

Coastal Protection and Restoration Authority Infrastructure Projects

Mid-Barataria Sediment Diversion

The Mid-Barataria Sediment Diversion is a \$1.3 billion, 75,000 cubic feet per second maximum flow sediment diversion project located in Plaquemines Parish Louisiana designed to convey sediment, freshwater, and nutrients from the Mississippi River through controlled intake gates in the levee, down a conveyance channel and into the wetlands to build and maintain marsh in the Barataria Basin. This project will address the root cause of land loss (sediment deprivation and increasing salinities) and has been a top-performing project in the 2012 Coastal Master Plan and the Draft 2017 Coastal Master Plan.

The 75,000 cubic feet per second diversion will introduce 150 million tons of new sediment into the Barataria Basin. This will build and maintain marsh, provide for the sustenance of a gradient of estuarine habitats that would have otherwise been lost and will also enhance the longevity of other marsh creation projects built within its influence area.

These benefits of this project will accrue in the Barataria Basin which has lost approximately 75,000 acres (30% of its land area) between 1975 and 2010 and is projected to lose another 105,000 to 150,000 acres or approximately 3,000 acres per year by 2060. This project will also help recover wetlands injured or lost due to the DWH oil spill by reducing future losses of existing wetlands, creating new wetlands, and providing potential benefits that are intended to complement the benefits of other wetland restoration approaches in the Basin. In so doing it will increase habitat for freshwater and estuarine fish, birds, and invertebrates; and reduce storm risk, thus providing protection to nearby infrastructure.

The State of Louisiana will receive approximately \$5 billion in Natural Resources Damage Assessment funds and anticipates using an estimated \$1.3 billion of these funds to construct the Mid-Barataria Sediment Diversion. Additional funds for the engineering, design, and permitting of this structure have been awarded by the National Fish and Wildlife Foundation from funds received as a result of BP's criminal settlement in the *Deepwater Horizon* disaster.

Mid-Breton Sediment Diversion

This project is located on the east bank of the Mississippi River in Plaquemines Parish near River Mile 68.6 (Wills Point). Like the Mid-Barataria Sediment Diversion, this project is designed to convey sediment, freshwater, and nutrients from the Mississippi River through controlled intake gates in the levee, down a conveyance channel and into the wetlands to build and maintain marsh.

Once constructed, the sediment diversion is anticipated to convey up to 35,000 cubic feet per second of sediment-rich river water, introducing approximately 70 million tons of new sediment into the Breton Sound Basin over a 50-year period. This project has been studied for approximately 15 years as part of the Louisiana Coastal Area (LCA) Program and Louisiana's Comprehensive Master Plan for a Sustainable Coast 2012 and 2017. The LCA Ecosystem Restoration Study recommended the project (then conceived of at White Ditch) as one of fifteen "near-term critical restoration features." In both the 2012 Coastal Master Plan and the Draft 2017 Coastal Master Plan the project has been recommended for implementation during the first implementation period.

This project will also help recover wetlands injured or lost due to the DWH oil spill by reducing future losses of existing wetlands, creating new wetlands, and providing potential benefits that are intended to complement the benefits of other wetland restoration approaches in the Breton Sound. In so doing it will increase habitat for freshwater and estuarine fish, birds, and invertebrates; and reduce storm risk, thus providing protection to nearby infrastructure.

Very early cost estimates for this project put full construction costs at \$696 million, which includes contingencies and cost escalation to the time of construction. The State of Louisiana has been advancing this project through planning and into the engineering and design phase with funding from the National Fish and Wildlife Foundation from funds received as a result of BP's criminal settlement in the *Deepwater Horizon* disaster.

Houma Navigation Canal Lock Complex

The Houma Navigation Canal (HNC) Lock Complex is located in Terrebonne Parish Louisiana, north of Cocodrie. Consisting of a flood gate and lock complex, this project is both a central component of the Morganza-to-the-Gulf Hurricane Storm Damage Risk Reduction System and a salt water intrusion management structure that will help to restore historic salinity regimes in the mid-Terrebonne basin, a region in south Louisiana experiencing one of the highest rates of land loss in all of coastal Louisiana.

This project is a hydrologic restoration, multipurpose project with features designed to accomplish two essential goals. First, the HNC Lock Complex will reduce salt water intrusion from the Gulf of Mexico via the HNC and also distribute and retain freshwater entering the system from more inland sources like the companion project Increase Flow to Atchafalaya. This saltwater restriction and freshwater retention will help to maintain thousands of acres of wetlands which serve as critical wildlife habitat and nurseries for fisheries. The second essential aspect of this project is flood protection. As a part of the Morganza to the Gulf System it will also serve to block storm surge and be built to the high standards established by the United States Army Corps of Engineers for the Greater New Orleans Hurricane Storm Damage Risk Reduction System.

The total estimated cost for this project is \$384 million which includes engineering and design costs of \$34 million, and an estimated construction cost of \$350 million. As stated in the State's First Amended RESTORE Plan, the estimated \$128.8 million in long-term operations and maintenance (O&M) costs will be borne by the Terrebonne Levee and Conservation District who will be responsible for performing the O&M. The State has elected to apply \$18 million in CPRA Surplus funds to engineering and design and will apply for \$16 million from the RESTORE Council under the Spill Impact Component of the RESTORE Act to complete design once the RESTORE Council approves the State's First Amended RESTORE Plan (a prerequisite to applying for grants under the Spill Impact Component). In the State's First Amended RESTORE Plan CPRA proposes applying a total of \$384 million Spill Impact Component funds to the construction of this project.

Calcasieu Ship Channel Salinity Control Measures

The Calcasieu Ship Channel provides an inlet for saltwater from the Gulf of Mexico to the interior marshes surrounding Calcasieu Lake. The design, construction, and operation of measures such as earthen, rock, and sheet pile structures will control salinity spikes and provide storm surge benefits while allowing for the continued functioning and, ideally, improvement and increased viability of the Calcasieu Ship Channel and the Port of Lake Charles.

This saltwater management project is located in Cameron Parish along the Calcasieu Ship Channel from the Gulf Intracoastal Waterway to East Pass. The measures proposed in this project aim to improve the integrity of the marshes surrounding Calcasieu Lake, reduce wetland loss, and preserve areas of national interest including Camero Prairie and Sabine National Wildlife Refuges.

In sum, this project is estimated to contribute to the benefit of 21,000 acres of marsh over 50 years. The estimated total cost of this project is \$441.1 million. This includes \$36.4 million for engineering, design and permitting, \$262.8 million for construction and \$141.9 million for operations, maintenance, monitoring and adaptive management. The CPRA has been awarded a \$16 million grant in Direct Component funds from the U.S. Treasury in accordance with the RESTORE Act and has proposed funding \$260.4 million of the estimated construction costs with the remainder of its Direct Component funds under the State's First Amended RESTORE Act Plan.

River Reintroduction to Maurepas Swamp

This freshwater diversion project is located in St. John the Baptist and St. James Parishes and is intended to re-establish the natural freshwater, nutrient, and sediment inputs to the Maurepas Swamp, one of the largest areas of forested wetlands along the Gulf Coast.

The implementation of flood control levees on the Mississippi River interrupted the seasonal freshwater, sediment, and nutrient inputs into the 57,000 hectare bald cypress-tupelo swamp. As a consequence of that severed relationship, the swamp's elevation has decreased to the point where it is constantly flooded and unable to regenerate. Canal spoil banks and abandoned railroad embankments have also reduced the flow of water through the swamp and led to low-oxygen areas. The region is also subject to the periodic influx of brackish water from Lake Pontchartrain which further impacts the cypress-tupelo forest.

This project consists of a gated river intake structure, box culverts through the levee, a sedimentation basin, a 5 mile conveyance channel that will cross U.S. 61 and Interstate 10, and a drainage pump station. The maximum design flow is 2,000 cubic feet per second and is estimated to benefit an area of 45,000 acres. Additional benefits of the project include increased habitat productivity, water quality and community resilience as the Maurepas Swamp represents a significant storm buffer to nearby communities.

The proposed timeline for this project is 3 years for permitting and land rights followed by four years of construction. Total estimated project costs are \$186.9 million which include \$13.2 million for engineering and design, \$160.66 million in estimated construction cost, and approximately \$13 million for adaptive management. This project was included on the RESTORE Council's initial Funded Priorities List for planning and design in the amount of \$14.2 million.