi Tribe. Following European colonization in the 18th century, plantations were established along the east bank of the Mississippi River. Numerous archaeological sites, prehistoric and historic, are located in the Breton Sound Basin and many have been identified through surveys conducted for federal actions in compliance with Section 106 of the National Historic Preservation Act.

Breton Sound Basin, a combination of open water and fragmented marsh, provides life cycle habitat for Essential Fish Habitat (EFH) species as well as bottlenose dolphins that feed on such species and other fishes. This productive estuary provides for commercial and recreational fishing. Endangered Species Act (ESA) protected sea turtles may feed within the Basin. Migratory Bird Treaty Act species feed and nest within areas of the Basin.

6. Technical and Financial Ability to Construct the Project

The State of Louisiana will receive approximately \$1.272 billion in Gulf Environmental Benefit Funds (GEBF) administered by the National Fish and Wildlife Foundation (NFWF), and earmarked for barrier island and river diversion projects in Louisiana. The State anticipates using an estimated \$792 million of these funds for the Mid-Breton Sediment Diversion.

CPRA has activated a fully integrated Program Management Team that consists of in-house expertise and consultant assistance. This team is responsible for managing scope, schedule, and budget of all environmental, engineering, and construction aspects of the Mid-Breton Sediment Diversion project. If USACE determines an Environmental Impact Statement (EIS) is required, a third-party contractor will prepare the EIS while a team of engineering consultants will lead the design effort. Additionally, CPRA will execute an innovative project delivery method that involves hiring a construction contractor near the beginning of the engineering phase. This model integrates contractor input throughout the engineering process and then allows that contractor to begin construction at the completion of engineering.

The entire Engineering and Design phase of the project, including all environmental and permitting tasks, will be funded by the GEBF. NFWF recently awarded \$92 million to fully fund this phase of the project.

7. Anticipated Environmental Reviews and Authorizations

The Mid-Breton Sediment Diversion Project requires compliance with seven (7) separate statutes—Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, Section 408 of the Rivers and Harbors Act of 1899, the Fish and Wildlife Coordination Act, Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, and Section 106 of the National Historic Preservation Act (and both state and local authorizations). This Project is waived from the regulatory requirements of the Marine Mammal Protection Act (MMPA), per section 20201 of the Bipartisan Budget Act of 2018 (Public Law 115-123) as stated in the waiver issued by NOAA/NMFS on March 15, 2018.

A Clean Water Act Section 404 permit is required from USACE for impacts to wetlands and other waters of the U.S. within the sediment diversion channel footprint and the Mid-Breton Sound Basin. USACE authorization under Section 10 of the Rivers and Harbors Act of 1899 is required for construction of the sediment diversion intake in the Mississippi River. USACE permission under Section 408 of the Rivers and Harbors Act of 1899 is also required for alteration of the Mississippi River Levee and the New Orleans to Venice (NOV) Hurricane Protection Levee as well as potential shoaling impacts to the Mississippi River Ship Channel.

Upon receipt of a complete Section 404/10 permit application, USACE will issue a public notice to seek comments on the proposed project. After reviewing the permit application and public comments, USACE will issue a significance determination. If USACE concludes the project will have a significant impact, USACE will notify the public that an EIS is to be prepared by publishing a Notice of Intent in the Federal Register.

Further, as the lead federal agency for the Section 10/404 EIS, USACE will consult with NMFS and the U.S. Fish and Wildlife Service (USFWS) for impacts to trust resources in the Mississippi River and the Breton Sound Basin. USACE will undertake consultations with NMFS under the Magnuson-Stevens Fishery Conservation and Management Act for potential Essential Fish Habitat (EFH) impacts (species and habitats) in the Breton Sound Basin and Section 7 of the Endangered Species Act for potential impacts to sea turtles and/or their critical habitat(s) within the Breton Sound Basin. USACE will consult with USFWS under Section 7 of the Endangered Species Act for West Indian manatees and, potentially, pallid sturgeon. Additional consultations may be conducted with USFWS under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act through the Fish and Wildlife Coordination Act process.

USACE will also initiate consultation with the Louisiana State Historic Preservation Office, CPRA and Federally-recognized Tribes under Section 106 of the National Historic Preservation Act for potential impacts within the Project's construction footprint(s) and within the Project's outfall in the Mid-Breton Sound Basin.

Permits will also be required from state and local agencies for construction of the Mid-Breton Sediment Diversion. Authorization under the Coastal Zone Management Act will be handled by the Louisiana Department of Natural Resources through the Coastal Use Permit process. A Water Quality Certification is required from the Louisiana Department of Environmental Quality under Section 401 of the Clean Water Act. A dredge and fill permit is required from the Louisiana Department of Wildlife and Fisheries for the dredging of state water bottoms within the Breton Sound Basin. A right-of-way permit is required from the Louisiana Department of Transportation and Development for the relocation of a portion of Louisiana Highway 39.

8. FAST Act Covered Project

The impacts of coastal land loss threaten Louisiana's economy, commerce, infrastructure, and culture. Furthermore, the collapse of coastal Louisiana would negatively impact the entire country—Louisiana provides protection for infrastructure that supplies 90% of the nation's outer continental oil and gas, 20% of the nation's annual waterborne commerce, 26% (by weight) of the continental U.S. commercial fisheries landings, and winter habitat for five million migratory waterfowl.

To address the root of the problem, it is important to “reconnect the river” and restore the natural processes that initially built the delta. Controlled sediment diversions offer a unique opportunity to strategically reestablish hydrologic flows, carry land-building sediments, nourish marshes, and sustain land. When utilized along with other forms of marsh creation and the full suite of protection and restoration projects, this integrated systems approach can combat the grave land loss that threatens the coast.

The Mid-Breton Sediment Diversion project meets the definition of a covered project as defined in 42 U.S.C. § 4370m(6)(A) of the FAST Act. The proposed project is a complex civil works/ecosystem restoration project requiring authorization or environmental review by several Federal agencies and will be operated to create restoration activities associated with non-Bureau of Reclamation infrastructure and maintain waste/storm-water infrastructure, flood risk management, and Mississippi River navigation. Existing federal infrastructure—the Mississippi River Levee and the NOV Hurricane Protection Levee—will be altered for the construction of engineered gated structures and a gravity fed conveyance channel connecting the River to the Basin. Existing transportation infrastructure—Louisiana Highway 39—will be relocated and a bridge will be constructed over the diversion channel to maintain service. Louisiana Highway 39 is the primary hurricane evacuation route for residents of lower Plaquemines Parish and must remain in service during the construction of the sediment diversion channel; a detour will be provided during construction of the highway bridge and approaches. Utility infrastructure—water and electrical lines—will be relocated in order to accommodate the construction and operation of the diversion channel. The intake structure will be located in the Mississippi River. The Project may require the modification of internal drainage collection swales and may require drainage accommodations in order to capture and convey area drainage north of the channel to the Breton Sound Basin.

The proposed project is subject to NEPA and requires an investment of more than \$200M. USACE may invite the EPA, NOAA/NMFS, the U.S. Coast Guard (USCG), and DOI/USFWS to serve as cooperating agencies in the preparation of the EIS for Clean Water Act and Rivers and Harbors Act permissions. EPA will be engaged through the Clean Water Act. NOAA/NMFS staff will be engaged through consultations under the Magnuson-Stevens Fishery Management and Conservation Act and the Endangered Species Act. USCG will be involved under Section 10 of the Rivers and Harbors Act for potential navigation impacts in the Mississippi River Ship Channel. Staff from DOI/USFWS will be engaged through the Fish and Wildlife Coordination Act and the Endangered Species Act. Given that the proposed project requires environmental review by multiple federal agencies and likely will require the preparation of an EIS, the Mid-Breton Sediment Diversion will benefit from enhanced oversight and coordination.