

APPENDIX B: TABLES

Table B-1: Project history timeline of authorizations, studies, and tropical storm events from 1985 through 2012

1985	Hurricane Juan caused extensive flooding in Terrebonne and Lafourche parishes.
1992	Reconnaissance study authorized by resolution adopted April 1992 by the Committee of Public Works and Transportation of the U.S. House of Representatives. In August, Hurricane Andrew caused extensive flooding in Terrebonne and Lafourche parishes.
1994	USACE completed the Morganza to the Gulf reconnaissance report (USACE, 1994).
1995	In the Energy and Water Development Appropriation Act of 1995 (PL 103-316), Congress directed the USACE to consider the interrelationship of studies and projects that impact the coastal area of Louisiana, including the Morganza feasibility study, the Lower Atchafalaya Basin reevaluation study, and several projects being pursued under the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) program, and directed the USACE to consider improvements at and/or within the HNC. The Feasibility Cost Share Agreement was executed in June 1995.
1996	Section 425 of WRDA 96 (PL 104-303) required the USACE to develop a study of the HNC lock as an independent feature of the Morganza to the Gulf project.
1997	USACE completed the HNC lock study, which recommended a 200-ft wide lock in the HNC south of Bayou Grand Caillou and concluded that a lock structure would provide direct and indirect benefits to the environmental (marsh) habitat in the study area (USACE, 1997). The report recommended that the HNC lock continue to be investigated as part of comprehensive Morganza to the Gulf hurricane and storm damage reduction plans and that the detailed design phase of the lock be expedited and proceed concurrently with the feasibility study.
1998	Congress authorized the USACE to initiate detailed design of the multipurpose HNC lock.
2000	The Morganza to the Gulf of Mexico project was conditionally authorized in WRDA 2000 at a cost of \$550 million subject to having a favorable Chief of Engineer's report completed by December 2000; the terms of this conditional authorization were not met. The PED phase on the HNC lock complex was initiated in advance of the PED phase for the Morganza to the Gulf of Mexico hurricane and storm damage reduction project. The PED Agreement for the HNC lock was signed in January 2000.
2002	The Morganza to the Gulf feasibility study and PEIS were completed in March 2002 (USACE, 3/2002). The PED Agreement for the overall project was signed in May 2002. In August 2002, the USACE issued a Chief of Engineers report (USACE, 9/2002). In September and October, Tropical Storm Isidore and Hurricane Lili impacted the study area.
2003	In July 2003, the USACE issued a supplemental Chief of Engineers report (USACE, 2003), which made changes to the non-Federal sponsor's in-kind services.
2004	Section 158 of the Energy and Water Development Appropriations Act, 2004 (Public Law 108-137) authorized construction on Reach J-1, which had been previously identified as work-in-kind.
2005	The PED Amendment 1 executed in March 2005 combined the two PED efforts into one and allowed the non-Federal sponsor to advance funds on the combined PED effort. In August and September, Hurricanes Katrina and Rita impacted the study area.
2007	WRDA 2007 authorized the Morganza to the Gulf of Mexico, Louisiana project for hurricane and storm damage reduction at a total cost of \$886.7 million.

2008	A recon-level analysis and programmatic cost estimate (ARCADIS, 2008) was completed to determine whether or not there would still be a Federal interest in the project with post-Katrina interim criteria (USACE, 2007) incorporated and whether a feasibility-level PAC report should be initiated. Based on an analysis of four alternatives, the general alignment strategy for the PAC report was determined, but not the final level of risk reduction. Phase I Design for the HNC lock and floodgate was finalized in a 50 percent Design Documentation Report (URS, 2008). In September, Hurricanes Gustav and Ike impacted the study area.
2011	The PED Amendment 2 executed in January 2011 increased the funding ceiling and changed the name of the non-Federal sponsor from Louisiana Department of Transportation and Development (DOTD) to the Louisiana Coastal Protection and Restoration Authority.
2012	Legislation changed the former Office of Coastal Protection and Restoration (OCPR) to the Coastal Protection and Restoration Authority (CPRA) and changed the former Coastal Protection and Restoration Authority (CPRA) to the Coastal Protection and Restoration Authority Board (CPRAB).

Table B-2. Previously Constructed Wetland or Ecosystem Restoration Projects in the Deltaic Plain (From Figure A-3c)

Program	Parish	Year Constructed	Project Description	Direct Overlap	Extended Boundary Overlap
BERM (BA-40): Riverine Sand Mining/Scofield Island Restoration	Plaquemines	2013	The goal of this project was to transport sediments from the Mississippi River to restore dune and marsh habitat on Scofield Island.^	No	No
BERM (BA-110): Shell Island East Berm	Plaquemines	2014	The purpose of this project was to restore the integrity of Shell Island, reduce wave energies within the bay area, and re-establish productive habitat to Bastian Bay and the surrounding area. ^	No	No
DOTD: I-310 Mitigation	St. Charles	1993	Mitigation for environmental impacts associated with the construction of Interstate 310 which was completed in 1993 in St. Charles Parish, Louisiana (USACE 2013).	No	No
CIAP (BA-15-X2): Lake Salvador Shoreline Protection-Phase III	St. Charles	2009	A shoreline protection project, located near Bayou des Allemands along the northwestern Lake Salvador shoreline, tying into the western BA-15 CWPRA shoreline protection feature and extending approximately 1.5 miles east. *+^	No	No
CIAP (BA-30-EB): East Grand Terre	Plaquemines	2010	The project goal is to restore barrier shoreline and marsh by dredging 3.3 million cubic yards of shore material and rebuilding the island. The project was designed under the CWPRA program and constructed under the CIAP program. ^	No	No
CIAP (BA-36-EB): Barataria Land Bridge Dedicated Dredging	Jefferson	2010	Located along the southern shoreline of Bayou Perot and Rigolettes, the project created and/or nourished approximately 1,200 acres of marsh in conjunction with CWPRA project BA-36 (Dedicated Dredging on the Barataria Basin Landbridge). ^	No	No
CIAP (BA-43-EB): Mississippi River Long Distance Sediment Pipeline	Jefferson	2016	The deposition of dredged material from the Mississippi River by long distance pipeline from the Mississippi River to locations within central Barataria Basin for marsh creation and restoration. *+ @^	No	No
CIAP (BA-45-EB): Caminada Headlands	Lafourche	2014	The proposed project will restore and protect beach and dune habitat across the Caminada Headland through the direct placement of sediment from offshore borrow areas. ^	No	No
CIAP (BA-58): Fringe Marsh Repair	Plaquemines	2014	This program involves the reestablishment of critical areas of fragile marsh in lower Plaquemines Parish to help minimize the continued fragmentation of wetland systems throughout the coast. ^@	No	No
CIAP (BA-59): Waterline Booster Pump Station, West Bank	St. James	2010	The project includes the installation of a waterline booster pump station in Welcome, Louisiana along Louisiana Highway 18 on the west bank of the Mississippi River in St. James Parish. *+	No	No
CIAP (BA-61): West Bank Wetland Conservation and Protection	St. James	2010	Acquisition and preservation of approximately 235 acres of existing wetlands along Louisiana Highway 20 in St. James Parish near the communities of South Vacherie and Chackbay to protect the natural habitat from future development. The purchase was completed in 2010. *+	No	No
CIAP (BA-155): Fifi Island Restoration	Jefferson	2015	This shoreline protection projection includes the construction of approximately 10,000 linear feet of rock to protect island habitat.^	No	No
CIAP (BA-161): Mississippi River Water Reintroduction Into Bayou Lafourche - BLWFD	Assumption; Lafourche	2016	The implementation of features and improvements determined to be the most beneficial in order to improve the capacity of Bayou Lafourche to allow for increased flows through the bayou. The project is anticipated to benefit the Terrebonne and Barataria Basins through reductions in the salinities and/or nourishment of wetlands with the introduction and distribution of sediment and nutrients from the river. ^@ #	No	No
CIAP (BA-162-SPER): Shoreline Protection Emergency Restoration	Plaquemines	2013	This project consists of a series of submerged wave breaks surrounding shoreline segments in Lower Plaquemines Parish to protect the oil damaged shores along the existing island remnants from further wave damage while also collecting sediment in order to naturally rebuild the degraded infrastructure of the islands.^	No	No
CIAP (PO-36EB): Orleans Land Bridge Shoreline Protection and Marsh Creation	Orleans	2013	This project provides shoreline protection on the northwest rim of Lake Borgne west of Alligator Point.^	No	No
CIAP (PO-39): Bald Cypress/Tupelo Coastal Forest	Livingston	2011	Acquisition and preservation of approximately 2,600 contiguous acres of coastal wetland forest, specifically bald cypress-tupelo swamp within the Maurepas Swamp in Livingston Parish, Louisiana (USACE 2013).	No	No
CIAP (PO-43): East Labranche Shoreline Protection	St. Charles	2015	A shoreline protection project which includes the construction of a rock dike along the southern shoreline of Lake Pontchartrain tying into the existing PO-03b LaBranche Wetland shoreline protection project, and continuing east along the shoreline. The project is designed to stop wave-induced shoreline erosion and protect the wetland habitat behind the structure (USACE 2013).	No	No

Program	Parish	Year Constructed	Project Description	Direct Overlap	Extended Boundary Overlap
CIAP (PO-48): Green Property Preservation Project	St. Tammany	2011	Property acquisition and preservation of approximately 27 acres of cypress swamp and bottomland hardwood forests within the Bayou Lacombe watershed in St. Tammany Parish, Louisiana. Purchase completed August 2011 (USACE 2013).	No	No
CIAP (PO-49): French Property Preservation Project	St. Tammany	2009	Property acquisition of approximately 40 acres of pine trees and mixed hardwoods to aid in the extension of the wildlife corridor between critical habitats along Bayou Liberty in St. Tammany Parish, Louisiana. The property will also be utilized for educating the public on wetland value (USACE 2013).	No	No
CIAP (PO-51): Mandeville Aquatic Ecosystem Restoration Project	St. Tammany	2010	Upgrade of the existing wastewater treatment plant including the addition of a wetland assimilation system for disbursement of treated sewerage effluent into an adjacent wetland area on to the western border of the City of Mandeville, Louisiana. Added benefits of the assimilation will be the increase of wetland vegetation to an area impacted during Hurricanes Katrina and Rita (USACE 2013).	No	No
CIAP (PO-73-2): Central Wetlands Demonstration	Orleans	2016	This demonstration project investigates the beneficial use of Ferrate as an alternative to chlorine to treat effluent at the East Bank Sewer Treatment Plant.^	No	No
CIAP (PO-73-1): Central Wetlands-Riverbend	St. Bernard	2015	This project involves the discharge of effluent from the oxidation plant to be discharged into the Central Wetlands. This would allow vegetation to prosper once again in the area.^	No	No
CIAP (PO-73-3): Central Wetlands Demonstration Expansion	Orleans	2016	The project would restore up to 17.2 acres of critical wetlands within the Central Wetlands area. ^	No	No
CIAP (PO-148): Living Shoreline	St. Bernard, Jefferson, Orleans	2017	The primary project objective involves the construction of bioengineered oyster reefs along coastal fringe marsh in St. Bernard Parish. The installation will take place from Eloi Point to the mouth of Bayou La Loutre around Lydia Point and Paulina Point extending around the southern shore of Treasure Bay. Other related Living Shoreline projects are in Plaquemines Parish and Jefferson Parish.^	No	No
CIAP (TE-43-EB): GIWW Bank Restoration of Critical Areas in Terrebonne	Terrebonne	2011	The project restored critical lengths of deteriorated channel banks with shoreline stabilization materials. ^	No	No
CIAP (TE-125): Bush Canal and Bayou Terrebonne Bank Stabilization	Terrebonne	2007	This project reconstructed the south bank of Bush Canal using material dredged from the canal. The restored bank-line was then covered with geotextile fabric and armored with stone rip-rap. The rebuilt bank-line will help to diminish storm surge as well as reduce saltwater intrusion. This project was funded by the CIAP of 2001 (CPRA 2014).	No	No
CWPPRA (AT-02): Atchafalaya Sediment Delivery	St. Mary	1998	The enhancement of natural delta growth by re-opening Natal Channel and Castille Pass. Material dredged as a result of construction was strategically placed at elevations mimicking natural delta lobes.^	No	No
CWPPRA (AT-03): Big Island Mining	St. Mary	1998	Creation of a western delta lobe behind Big Island to enhance the accretion of land beyond the west bank of the Atchafalaya River.^	No	No
CWPPRA (BA-02): GIWW to Clovelly Hydrologic Restoration	Lafourche	2000	Impede increasing salinity within the project area by the use of hydrologic restoration features such as plugs and weirs to hinder salt water intrusion and decrease marsh loss. Shoreline protection features along the Bay L'Ours were also constructed to lessen wave induced erosion and reduce marsh loss. The project is located east of the communities of Larose and Cutoff in Lafourche Parish, Louisiana and adjacent to Little Lake. *^	No	No
CWPPRA (BA03C): Naomi Outfall Management	Jefferson; Plaquemines	2002	The management of freshwater, sediment, and nutrients diverted from the Mississippi River via the Naomi Siphon (BA-03) into the project area located between the communities of Naomi/La Reussite and Lafitte in Jefferson Parish, Louisiana including The Pen. The project goal is to decrease salinities and reduce marsh loss.*^	No	No
CWPPRA (BA-15): Lake Salvador Shoreline Protection Demonstration	St. Charles	1998	The maintenance of shoreline integrity along the northern Lake Salvador shoreline east of Baie du Cabanage and help re-establish the natural hydrology of interior marsh. Phase I of the project was constructed to demonstrate the effectiveness of four separate types of segmented breakwaters in a poor soil environment. Phase II of the project included the installation of continuous rock structure along the western section of the lake.*^	No	No
CWPPRA (BA-19): Barataria Bay Waterway Wetland Restoration	Jefferson	1996	The project beneficially used dredge material to enlarge Queen Bess Island.^	No	No
CWPPRA (BA-20): Jonathan Davis Wetland Restoration	Jefferson	2003; 2012	The goal of this project is to restore the natural hydrologic conditions of the area and reduce shoreline erosion. The goal was partly accomplished through constructing a series of water control structures. Additional features were constructed as part of unit 4 consisting of rock rip rap revetment, concrete sheetpile wall, plugs, and marsh creation.*^	No	No

Program	Parish	Year Constructed	Project Description	Direct Overlap	Extended Boundary Overlap
CWPPRA (BA-23): Barataria Bay Waterway (BBWW) West Side Shoreline Protection	Jefferson	2000	Construction of approximately 1.75 miles of rock dike along the west bank of BBWW near Dupre Cut to protect the adjacent marsh from unnatural water exchange and subsequent erosion. ^	No	No
CWPPRA (BA-26): Barataria Bay Waterway (BBWW) East Side Shoreline Protection	Jefferson	2001	Construction of approximately 3.3 miles of levee and rock armor along the eastern bank of BBWW near Dupre Cut to protect the adjacent marsh from excessive tidal action and saltwater intrusion.^	No	No
CWPPRA (BA-27): Barataria Basin Landbridge Shoreline Protection, Phase 1 & 2	Jefferson; Lafourche	2009	Construction of approximately 13.5 miles of shoreline protection along the eastern bank of Bayou Rigolettes to inhibit the erosion on the southwestern shoreline of Bayou Perot and the southeastern shoreline of Bayou Rigolettes. ^	No	No
CWPPRA (BA-27C): Barataria Basin Landbridge Shoreline Protection, Phase 3 CU 7 and 8	Jefferson; Lafourche	1999, 2008, 2017	Construction of shoreline protection along the southern end of Bayous Perot and Rigolettes confluence with Little Lake and Harvey Cutoff Canal. The project tested sections of different shoreline protection types such as concrete panel wall, rock, and light rock. Portions were constructed in 1999, 2008, and 2017. ^@	No	No
CWPPRA (BA-27D): Barataria Basin Landbridge Shoreline Protection, Phase 4	Jefferson	2006	This project consists of a foreshore rock dike with incorporated fish passages and openings at historic natural channels to inhibit shoreline erosion and deterioration of the Barataria landbridge. ^	No	No
CWPPRA (BA-28): Vegetative Plantings of a Dredged Material Disposal Site on Grand Terre Island	Jefferson	2001	This project involved the installation of vegetative plantings on previously constructed marsh and dune platform on Grand Terre Island. ^	No	No
CWPPRA (BA-34-2): Hydrologic Restoration and Vegetative Planting in the Des Allemands Swamp	St. James	2018	The project goal is to increase the health of the swamp ecosystem by increasing water flow via gaps cut in the spoil bank, breaching internal impediments, and reestablishing natural channels. Native vegetation will also be planted at the site.^	No	No
CWPPRA (BA-35): Pass Chalard to Grand Bayou Pass	Plaquemines	2009	This project involves the creation of a dune and marsh platform on the north side of the Gulf of Mexico adjacent to Bay Joe Wise.^	No	No
CWPPRA (BA-36): Dedicated Dredging on the Barataria Basin Landbridge	Jefferson	2010	The construction of approximately 1,211 acres of intertidal marsh utilizing dredge material in two contained marsh creation areas. In addition, material was placed in adjoining fill areas to nourish approximately 1,578 acres of marsh in conjunction with CIAP BA-36(EB). ^	No	No
CWPPRA (BA-37): Little Lake Shoreline Protection/Dedicated Dredging Near Round Lake	Lafourche	2007	This project protects the Little Lake shoreline, creates intertidal wetlands, and nourishes fragmented, subsiding marsh. This project is designed to protect area wetlands, which currently experience high rates of shoreline erosion. ^	No	No
CWPPRA (BA-38): Pelican Island and Pass La Mer to Chalard Pass Restoration	Plaquemines	2012	The objective of this project is to create barrier island habitat, enhance storm-related surge and wave protection, prevent overtopping during storms, and increase the volume of sand within the active barrier system. ^	No	No
CWPPRA (BA-39): Bayou Dupont Sediment Delivery System	Jefferson; Plaquemines	2010	Dredged material from the Mississippi River near La Reussite, Louisiana was pumped into confined open water areas south of Cheniere Traverse Bayou and adjacent to the West Plaquemines non-federal levee using a pipeline conveyance system to create and restore marsh. Additional grant funded received by the State of Louisiana from The American Recovery and Reinvestment Act of 2009 (ARRA) was added to this project to create approximately 100 additional acres of marsh. *^	No	No
CWPPRA (BA-41): South Shore of the Pen Shoreline Protection and Marsh Creation	Jefferson	2012	This project involves the construction of concrete pile and panel wall and 2 miles of rock revetment along the south shore of The Pen and Bayou Dupont. Dedicated dredging was used to create and nourish marsh, within the triangular area bounded by the south shore of The Pen, the Barataria Bay Waterway (Dupre Cut) and the Creole Gas Pipeline Canal. ^	No	No
CWPPRA (BA-42): Lake Hermitage Marsh Creation	Plaquemines	2015	The creation of wetlands and the reduction of tidal exchange in marshes surrounding Lake Hermitage using material dredged from the Mississippi River. ^	No	No
CWPPRA (BA-48): Bayou Dupont Marsh and Ridge Creation	Jefferson	2016	Long distance pumping of Mississippi River sediment to create marsh, to nourish marsh and create a maritime ridge.^@	No	No
CWPPRA (BA-68): Grand Laird Marsh and Ridge Restoration	Plaquemines	2015	This project will create and nourish marsh and build about 20,000 ft of ridge.^	No	No
CWPPRA (BA-164): Bayou Dupont Sediment Delivery - Marsh Creation #3 and Terracing	Plaquemines	2018	This project involves dedicated dredging from the Mississippi River to create and nourish marsh in the vicinity of Bayou Dupont.^	No	No

Program	Parish	Year Constructed	Project Description	Direct Overlap	Extended Boundary Overlap
CWPPRA (BS-03A): Caernarvon Diversion Outfall Management	Plaquemines	2002	The enhancement of marsh to increase the utilization of freshwater, nutrients, and sediments provided by the Mississippi Rive through the Caernarvon Freshwater Diversion Structure.^	No	No
CWPPRA (BS-11): Delta Management at Fort St. Phillip	Plaquemines	2006	Enhancement of the delta building process occuring due to the crevasse at Fort St. Phillip.^	No	No
CWPPRA (BS-16): South Lake Lery Shoreline and Marsh Restoration	Plaquemines	2017	The project involves dredging sediment to create approximately 400 acres of marsh and restore 32,000 feet of southern Lake Lery shoreline. ^	No	No
CWPPRA (LA-05): Floating Marsh Creation Demonstration	Terrebonne	2006	A demonstration project developed and tested the creation of floating marsh made of bouyant vegetated mats or artificial islands.^	No	No
CWPPRA (LA-09): Sediment Containment System for Marsh Creation Demonstration	St. Charles	2013	The demonstration project utilizes an unconventional sediment containment system for marsh creation.^	No	No
CWPPRA (MR-03): West Bay Sediment Diversion	Plaquemines	2003	This project consists of a conveyance channel for large-scaled uncontrolled diversion of freshwater and sediments from the Mississippi River.^	No	No
CWPPRA (MR-06): Channel Armor Gap Crevasse	Plaquemines	1997	The project consists of deepening the invert of the existing 150 foot wide gap in the Mississippi River Channel bank armor. The existing invert was lowered to -4.0 feet NGVD. In addition, an existing earthen channel leading from the armored gap to the open water area beyond the bank were enlarged. Excavated material from the outfall channel was cast adjacent to the channel in a manner conducive to marsh nourishment.^	No	No
CWPPRA (MR-09): Delta Wide Crevasse	Plaquemines	1999	The objective of this project is to promote the formation of emergent freshwater and intermediate marsh in shallow, open water areas of the Pass-a-Loutre Wildlife Management Area and the Delta National Wildlife Refuge by either cleaning existing splays of creating new ones.^	No	No
CWPPRA (MR-10): Dustpan Maintenance Dredging Operations for Marsh Creation in the Mississippi River Delta Demonstration	Plaquemines	2002	This project demonstrated the beneficial use of dredged material from routine maintenance of the Mississippi River Navigation Channel by using a dustpan hydraulic dredge to create and restore adjacent marsh. Approximately 40 acres of deteriorated marsh that had converted to shallow open water were restored with approximately 222,000 cubic yards of dredging material. ^	No	No
CWPPRA (PO-06): Fritchie Marsh Restoration	St. Tammany	2001	Remediation of the causes of wetland loss in the area and to improve habitat for wildlife and fisheries by increasing the flow of freshwater into the marsh and managing the outfall.^	No	No
CWPPRA (PO-16): Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 1	Orleans	1996	Removal of excess water during the spring and summer from the isolated units 3 and 4 of the of the Bayou Sauvage Wildlife Refuge created by the Lake Pontchartrain Hurricane Protection levee. ^	No	No
CWPPRA (PO-17): Bayou Labranche Wetland Creation	Orleans	1994	The project involves dredging sediments from the Lake Pontchartrain to create vegetated wetlands in an area roughly bounded by I-10, Lake Pontchartrain, Bayou Lafourche.^	No	No
CWPPRA (PO-18): Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 2	St. Charles	1997	Maintenance of water levels at 05. feet above or below marsh elevation to promote vegetation growth in the project area.^	No	No
CWPPRA (PO-19): Mississippi River Gulf Outlet Disposal Area Marsh Protection	St. Bernard	1999	Preservation of vegetated wetlands by repairing the lateral and rear dikes of the Mississippi River Gulf Outlet disposal area.^	No	No
CWPPRA (PO-22): Bayou Chevee Shoreline Protection	Orleans	2001	The project consists of constructing an earthen, erodible dike to contain dredged material from Lake Pontchartrain and create about 150 acres of marsh.^	No	No
CWPPRA (PO-24): Hopedale Hydrologic Restoration	St. Bernard	2005	The replacement of collapsed culverts installed in the 1950s near Yscloskey to abate site-specific wetland loss.^	No	No
CWPPRA (PO-27): Chandeleur Islands Marsh Restoration	St. Bernard	2001	Vegetation plantings to assist and accelerate the recovery of barrier island areas overwashed by Hurricane Georges in 1998.^	No	No
CWPPRA (PO-30): Lake Borgne Shoreline Protection	St. Bernard	2008	Maintenance of the integrity of the narrow strip of marsh that separates Lake Borgne from the Mississippi River Gulf Outlet through the construction of a continuous nearshore rock breakwater.^	No	No
CWPPRA (PO-33): Goose Point/Point Platte Marsh Creation	St. Tammany	2009	The creation of marsh and nourishment of degraded marsh along the northern shoreline of Lake Pontchartrain.^	No	No
CWPPRA (PO-104): Bayou Bonfouca Marsh Creation	St. Tammany	2018	Creation of emergent brackish marsh to stabilize the landform separating Lake Borgne from the MRGO.^	No	No

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CWPPRA (TE-17): Falgout Canal Planting Demonstration	Terrebonne	1996	Vegetation planting and wave dampening devices placed along the Falgout Canal.^	No	No
CWPPRA (TE-18): Timbalier Island Planting Demonstration	Terrebonne	1996	The installation of sand fences and vegetation plantings in several areas of Timbalier Island to trap sand and buffer wind and wave energy.^	No	No
CWPPRA (TE-20): Isles Dernieres Restoration East Island	Terrebonne	1999	Restoration of coastal dunes and wetlands of the Eastern Isles Dernieres barrier island chain. Hydraulically filled area on the island to create an elevated marsh platform. Sand fences and vegetation were also installed to stabilize the sand and minimize wind-driven transport.^	No	No
CWPPRA (TE-22): Point au Fer Canal Plugs	Terrebonne	1997	The reduction of saltwater intrusion into Point au Fer marshes without reducing freshwater back flooding from the Atchafalaya River. ^	No	No
CWPPRA (TE-23): West Belle Pass Headland Restoration	Lafourche	1998	The project reduces the encroachment of Timbalier Bay into the marshes on the west side of Bayou Lafourche with the use of dedicated dredged materials to create marsh on the west side of Belle Pass. A water control structure was placed in the Evans Canal and plugs on the other canals.^	No	No
CWPPRA (TE-24): Isles Dernieres Restoration Trinity Island	Terrebonne	1999	The restoration of Trinity Island wetlands of the Isles Dernieres chain, enhance the physical integrity of the island, and protect the lower Terrebonne estuary.^	No	No
CWPPRA (TE-25): East Timbalier Island Sediment Restoration, Phase 1	Lafourche	2001	The placement of sediment in three embayments along the landward shoreline of East Timbalier Island. The project also included aerial seeding of the dune platform, installation of sand fencing, and dune vegetation plantings.^	No	No
CWPPRA (TE-26): Lake Chapeau Sediment Input and Hydrologic Restoration, Point Au Fer Island	Terrebonne	1999	The restoration of marshes west of Lake Chapeau, re-establishment of the hydrologic separation of the Locust Bayou and Alligator Bayou watersheds, and re-establishment of the natural drainage patterns within the Lake Chapeau area.^	No	No
CWPPRA (TE-27): Whiskey Island Restoration	Terrebonne	2000	The project created and restored beaches and back island marshes on Whiskey Island.^	No	No
CWPPRA (TE-28): Brady Canal Hydrologic Restoration	Terrebonne	2000	The maintenance of fragile, highly-fragmented transitional marshes between the fresh and estuarine zones by enhancing freshwater, sediment, and nutrient delivery to the area. ^	No	No
CWPPRA (TE-29): Raccoon Island Breakwaters Demonstration	Terrebonne	1997	The project protects the replenished beaches and wetlands of Raccoon Island and protect back barrier and mainland marshes with segmented breakwaters. ^	No	No
CWPPRA (TE-30): East Timbalier Island Sediment Restoration, Phase 2	Lafourche	2000	The project places dredged material along the landward shoreline of East Timbalier Island. Additional rock has been placed on the existing breakwater in front of the island, which will help protect the created area from erosion.^	No	No
CWPPRA (TE-34): Penchant Basin Natural Resources Plan, Increment 1	Terrebonne	2011	The diversion of freshwater flow from northwestern to southeastern sub project area coupled with protection measures to reduce inundation of fragile marsh areas in overall Penchant Basin in Terrebonne Parish.^	No	No
CWPPRA (TE-36): Thin Mat Floating Marsh Enhancement Demonstration	Terrebonne	2000	The objective of this project was to induce the development of thick-mat, continuously floating marsh from a thin-mat flotant using various combinations of treatments including fertilization, herbivory reduction, and transplanting healthy, thick-mat marsh plugs into the thin-mat flotant.^	No	No
CWPPRA (TE-37): New Cut Dune and Marsh Restoration	Terrebonne	2008	The closure of the breach between East and Trinity Islands that was originally created by Hurricane Carmen in 1974 and subsequently enlarged by Hurricanes Juan (1985) and Andrew (1992).^	No	No
CWPPRA (TE-39): South Lake Decade Freshwater Introduction	Terrebonne	2011	This project involves the construction of a water control structure in the southern bank of Lake DeCade. The structure increases the amount of Atchafalaya River water and sediment introduced into the marshes south of the lake. In addition, shoreline protection was implemented adjacent to the proposed structure, and a weir in Lapeyrouse Bayou was removed.^	No	No
CWPPRA (TE-40): Timbalier Island Dune and Marsh Creation	Lafourche	2004	The objective of this project was to restore the eastern end of the Timbalier Island by the direct creation of beach, dunes, and marsh. ^	No	No
CWPPRA (TE-41): Mandalay Bank Protection Demonstration	Terrebonne	2003	The development of new techniques for protecting and restoring organic soils, which can be easily eroded. Intact banks and breakthroughs were treated to determine the cost-effectiveness of demonstrated approaches. The project allows the evaluation of several low-cost solutions for restoring habitat in blowout areas and preventing bank erosion. ^	No	No
CWPPRA (TE-43): GIWW Bank Restoration of Critical Areas in Terrebonne	Terrebonne	2014	The project objective was to restore critical lengths of deteriorated channel banks and stabilize/armored selected critical lengths of deteriorated channel banks with shoreline stabilization materials. ^	No	No
CWPPRA (TE-44): North Lake Mechant Landbridge Restoration	Terrebonne	2009	The maintenance and restoration of the landbridge between Lake Mechant north shoreline and the Small Bayou La Pointe Ridge, which provides a hydrologic barrier between brackish and low-salinity habitats.^	No	No

Program	Parish	Year Constructed	Project Description	Direct Overlap	Extended Boundary Overlap
CWPPRA (TE-45): Terrebonne Bay Shoreline Protection Demonstration	Terrebonne	2007	The project was intended to evaluate several different shoreline protection methods, including concrete mats, artificial oyster reefs, and A-Jacks. ^	No	No
CWPPRA (TE-46): West Lake Boudreaux Shoreline Protection and Marsh Creation	Terrebonne	2008	The creation and nourishment of marsh along the western shoreline of Lake Boudreaux to protect the shoreline from erosion due to direct exposure to lake wave energy and to restore interior marsh lost to subsidence and saltwater intrusion. ^	No	No
CWPPRA (TE-48): Raccoon Island Shoreline Protection and Marsh Creation	Terrebonne	2007, 2013	The protection of the existing southern shoreline of the Raccoon Island by constructing rock breakwaters and creating marsh on the landward side of the island using dredged material. ^	No	No
CWPPRA (TE-50): Whiskey Island Back Barrier Marsh Creation	Terrebonne	2010	The recreation of a back barrier marsh platform on which the barrier island can migrate to increase the longevity of the previously restored and natural portions of the island. ^	No	No
CWPPRA (TE-52): West Belle Pass Barrier Headland Restoration	Lafourche	2012	The re-establishment of the West Belle headland by rebuilding a large portion of the beach, dune, and back barrier marsh that once existed. ^	No	No
CWPPRA (TE-53): Enhancement of Barrier Island Vegetation Demonstration	Terrebonne	2011	The project focused specifically on enhancing the establishment and growth of transplants of both dune and marsh vegetation and black mangrove. ^	No	No
CWPPRA (TV-04): Cote Blanche Hydrologic Restoration	St. Mary	1998	The reduction of future shoreline loss from wave erosion, reduction of excess tidal fluctuations and rapid tidal exchange to prevent scouring of interior marsh, develop a hydrologic regime conducive to sediment and nutrient deposition, and to re-establish vegetation in eroded areas. ^	No	No
CWPPRA (TV-15): Sediment Trapping at "The Jaws"	St. Mary	2005	The construction of wetland terraces to reduce wave fetch and promote sedimentation for the creation of emergent vegetated wetlands. Distributary channels were dredged to deliver water and sediment to the project area. ^	No	No
FEDERAL (TE-82): Lost Lake Vegetation	Terrebonne	2011	This coastal vegetative planting project is for erosion control and habitat restoration in the Lost Lake area of southwestern Terrebonne Parish ^	No	No
FEMA (TE-133): Isle Dernieres (Whiskey Island)	Terrebonne	2000	This project involved the installation of sand fencing and the planting of vegetation to repair areas of Whiskey Island damaged by tropical storms and hurricanes during the fall of 1998. ^	No	No
HSDRRS (PO-146): LPV Mitigation, Manchac WMA Marsh Creation	St. John the Baptist	2012	The creation of marsh and reduction of erosion by containment dikes with rock and fill areas with dredge material within the Manchac WMA. ^	No	No
HSDRRS: HSDRRS Mitigation LPV Milton Island Floodside Intermediate Marsh	St. Tammany	2018	This alternative consists of 115 acres of intermediate marsh restoration that would be achieved by placing dredged material in open water adjacent to the bottomland hardwood site to an elevation conducive for wetland development, followed by plating of wetland vegetation. Temporary containment features would be constructed to keep material in place. A shoreline restoration feature is proposed to repair a breach in the lake rim. Construction began in August 2015 and was completed in December 2018 (Erwin 2018b, USACE 2012d).	No	No
HSDRRS (PO-145): LPV Task Force Guardian Mitigation-Bayou Sauvage	St. John the Baptist	2018	This project is mitigating approximately 150 acres due to emergency levee work that utilized 2 borrow pits of about 57 acres. It provides for the elimination of non-native trees with spraying and mechanical clearing, and then the replanting of up to 89,000 trees and shrubs of native species. ^ The construction contract was awarded in 2012 and a Notitication of Contract Completion was received in 2018 (Landry 2019b).	No	No
HSDRRS: HSDRRS Mitigation WBV General Protected Side BLH Wet	Lafourche	2015	Mitigation for West Bank and Vicinity Hurricane Protection Storm Damage Risk Reduction System project impacts to protected side wet bottomland hardwoods (7.27 AAHUs impacted) occurred with the purchase of 11.1 acres from Enterprise Wetlands mitigation bank in February 2015 (USACE 2017b).	No	No
HSDRRS: HSDRRS Mitigation WBV JLNHPP Park/404c Millaudon and Horseshoe Canal Floodside Swamp Enhancement	Jefferson	2017	Mitigation for WBV HSDRRS project impacts to Jean Lafitte National Historical Park and Preserve (JLNHPP)/Bayou aux Carpes 404c area swamp (7.19 AAHUs impacted) to occur within the JLNHPP along the north side of the Millaudon and Horseshoe Canals near the WBV levee. Existing spoil berms will be gapped to improve exchange of surface water between swamp habitats in the area (USACE 2015). The project would involve restoring hydrologic connection and natural sheet flow across existing impounded swamp habitat to compensate for Park/404c swamp impacts. The project would produce approximately 8.4 AAHUs of swamp benefits on JLNHPP. (Behrens 2019a, USACE 2017b).	No	No
HSDRRS: HSDRRS Mitigation WBV JLNHPP Park/404c Hwy 45 Floodside BLH-Wet Restoration	Jefferson	2017	Mitigation for WBV HSDRRS project impacts to JLNHPP/Bayou aux Carpes 404c area to include approximately 6 acres of BLH-Wet restoration by filling a portion of a borrow pit in the northern part of Jean Lafitte National Park. The pit would be filled with clay and sand material trucked in from an offsite source, and native BLH-Wet species would be planted (Behrens 2019a; USACE2012g).	No	No

Program	Parish	Year Constructed	Project Description	Direct Overlap	Extended Boundary Overlap
LWCPRA (BA-187): Grand Isle Bay Side Breakwaters	Jefferson	1995	The purpose of this project was to reduce erosion on the bay side of Grand Isle. Fifteen 300-foot breakwaters were constructed on the back-bay side of Grand Isle. This project included construction of segmented breakwaters on bay side of Grand Isle. ^	No	No
LWCPRA (BA-200): North Grand Isle Breakwaters	Jefferson	1995	Approximately 1,500 linear feet of breakwater constructed on the south side of the Northern Grand Isle. ^&	No	No
LWCPRA (PO-01): Violet Siphon Diversion	St. Bernard	1992	Enlargen the size of the diversion so that more sediment and freshwater are available to offset marsh subsidence and saltwater intrusion. ^	No	No
LWCRPA (BA-03): Naomi Siphon Diversion	Jefferson; Plaquemines	1992	The Naomi Siphon diversion is located on the west bank of the Mississippi River near the communities of Naomi and LaReussite, Louisiana. The maximum flow capacity of the diversion is 2,100 cfs and is designed to divert freshwater, nutrients, and sediment from the Mississippi River into the adjacent wetlands near Naomi, Louisiana. * ^	No	No
LWCRPA (BA-04): West Pointe a la Hache Siphon Diversion	Plaquemines	1992	The construction of siphon to divert water from the Mississippi River into the adjacent wetlands on the west side of the river near Pointe a la Hache, Louisiana at a maximum discharge of 2,100 cfs. ^	Yes	Yes
LWCRPA (BA-05B): Queen Bess Island	Jefferson	1993	The purpose of this project is to restore Queen Bess Island as a brown pelican rookery. Dredged material was added to the island to increase its size in 1991, and a rock dike was installed around the perimeter of the original island in 1992 to armor the shoreline. The area has become vegetated and the number of pelican nests on the island increased after the project. ^	No	No
LWCRPA (BA-05C): Baie De Chactas	St. Charles	1990	Construction of a rock shoreline protection features between the northwest shoreline of Lake Salvador and Baie du Cabanage in order to reduce erosion, stabilize the shoreline, and inhibit shoreline breaching. * ^	No	No
LWCRPA (BA-15-X1): Lake Salvador Shoreline Protection Extension	St. Charles	2005	The shoreline protection project included the construction of a rock dike along the northeastern shoreline of Lake Salvador tying into the BA-15 Phase II CWPPRA project and extending approximately 2 miles northeast. The project is designed to maintain the shoreline integrity and reduce interior marsh loss. * ^	No	No
LWCRPA (BA-16): Bayou Segnette	Jefferson	1994; 1998/99	A shoreline protection feature along a narrow strip of spoil bank and marsh which separates the Bayou Segnette Waterway from Lake Salvador and a barrier across an abandoned canal that connects the two water bodies was constructed in 1994 to reduce wave induced erosion of marsh habitats within the JLNHPP. Maintenance of the structure occurred in 1998-1999. * ^	No	No
LWCRPA (BA-25): Bayou Lafouche Freshwater Introduction	Lafourche	2011	The Mississippi River diversion into Bayou Lafourche will restore coastal marshes and provide drinking water to over 300,000 residents. This project funded the dredging of the first 6.2 miles of the bayou to accommodate a proposed increased flow of 1,000 cfs. ^	No	No
LWCRPA (BA-168): Grand Isle-Fifi Island Breakwaters	Jefferson	2015	The project will construct breakwaters along the southwestern portion of Fifi Island to reduce erosion on Fifi Island and the bay side of Grand Isle in order to protect commercial and residential infrastructure, wetlands, and fisheries. The project includes renourishment of 1,450 feet of existing breakwaters of an elevation of 8 feet and construction of 1,450 feet of new breakwaters to an elevation of 8 feet. ^	No	No
LWCRPA (BS-06): Lake Lery Hydrologic Restoration	St. Bernard	1997	The construction of a pumping station located along the south-central edge of the St. Bernard Parish Ridge. This will discharge collected rainfall into the marsh north of Lake Lery and help prevent saltwater intrusion. ^	No	No
LWCRPA (LA-01A): Dedicated Dredging Program – Lake Salvador	St. Charles	1999	The deposition of dredge material into two sites in open water areas of Baie du Cabanage within the Salvador Wildlife Management Area where narrow marsh strips exists between Lake Salvador and the bay. The project goal is the restoration of marsh habitat and the reduction of shoreline breaching into the adjacent Lake Salvador as part of the coastwide State Dedicated Dredging Program. * ^	No	No
LWCRPA (LA-01B): Dedicated Dredging Program – Bayou Dupont	Jefferson	2000	The deposition of dredge material into three sites adjacent to Bayou Dupont and The Pen to nourish and/or rebuild threatened coastal marshes as part of the coastwide State Dedicated Dredging Program. ^	No	No
LWCRPA (LA-01C): Dedicated Dredging Program – Pass a Loutre	Plaquemines	2000	The project created approximately 26 acres of sustainable freshwater marsh in the vicinity of Pass a Loutre, Louisiana. This project is part of the coastwide state Dedicated Dredging Program. The goal of this program is to use a small, mobile hydraulic dredge along inland waterways in Louisiana's coastal zone to deposit dredged material, and thereby nourish and/or rebuild threatened coastal marshes adjacent to the waterways. ^	No	No
LWCRPA (LA-01D): Terrebonne School Board Site - Dedicated Dredging	Terrebonne	2006	The creation of approximately 40 acres of marsh just north of Lake DeCade along the western back of Minors Canal as part of the Dedicated Dredging Program. ^	No	No
LWCRPA (LA-01E): Grand Bayou Blue Site - Dedicated Dredging	Lafourche	2007	The creation of approximately 40 acres of marsh near Catfish Lake as part of the Dedicated Dredging Program. ^	No	No
LWCRPA (LA-01F): Dedicated Dredging - Point au Fer	Terrebonne	2007	The creation of approximately 67 acres of marsh on Point au Fer Island as part of the Dedicated Dredging Program. ^	No	No

Program	Parish	Year Constructed	Project Description	Direct Overlap	Extended Boundary Overlap
LWCRPA (MR-01B): Small Sediment Diversions	Plaquemines	1993	The project involved the excavation of 13 crevasses through the levees of the Mississippi River distributary channels within the Balize Delta in order to create self sustaining emergent marsh. ^	Yes	Yes
LWCRPA (PO-01): Violet Siphon	St. Bernard	1992	Repair and enlargement of the existing siphon to allow increased flow of freshwater and nutrients into the surrounding marsh areas to enhance wetland vegetation growth and decrease salinity. ^	No	No
LWCRPA (PO-02C): Bayou Chevee	Orleans	1994	This project installed 2,000 feet of brush fences at the mouth of Bayou Chevee. ^	No	No
LWCRPA (PO-03): Labranche Shoreline Stabilization and Canal Closure	St. Charles	1987	The restoration of the integrity of the shoreline, which separates Lake Pontchartrain from the western edge of Labranche wetlands. ^	No	No
LWCRPA (PO-03B): Labranche Shoreline Protection	St. Charles	1996	A rock breakwater was constructed along the Lake Pontchartrain shoreline, east of Bayou Labranche to inhibit breaching of the hydrologic boundary between the lake and the wetlands. ^	No	No
LWCRPA (PO-08): Central Wetlands Pump Outfall	St. Bernard	1992	This project was designed to provide freshwater, nutrients, and sediment associated with storm water runoff to an area of marsh near the Violet Siphon. ^	No	No
LWCRPA (PO-10): Turtle Cove Shore Protection	St. John the Baptist	1994	The project involved the construction of a rock-filled gabion breakwater to maintain and protect the Lake Pontchartrain shoreline that shelters "The Prairie" from high wave energies and to encourage sediment deposition behind the gabion structure. ^	No	No
LWCRPA (PO-72): Biloxi Marsh	St. Bernard	2014	This project involved the construction of approximately four miles of shoreline protection along the southeastern shoreline of Lake Borgne. ^	No	No
LWCRPA (PO-161): Lake Pontchartrain Hurricane Mitigation	St John the Baptist	1996	This project consisted of a near-shore, segmented breakwater system in Lake Pontchartrain parallel to a five-mile reach of the Manchac Wildlife Management Area. The project specifically mitigated for damages resulting from construction of the Lake Pontchartrain Hurricane Protection project. ^	No	No
LWCRPA (PO-4355NP4): Fontainebleau State Park Mitigation	St. Tammany	1999	A mitigation project for impacts associated with the construction of park cabins along the northern Lake Pontchartrain shoreline east of Bayou Castine within the Fontainebleau State Park, St. Tammany Parish. The project involved the deposition of sand in the nearshore zone to supply sediment to close approximately 600 feet of breaches east of the Fontainebleau State Park cabins along the shoreline (USACE 2013).	No	No
LWCRPA (TE-01): Montegut Wetland	Terrebonne	1993	The objective of Montegut Wetland project was to protect and enhance degraded wetland habitat in the Pointe au Chein Wildlife Management Area southeast of Montegut, Louisiana. ^	No	No
LWCRPA (TE-02): Falgout Canal Wetland	Terrebonne	1993, 1995	The primary objectives of this project were to protect marsh and cypress-tupelo swamp, reduce saltwater intrusion, and improve wildlife habitat by moderating water flux and tidal energy in the deteriorating wetland community. ^	No	No
LWCRPA (TE-03): Bayou Lacache Wetland	Terrebonne	1991, 1996	The goal of the project was to minimize the effects of saltwater intrusion by increasing the retention of freshwater derived from local runoff and establish control over saltwater flow into the project area. ^	No	No
LWCRPA (TE-06): Pointe-aux-Chenes Hydrologic Restoration	Lafourche	2006	Restoration of brackish-intermediate marsh within the Pointe Aux Chenes Wildlife Management Area. ^	No	No
LWCRPA (TE-07B): Lower Petit Caillou	Terrebonne	1995, 2007	The objective of this project was to decrease saltwater intrusion into the project area by re-routing freshwater discharge from the Lashbrook pumping station through the project area prior to entry into Lake Boudreaux. ^	No	No
LWCRPA (TE-14): Point Farm Refuge Planting	Terrebonne	1995	This project was developed to create bottomland hardwood forest in former Point Farm Refuge Area. ^	No	No
LWCRPA (TE-106): Raccoon Island Repair	Terrebonne	1994	This project was a cooperative effort that utilized dredged material and vegetation to repair storm damage to Raccoon Island. ^	No	No
LWCRPA (TE-107): Spoilbank Along the GIWW	Terrebonne	1993	Trees planted along approximately 8,000 feet of the GIWW spoilbank in an effort to reduce further bank erosion. ^	No	No
LWCRPA (TV-02A): Hammock Lake	St. Mary	1990	The construction of 28 wave-dampening fences at Hammock Lake in an effort to reduce turbulence and resuspension of sediments by slowing currents and reducing wave action (Bahlinger 1994).	No	No
LWCRPA (TV-02B): Yellow Bayou	St. Mary	1992	The objectives of the project were to maintain the integrity of the interior marsh between Jackson Bayou and the British-American Canal and to stabilize the East Cote Blanche Bay shoreline. This was achieved by constructing an oyster shell berm adjacent to the water's edge to reduce shoreline erosion. ^	No	No
LWCRPA (TV-06): Marsh Island Control Structures	St. Mary	1993	The project objectives were to reduce the rate of land loss, re-vegetate shallow open-water areas, and increase waterfowl food within the water management units (^; CPRA 2017c).	No	No
LWCRPA (TV-72): Quintana Canal/Cypremort Point	St. Mary	1998	The project features rock breakwaters along the Vermilion Bay shoreline and foreshore rock dike along the Vermilion Bay/ Quintana Canal intersect and the south bank of the Quintana Canal. ^	No	No

Program	Parish	Year Constructed	Project Description	Direct Overlap	Extended Boundary Overlap
National Park Service/USACE: Jean Lafitte National Historical Park & Preserve Beneficial Use Site	Jefferson	2011	The beneficial use of dredged material from Bayou Segnette Waterway and additional material from Algiers Canal associated with the construction of the West Closure Complex/HSDRSS were placed in the site bounded by the 1997 NPS wave break features on the west, existing marsh lands to the north and south, and the 1994 State of Louisiana BA-16 rock dike to the east. The project will provide improved shoreline stability (Minton, 2011).	No	No
National Park Service/USACE: Lake Salvador Shoreline Protection 1997 Shoreline Protection	Jefferson	1997	A shoreline protection barrier was built by the USACE under the authority of the National Parks and Recreation Act of November 10, 1978 (PL 95-625) to protect the Jean Lafitte National Historical Park and Preserve lands from wave induced erosion in an area of the central eastern Lake Salvador shoreline where potential breaching was possible between the Lake Salvador shoreline and the Bayou Segnette Waterway. The wave break is approximately 8,000 feet long (USACE, 1995).	No	No
National Park Service/USACE: Lake Salvador Shoreline Protection 2005	Jefferson	2004-2005	Shoreline protection features were constructed by the USACE within the Jean Lafitte National Historical Park and Preserve along the northeastern Lake Salvador shoreline from the entrance of Bayou Bardeaux southeast along the Lake Salvador shoreline until it meets the National Park Service breakwater constructed in 1997. The goal of this project is to protect the JLNHPP lands and archaeological sites from wave induced erosion (USACE, 2004b).	No	No
National Park Service/USACE: Lake Salvador Shoreline Protection 2011	Jefferson	2011	Construction consisted of placement of rock on the floodside of the geocrib area and repairing existing rock dike on the Jean Lafitte National Historical Park and Preserve along the eastern Lake Salvador shoreline adjacent to the geocrib constructed in 1997. The feature is owned by NPS (O'Cain, 2012).	No	Yes
National Park Service: 2010 Jean Lafitte National Historical Park & Preserve Canal Partial Back Fillings	Jefferson	2010	Jean Lafitte National Historical Park & Preserve canals backfilled in 2010 to restore marsh integrity (Haigler, 2011).	No	No
National Park Service: 2002 Jean Lafitte National Historical Park & Preserve Canal Partial Back Fillings	Jefferson	2002	Jean Lafitte National Historical Park & Preserve canals backfilled in 2002 to restore marsh integrity (Haigler, 2011).	No	No
NFWF (BA-143): Caminada Headland Beach and Dune Restoration Increment 2	Jefferson; Lafourche	2016	This project will retore protect beach and dune habitat across the Caminada Headland through the direct placement of sandy material from Ship Shoal. The project footprint begins near Bayou Mareau and extends approximately 9 miles east towards Caminada Pass.^	No	No
NOAA (BA-186): Fisheries Habitat Restoration on West Grand Terre Island at Fort Livingston	Jefferson	2003	This project consists of a rock dike built to protect the Gulf shoreline of West Grand Terre Island and Fort Livingston. This project was expedited because erosion rates along West Grand Terre rapidly accelerated due to the impacts of tropical storms in 2002. ^	No	No
NOAA (TE-105): Brown Marsh	Lafourche	2002	Project features consisted of a thin layer marsh creation and nourishment covering 44 acres in Lafourche Parish. ^	No	No
NRDA (BA-111): Shell Island West - NRDA	Plaquemines	2017	This project aims to restore the integrity of the Shell Island West barrier island, reduce wave energies within the bay area, and reestablish productive habitat to Bastian Bay and the surrounding area. ^	No	No
NRDA (BA-141): Lake Hermitage Marsh Creation Increment 2	Plaquemines	2014	This project will create 101 acres of marsh in conjunction with the BA-42 Lake Hermitage CWPPRA project. ^	No	No
NRDA (TE-100): NRDA Caillou Lake Headlands	Terrebonne	2018	This project aims to restore the Whiskey Island Barrier Island in order to retain its geomorphologic form and ecologic function. It will create 170 acres of marsh habitat and 917 acres of dune and beach habitat. ^	No	No
SECTION 204/1135: Barataria Waterway/Grand Terre Island Phase 1 & 2	Jefferson	1996 P1; 2002 P2	This Section 204 project provided for the beneficial placement of approximately 500,000 cubic yards of material dredged from the Barataria Bay Waterway to create wetlands on Grand Terre Island.^	No	No
SECTION 204/1135: MRGO, Breton Island Berm Mile -2 to -3	Plaquemines	1999	This Section 204 project utilized material from maintenance dredging activities along the Mississippi River Gulf Outlet to nourish the littoral system that feeds Breton Island.^	No	No
SECTION 204/1135: MRGO, Breton Island Restoration Mile -2.3 to 4.0	Plaquemines	1999	This Section 204 project utilized material from maintenance dredging activities along the Mississippi River Gulf Outlet to repair Breton Island.^	No	No
Texaco Oil Spill Mitigation: Texaco Oil Discharge Mitigation 1991 (Netherlands Area)	St. Charles	1991	Mitigation for the 1991 Texaco oil well discharge into southwestern portion of Lake Salvador. The mitigation feature was constructed in the Netherlands area and consists of a timber pile/tire breakwater approximately 835 feet in length separating the Netherlands area from Lake Cataouatche. The objective of the project is to reduce erosion and enhance submerged aquatic vegetation habitat. The breakwater is anticipated to maintain existing conditions for 50 years (USDOI, 1991).	No	No

Program	Parish	Year Constructed	Project Description	Direct Overlap	Extended Boundary Overlap
US Army Corps of Engineers: LPV Pre-Katrina Mitigation (Manchac Shoreline)	St. John the Baptist	1995	The project is located along the Lake Pontchartrain shoreline south of Pass Manchac near the southern border of the Manchac Wildlife Management Area (WMA) and consists of approximately 5 miles of segmented rock breakwater designed for wetland habitat protection in the WMA (USACE 2013).	No	No
US Army Corps of Engineers: Davis Pond Freshwater Diversion Structure and Guide Levees	St. Charles	2002	The Structure is located on the west bank of the Mississippi River near Luling, Louisiana in St. Charles Parish. Approximately 19 miles of guide levees were also constructed to control the diverted freshwater, nutrients and sediments from the Mississippi River through the diversion structure into the Barataria Basin for the enhancement of the wetland habitat. The maximum flow capacity of the diversion is 10,650 cfs (USACE, 2000).	No	No
USACE (PO-93 and PO-94): MRGO O&M (Bayou Dupre Segment)	St. Bernard	1992	The project is located along the eastern bank of the MRGO in the vicinity of Bayous Bienvenue and Dupre. It consists of approximately 24,000 feet of rock breakwaters to provide wave reduction and protect the marshes behind the structure. Additional maintenance was performed on the structure in 2007/2008 to repair damages from Hurricane Katrina (USACE 2013).	No	No
USACE (PO-95): MRGO O&M 3rd and 4th Supplemental and MRGO O&M (MRGO East Bank Shoreline Protection in the Vicinity of Bayou Yscloskey)	St. Bernard	2008	The project is located along the eastern bank of the MRGO in the vicinity of MRGO river mile 39 to 44 near Bayou Yscloskey. The reach consists of approximately four miles of segmented foreshore rock dikes to reduce wave action and enhance protection to the marshes behind the structure (USACE 2013).	No	No
USACE (PO-152): MRGO O&M 3rd and 4th Supplemental (Doulluts Canal to Jahncke's Ditch)	St. Bernard	2008	This shoreline protection project is located along the southeastern shoreline of Lake Borgne between Doulluts Canal and Jahnckes Ditch. The design for this reach was funded and completed in 2005 by CWPPRA PO-29 project; however, the reach was funded and built with 3rd Supplemental funds (USACE 2013).	No	No
USACE: MRGO O&M (MRGO West Bank Shoreline Protection in the vicinity of Stump Bayou)	St. Bernard	Late 1990s	The project is located along the western bank of the MRGO in the vicinity of Stump Bayou. It consists of approximately 3,000 feet of rock breakwaters to provide wave reduction and enhance protection to the marshes behind the structure (USACE 2013).	No	No
USACE: MRGO O&M 3rd and 4th Supplemental (West of Shell Beach Shoreline Protection)	St. Bernard	2008	A rock shoreline protection feature is to be constructed along the Lake Borgne shoreline south of Proctor Point in the vicinity of Shell Beach to provide protection to the adjacent marshlands. Also, marsh creation will be implemented at specific locations behind the shoreline protection features (USACE 2013).	No	No
WRDA (BA-01): Davis Pond Freshwater Diversion and Forced Drainage Area	Jefferson; Lafourche; Plaquemines; St. Charles	2002	The management of the diverted freshwater, nutrients and sediment from the Mississippi River through the Davis Pond freshwater diversion structure into the surrounding marsh areas to maintain and enhance the ecosystem of the Barataria Basin. *^	Yes	Yes
WRDA (BA-191): Spanish Pass Ridge and Marsh Restoration	Plaquemines	2018	Construction of approximately 1 mile of ridge backed by a marsh platform that would serve as a means to reduce wave energy on the leeward side of the marsh through the use of dredge material. This project is part of the Louisiana Coastal Area, Beneficial Use of Dredged Material Program. ^@	No	No
WRDA (BS-08): Caernarvon Freshwater Diversion	Plaquemines; St. Bernard	1991	This project diverts freshwater and its accompanying nutrients and sediment from the Mississippi River into coastal bays and marshes in Breton Sound for fish and wildlife enhancement. ^	No	No

(^Data source is CPRA 2018; @Data source is CPRA 2017a; # Data source is CPRA 2017b; &Data source is CPRA 2017c; *Data source is CPRA 2012; +Data source is CPRA 2010)

Table 2. Reasonably Foreseeable Wetland or Ecosystem Restoration Projects in the Deltaic Plain

Program	Parish	Description	Direct Overlap	Extended Boundary Overlap
CDBG (TE-78): Cut-Off/Pointe aux Chene Levee	Lafourche	This project will fill in the missing gap that is currently in the existing levee system. The 2.5 miles levee will be constructed along Grand Bayou and tie into the existing levee systems on each end. Construction began in August 2017 and is anticipated for completion in January 2020.^@	No	No
CIAP (PO-148): Living Shoreline	St. Bernard, Jefferson, Orleans	The construction of bio-engineered oyster reefs along coastal fringe marsh in St. Bernard Parish. The installation will take place from Eloi Point to the mouth of Bayou La Loutre around Lydia Point and Paulina Point extending around the southern shore of Treasure Bay. Other related Living Shoreline projects are in Plaquemines Parish and Jefferson Parish. Construction began in February 2018 and is anticipated for completion in 2018. ^@	No	No
CWPPRA (BA-125): Northwest Turtle Bay Marsh Creation	Jefferson	This project involves the creation and nourishment of marsh using sediment dredged from Turtle Bay or Little Lake. Construction began in August 2018 and is anticipated for completion in February 2020.^@	No	No
CWPPRA (TE-72): Lost Lake Marsh Creation and Hydrologic Restoration	Terrebonne	The restoration of an important feature of structural framework between Lake Paige and Bayou Decade to prevent the coalescence of those two water bodies and increase the delivery of fresh water, sediments, and nutrients into the marshes north and west of Lost Lake including the reduction of fetch in open water area via construction of a terrace field. Construction began in September 2016 and is anticipated for completion in January 2019.^	No	No
HSDRRS (BA-156): Plaquemines TFU Mitigation - Braithwaite to Scarsdale - Big Mar	Plaquemines	This environmental mitigation project is being led by USACE and is 100% federally funded. It provides for marsh creation in the vicinity of Braithwaite to Scarsdale - Big Mar and is paired with a Plaquemines Parish marsh creation project.^ This project is still in the planning stage, however, a contract award is anticipated for 2021 with an anticipated completion in 2023 (Landry 2019a).	No	No
HSDRRS (BA-158): New Orleans to Venice Mitigation - Plaquemines Non-Federal	Plaquemines	This project will provide BLH wet/dry, swamp, freshwater marsh, and brackish marsh habitat restoration as part of environmental mitigation for impacts incurred as a result of the construction of New Orleans to Venice Mitigation - Plaquemines Non-Federal levee components. It being led by USACE and is 100% federally funded.^ If the remaining components are selected for construction, construction is anticipated to begin in 2021 with anticipated completion by 2023 (Landry 2019a).	No	No
HSDRRS (BA-159): New Orleans to Venice Mitigation - Federal	Plaquemines	This project will provide BLH wet/dry, intermediate marsh, freshwater marsh, brackish marsh, and saline marsh habitat as part of environmental mitigation for impacts incurred as a result of the construction of New Orleans to Venice Mitigation - Federal. It being led by USACE and is 100% federally funded.^ If the remaining components are selected for construction, construction is anticipated to begin in 2021 with anticipated completion by 2023 (Landry 2019a).	No	No
HSDRRS: HSDRRS Mitigation LPV Bayou Sauvage Floodside Brackish Marsh	Orleans	This alternative consists of 302 acres of brackish marsh restoration that would be achieved by placing dredged material in open water to elevations conducive for wetland development, followed by planting of marsh vegetation. Features also include the temporary placement of sheet pile along Irish Bayou to contain dredged material and the construction and rehabilitation of rock dikes along the shoreline of Lake Pontchartrain. Construction began in May 2016 and is anticipated for completion in July 2019. (Erwin 2018b, USACE 2012c).	No	No
HSDRRS: HSDRRS Mitigation LPV Turtle Bayou Protected Side Intermediate Marsh	Orleans	This alternative consists of 155 acres of bottomland hardwood (wet) restoration that would be accomplished by placing fill material to elevation conducive to the successful establishment of planted native hardwood species. The 142 acres of intermediate marsh restoration would be achieved by placing dredged material in open water adjacent to the bottomland hardwood site to an elevation conducive for wetland development, followed by planting of wetland vegetation. Construction began in May 2016 and is anticipated for completion in July 2019. (Erwin 2018b;USACE 2012b).	No	No

Program	Parish	Description	Direct Overlap	Extended Boundary Overlap
HSDRRS: HSDRRS Mitigation LPV New Zydeco Ridge Protected Side Bottomland Hardwood Wet and Floodside Brackish Marsh	St. Tammany	The New Zydeco Ridge (NZR) restoration is located on the north shore of Lake Pontchartrain in the north east quadrant of the lake, northwest of U.S. Highway 90, and approximately 5 miles east of Slidell, Louisiana on the Big Branch National Wildlife Refuge. The approved NZR projects in SIER 1 consisted of creating approximately 159 acres of BLH-Wet habitat and 160 acres of intermediate/brackish marsh habitat. Design 1 expands the current design of the NZR Brackish Marsh restoration project by approximately 60 acres, making the total acreage for that project approximately 220 acres; it moves the approved NZR BLH-Wet footprint northward. Design 2 maintains the alignment of the NZR BLH-Wet and Brackish Marsh layouts approved in SIER 1 and adds a 60 acre brackish marsh cell to the north of the BLH-Wet footprint. Construction began in November 2016 and is anticipated for completion in June 2020 (Erwin 2018b, USACE 2016a).	No	No
HSDRRS: HSDRRS Mitigation WBV JLNHPP Park Yankee Pond and Geocrib Floodside Fresh Marsh Restoration	Jefferson	Approximately 115 acres of fresh marsh would be restored by filling Yankee Pond with material dredged from Lake Cataouatche. A rock dike with fish dips would be built on the eastern perimeter to separate the marsh from Bayou Segnette. Additionally, 50 acres of marsh would be restored by grading an existing dredge material disposal site to achieve target marsh elevations and completing a rock dike with fish dips adjacent to Lake Salvador. This project assumes natural recruitment and no planting would be required at either site to establish marsh vegetation. Supplemental planting would only occur if the initial vegetation success criteria are not achieved (USACE 2012e). Approximately 20 acres of fresh marsh would be restored by filling a canal immediately abutting Yankee Pond in the northern part of Jean Lafitte National Park. The canal would be filled in with dredged material from Lake Cataouatche. This project assumes that natural recruitment would occur and no planting would be required to establish marsh vegetation. Supplemental planting would only occur if the initial vegetation success criteria are not achieved. (USACE 2012f). Construction began in 2017 and is anticipated for completion in 2019 (Behrens 2019b).	No	No
HSDRRS: HSDRRS Mitigation WBV Avondale Protected Side BLH-Dry Restoration		Approximately 920 acres of predominantly invasive and nuisance species would be eradicated and the area planted with native, high quality tree and shrub species. This project would involve enhancing an existing degraded BLH habitat as mitigation for general protected side BLH-Dry impacts incurred through construction of HSDRSS WBV (USACE 2016b). Construction began in 2016 and is anticipated for completion in 2020 (Behrens 2019a).	No	No
HSDRRS: Previously Authorized Mitigation WBV	Jefferson; St. Charles	Mitigation for Pre-Katrina West Bank and Vicinity Hurricane Protection project impacts by land acquisition, preservation, and management of lands along the St. Charles Parish ridge and adjacent to Bayou Segnette State Park. This mitigation is partially completed. The Bayou Segnette mitigation construction was awarded in September 2014 and was completed in 2018. St. Charles land acquisition was completed in December 2017 and is awaiting readjustment of the mitigation plan to move forward into construction (Behrens 2019a).	No	No
LWCRPA (PO-142): Hydrologic Restoration of the Amite River Diversion Canal	Livingston	The purpose of this project was to reestablish hydrologic connectivity between the Maurepas Swamps and natural water bodies, plant vegetation in highly degraded swamp habitat. ^@	No	No
NRDA (BA-76 aka BA-142): Cheniere Ronquille Barrier Island Restoration	Plaquemines	The project goal is to maintain shoreline integrity and create and restore saline marsh on Chenier Ronquille.^@	No	No
RESTORE (BA-197): West Grand Terre Beach Nourishment and Stabilization	Jefferson	The project involvest the construction of beach and dune, restoration of back barrier marsh, and construction of a rock revetment to protect restored marsh. ^@	No	No
SMP 2017: 000.BH.00 Barrier Island Program	Plaquemines; Jefferson; Lafourche; Terrebonne	Barrier islands and headlands will be addressed through CPRA's Barrier Island Program.#	No	No
SMP 2017: 001.DI.02 Lower Breton Diversion (BS-23)	Plaquemines	Sediment diversion of 50,000 cfs into Lower Breton Sound to build and maintain land.#	Yes	Yes
SMP 2017: 001.DI.100 Manchac Landbridge Diversion	St. Charles; St. John the Baptist	A structure in the existing western spillway guide levee to divert 2,000 cfs thereby increasing freshwater exchange with adjacent wetlands.#	No	No

Program	Parish	Description	Direct Overlap	Extended Boundary Overlap
SMP 2017: 001.DI.101 Ama Sediment Diversion	St. Charles	Sediment diversion into Upper Barataria near Ama to provide sediment for emergent marsh creation and freshwater to sustain existing wetlands, 50,000 cfs capacity.#	Yes	Yes
SMP 2017: 001.DI.102 Union Freshwater Diversion	Ascension	Diversion into West Maurepas swamp near Burnside to provide sediment for emergent marsh creation and freshwater and fine sediment to sustain existing wetlands, 25,000 cfs capacity.#	No	No
SMP 2017: 001.DI.104 Mid-Breton Sound Diversion	Plaquemines	Sediment diversion into Mid-Breton Sound in the vicinity of White's Ditch to build and maintain land, 35,000 cfs capacity.#	No	No
SMP 2017: 001.DI.18 Central Wetlands Diversion	St. Bernard	Diversion into Central Wetlands near Violet to provide sediment for emergent marsh creation and freshwater to sustain existing wetlands, 5,000 cfs capacity.#	No	No
SMP 2017: 001.DI.21 East Maurepas Diversion	St. John	Diversion into East Maurepas near Angelina to provide sediment for emergent marsh creation and freshwater to sustain existing wetlands, 2,000 cfs capacity.#	No	No
SMP 2017: 001.HR.100 LaBranche Hydrologic Restoration	St. Charles	Construction of a 750 cfs hybrid pump-siphon structure, intake structure, and an approximately 1 mile long conveyance system to LaBranche wetlands via the Mississippi River to restore the historically fresh to intermediate marshes. Features also include a conveyance channel roadway and railroad crossings.#	No	No
SMP 2017: 001.MC.05 New Orleans East Landbridge Restoration	Orleans; St. Tammany	Marsh creation in the New Orleans East Landbridge to create new wetland habitat and restore degraded marsh.#	No	Yes
SMP 2017: 001.MC.06a Breton Marsh Creation - Component A	St. Bernard	Marsh creation in the Breton Marsh east of Delacroix Island to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 001.MC.07a Lake Borgne Marsh Creation - Component A	St. Bernard	Marsh creation along the south shoreline of Lake Borgne near Proctors Point to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 001.MC.08a Central Wetlands Marsh Creation - Component A	Orleans; St. Bernard	Marsh creation in Central Wetlands near Bayou Bienvenue to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 001.MC.101 Uhlan Bay Marsh Creation	Plaquemines	Marsh creation on the east bank of Plaquemines Parish around Uhlan Bay to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 001.MC.102 Pointe a la Hache Marsh Creation	Plaquemines	Marsh creation on the east bank of Plaquemines Parish near Pointe a la Hache to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 001.MC.104 East Bank Land Bridge Marsh Creation	Plaquemines	Marsh creation in Plaquemines Parish between Grand Lake and Lake Lery to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 001.MC.105 Spanish Lake Marsh Creation	Plaquemines	Marsh creation in Plaquemines Parish along the eastern shore of Spanish Lake to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 001.MC.106 St. Tammany Marsh Creation	St. Tammany	Marsh creation in St. Tammany Parish along the northern shore of Lake Pontchartrain to create new wetland habitat and restore degraded marsh.#	Yes	Yes
SMP 2017: 001.MC.107 Tiger Ridge/Maple Knoll Marsh Creation	Plaquemines	Marsh creation in Plaquemines Parish near Tiger Ridge to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 001.MC.108 Guste Island Marsh Creation	St. Tammany	Marsh creation in St. Tammany Parish along the northwest Lake Pontchartrain shoreline to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 001.MC.13 Golden Triangle Marsh Creation	Orleans; St. Bernard	Marsh creation in Golden Triangle Marsh between the MRGO and GIWW to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 001.RC.01 Bayou LaLoutre Ridge Restoration	St. Bernard	Restoration of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou LaLoutre.#	No	No
SMP 2017: 001.RC.100 Bayou Terre aux Boeufs Ridge Restoration	St. Bernard	Historic ridge restoration to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou Terre aux Boeufs.#	No	No
SMP 2017: 001.RC.103 Carlisle Ridge Restoration	Plaquemines	Historic ridge restoration to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation near Carlisle.	No	No

Program	Parish	Description	Direct Overlap	Extended Boundary Overlap
SMP 2017: 001.SP.01 Manchac Landbridge Shoreline Protection	Tangipahoa	Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along the west side of Lake Pontchartrain north of Pass Manchac near Stinking Bayou to preserve shoreline integrity and reduce wetland degradation.#	No	No
SMP 2017: 001.SP.101 Unknown Pass to Rigolets Shoreline Protection	Orleans	Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along the east side of the New Orleans Landbridge from Unknown Pass to the Rigolets to preserve shoreline integrity and reduce wetland degradation.#	No	No
SMP 2017: 001.SP.104 LaBranche Wetlands Shoreline Protection	St. Charles	Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along the southern shore of Lake Pontchartrain near the LaBranche wetlands to preserve shoreline integrity and reduce wetland degradation.#	No	No
SMP 2017: 002.DI.102 Mid-Barataria Diversion	Plaquemines	Sediment diversion into Mid-Barataria near Myrtle Grove to build and maintain land, 75,000 cfs capacity.#	Yes	Yes
SMP 2017: 002.MC.04a Lower Barataria Marsh Creation - Component A	Jefferson	Marsh creation in Jefferson Parish on the east shore of Little Lake and Turtle Bay to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 002.MC.05e Large-Scale Barataria Marsh Creation - Component E	Plaquemines; Jefferson	Marsh creation in the Barataria Basin south of the Pen to the Barataria Landbridge to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 002.RC.02 Spanish Pass Ridge Restoration	Plaquemines	Historic ridge restoration to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation west of Venice along the banks of Spanish Pass.#	No	No
SMP 2017: 002.RC.100 Red Pass Ridge Restoration	Plaquemines	Historic ridge restoration in southwest of Venice to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along the banks of Red Pass.#	No	No
SMP 2017: 002.RC.101 Adams Bay Ridge Restoration	Plaquemines	Historic ridge restoration to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Adams Bay.#	No	No
SMP 2017:002.RC.102 Bayou Eau Noire Ridge Restoration	Plaquemines	Historic ridge restoration to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou Eau Noire.#	No	No
SMP 2017: 002.RC.103 Grand Bayou Ridge Restoration	Plaquemines	Historic ridge restoration to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Grand Bayou. #	Yes	Yes
SMP 2017: 002.SP.100 Lake Hermitage Shoreline Protection	Plaquemines	Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 around the southern shore of Lake Hermitage to preserve shoreline integrity and reduce wetland degradation from wave erosion.#	No	No
SMP 2017: 002.SP.102 East Snail Bay Shoreline Protection	Lafourche	Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along the northeastern shore of Snail Bay south of Little Lake to preserve shoreline integrity and reduce wetland degradation from wave.#	No	No
SMP 2017: 002.SP.103 West Snail Bay Shoreline Protection	Lafourche	Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along the western shoreline of Snail Bay south of Little Lake to preserve shoreline integrity and reduce wetland degradation from wave.#	No	No
SMP 2017: 002.SP.106 Bayou Perot Shoreline Protection	Lafourche	Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along the western shore of Bayou Perot to preserve shoreline integrity and reduce wetland degradation from wave erosion.#	No	No
SMP 2017: 03a.DI.01 Bayou Lafourche Diversion	Ascension; Assumption; Lafourche	Diversion of the Mississippi River into Bayou Lafourche to increase freshwater flow down Bayou Lafourche with 1,000 cfs capacity.#	No	No
SMP 2017: 03a.DI.05 Atchafalaya River Diversion	Terrebonne	Sediment diversion off the Atchafalaya River to benefit the Penchant Basin and southwest Terrebonne marshes with 30,000 cfs capacity.#	No	No
SMP 2017: 03a.HR.02 Central Terrebonne Hydrologic Restoration	Terrebonne	Construction of a rock plug in Grand Pass with a 150- foot by 15-foot navigable section to prevent saltwater intrusion from Caillou Lake into Lake Mechant.#	No	No
SMP 2017: 03a.HR.100 Grand Bayou Hydrologic Restoration	Lafourche	Dredging of Margaret's Bayou and Grand Bayou in conjunction with the construction of a fixed crest structure at Grand Bayou and the installation of (5) 48-inch flap-gated culverts on the western bank of Grand Bayou.#	No	No

Program	Parish	Description	Direct Overlap	Extended Boundary Overlap
SMP 2017: 03a.MC.03p Terrebonne Bay Rim Marsh Creation Study	Lafourche; Terrebonne	Planning, engineering, and design of marsh creation features to provide benefits to communities in Terrebonne Parish and the Morganza to the Gulf protection system.#	No	No
SMP 2017: 03a.MC.07 Belle Pass-Golden Meadow Marsh Creation	Lafourche	Marsh creation from Belle Pass to Golden Meadow to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 03a.MC.09b North Terrebonne Bay Marsh Creation - Component B	Terrebonne	Marsh creation south of Montegut between Bayou St. Jean Charles and Bayou Pointe Aux Chenes to create new wetland habitat and restore degraded marsh.	No	No
SMP 2017: 03a.MC.100 South Terrebonne Marsh Creation	Terrebonne	Marsh creation south of Dulac between Bayou Dularge and Houma Navigation Canal to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 03a.MC.101 North Lake Mechant Marsh Creation	Terrebonne	Marsh creation between Lake Decade and Lake Mechant to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 03a.RC.02 Bayou Dularge Ridge Restoration	Terrebonne	Historic ridge restoration to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou Dularge.#	No	No
SMP 2017: 03a.RC.04 Mauvais Bois Ridge Restoration	Terrebonne	Historic ridge restoration to an elevation of 5 feet NAVD88 at Mauvais Bois to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.#	No	No
SMP 2017: 03a.RC.05 Bayou Terrebonne Ridge Restoration	Terrebonne	Historic ridge restoration to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along the southern portions of Bayou Terrebonne.#	No	No
SMP 2017: 03a.RC.06 Bayou Pointe Aux Chenes Ridge Restoration	Terrebonne	Historic ridge restoration to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along the southern portions of Bayou Pointe Aux Chenes.#	No	No
SMP 2017: 03a.SP.100 North Lake Boudreaux Shoreline Protection	Terrebonne	Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along the northern shore of Lake Boudreaux east of Hog Point to preserve shoreline integrity and reduce wetland degradation#	No	No
SMP 2017: 03b.DI.04 Increase Atchafalaya Flow to Terrebonne	Assumption; St. Mary; Terrebonne	Dredging of the Gulf Intracoastal Waterway (GIWW) and construction of a bypass structure at the Bayou Boeuf Lock from the Atchafalaya River to Terrebonne marshes with 20,000 cfs capacity.#	No	No
SMP 2017: 03b.MC.09 Point Au Fer Island Marsh Creation	Terrebonne	Marsh creation on Point Au Fer Island to create new wetland habitat and restore degraded marsh.#	No	No
SMP 2017: 03b.SP.06a Vermilion Bay and West Cote Blanche Bay Shoreline Protection (Critical Areas)	Vermilion; Iberia	Shoreline protection through rock breakwaters of critical areas on the east shoreline of Vermilion Bay to preserve shoreline integrity and reduce wetland degradation from wave erosion.#	No	No

(^Data source is CPRA 2018; @Data source is CPRA 2017a; #Data source is CPRA 2017d)

Table B-3: Common Wildlife Species Found in the Terrebonne Basin

Common Name	Scientific Name
American alligator	<i>Alligator mississippiensis</i>
American beaver	<i>Castor canadensis</i>
American coot	<i>Fulica americana</i>
American crow	<i>Corvus brachyrhynchos</i>
American eel	<i>Anguilla rostrata</i>
American kestrel	<i>Falco sparverius</i>
American white pelican	<i>Pelecanus erythrorhynchos</i>
American widgeon	<i>Anas americana</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Banded water snake	<i>Nerodia fasciata</i>
Barred owl	<i>Strix varia</i>
Belted kingfisher	<i>Ceryle alcyon</i>
Black skimmer	<i>Rynchops niger</i>
Black-necked stilt	<i>Himantopus mexicanus</i>
Blue jay	<i>Cyanocitta cristata</i>
Blue-winged teal	<i>Anas discors</i>
Boat-tailed grackle	<i>Quiscalus major</i>
Bobcat	<i>Lynx rufus</i>
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>
Bronze frog	<i>Rana clamitans</i>
Brown pelican	<i>Pelecanus occidentalis</i>
Bufflehead	<i>Bucephala albeola</i>
Bullfrog	<i>Rana catesbeiana</i>
Carolina wren	<i>Thryothorus ludovicianus</i>
Cattle egret	<i>Bubulcus ibis</i>
Clapper rail	<i>Rallus longirostris</i>
Common grackle	<i>Quiscalus quiscula</i>
Common moorhen	<i>Gallinula chloropus</i>
Common snapping turtle	<i>Chelydra serpentina</i>
Common yellowthroat	<i>Geothlypis trichas</i>
Cotton mouse	<i>Peromyscus gossypinus</i>
Coyote	<i>Canis latrans</i>
Diamondback terrapin	<i>Malaclemys terrapin</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>
Eastern pipistrelle	<i>Pipistrellus subflavus</i>
Eastern cottontail rabbit	<i>Sylvilagus floridanus</i>
Eastern wood-pewee	<i>Contopus virens</i>
Evening bat	<i>Nycticeius humeralis</i>
Feral hog	<i>Sus scrofa</i>
Forster's tern	<i>Sterna forsteri</i>
Fox squirrel	<i>Sciurus niger</i>
Fulvous harvest mouse	<i>Reithrodontomys fulvescens</i>
Gadwall	<i>Anas strepera</i>

Glossy ibis	<i>Plegadis falcinellus</i>
Gray fox	<i>Urocyon cinereoargenteus</i>
Gray squirrel	<i>Sciurus carolinensis</i>
Great blue heron	<i>Ardea Herodias</i>
Great egret	<i>Casmerodius albus</i>
Greater yellowlegs	<i>Tringa melanoleuca</i>
Great horned owl	<i>Bubo virginianus</i>
Grebe	<i>Podilymbus sp.</i>
Green anole	<i>Anolis carolinensis</i>
Green-backed heron	<i>Butorides striatus</i>
Green sea turtle	<i>Chelonia mydas</i>
Green treefrogs	<i>Hyla cinerea</i>
Green-winged teal,	<i>Anas crecca</i>
Ground skink	<i>Scincella lateralis</i>
Gulf coast toad	<i>Bufo valliceps</i>
Gull-billed tern	<i>Sterna nilotica</i>
Herring gull	<i>Larus argentatus</i>
Hispid cotton rat	<i>Sigmodon hispidus</i>
Hooked Mussel	<i>Ischadium recurvum</i>
House mouse	<i>Mus musculus</i>
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>
Killdeer	<i>Chardrius vociferous</i>
Lane snapper	<i>Lutjanus synagris</i>
Laughing gull	<i>Larus atricilla</i>
Lesser scaup	<i>Aythya affinis</i>
Lesser yellowlegs	<i>Tringa flavipes</i>
Loggerhead sea turtle	<i>Caretta caretta</i>
Longnose gar	<i>Lepisosteus osseus</i>
Lesser Scaup	<i>Aythya affinis</i>
Mallard	<i>Anas platyrhynchos</i>
Marsh rice rat	<i>Oryzomys palustris</i>
Marsh wren	<i>Cistothorus palustris</i>
Mink	<i>Mustela vison</i>
Mottled duck	<i>Anas fulvigula</i>
Mourning Dove	<i>Zenaida macroura</i>
Muskrat	<i>Ondatra zibethicus</i>
Nine-banded armadillo	<i>Dasypus novemcinctus</i>
Northern cardinal	<i>Cardinalis cardinalis</i>
Northern harrier	<i>Circus cyaneus</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Northern pintail	<i>Anas acuta</i>
Northern raccoon	<i>Procyon lotor</i>
Northern Shoveler	<i>Anas clypeata</i>
Northern yellow bat	<i>Lasiurus intermedius</i>
Norway rat	<i>Rattus norvegicus</i>
Nutria	<i>Myocastor coypus</i>

Olivaceous cormorant	<i>Phalacrocorax brasilianus</i>
Opposum	<i>Didelphis virginiana</i>
Pig frog	<i>Rana grylio</i>
Rafinesque's big-eared bat	<i>Plecotus rafinesquii</i>
Red bat	<i>Lasiurus borealis</i>
Red-breasted merganser	<i>Mergus serrator</i>
Red-eared slider	<i>Trachemys scripta</i>
River otter	<i>Lutra canadensis</i>
Red fox	<i>Vulpes vulpes</i>
Redhead	<i>Aythya americana</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Ring-billed gull	<i>Larus delawarensis</i>
Ring-necked duck	<i>Aythya collaris</i>
Roof rat	<i>Rattus rattus</i>
Seaside sparrow	<i>Ammodramus maritimus</i>
Snowy egret	<i>Egretta thula</i>
Southern leopard frog	<i>Rana sphenoccephala</i>
Squirrel treefrogs	<i>Hyla squirella</i>
Stinkpot	<i>Sternotherus odoratus</i>
Striped skunk	<i>Mephitis mephitis</i>
Swamp rabbit	<i>Sylvilagus aquaticus</i>
Tricolored heron	<i>Egretta tricolor</i>
West Indian manatee	<i>Trichechus manatus</i>
Western cottonmouth	<i>Agkistrodon piscivorus</i>
White-eyed vireo	<i>Vireo griseus</i>
White-faced ibis	<i>Plegadis chihi</i>
White-footed mouse	<i>Peromyscus leucopus</i>
White ibis	<i>Eudocimus albus</i>
White-tail deer	<i>Odocoileus virginianus</i>
Willet	<i>Tringa semipalmata</i>
Wood duck	<i>Aix sponsa</i>
Yellow-crowned night-heron	<i>Nycticorax violaceus</i>

Table B-3: Fish and Aquatic Species Found in the Terrebonne Basin

Common Name	Scientific Name
Atlantic croaker	<i>Micropogonias undulatus</i>
American oyster	<i>Crassostrea virginica</i>
Asiatic clam	<i>Corbicula fluminea</i>
bay anchovy	<i>Anchoa mitchilli</i>
bighead carp	<i>Hypophthalmichthys nobilis</i>
black crappie	<i>Pomoxis nigromaculatus</i>
black drum	<i>Pogonias cromis</i>
blue crab	<i>Callinectes sapidus</i>
blue catfish	<i>Ictalurus furcatus</i>
bluegill	<i>Lepomis macrochirus</i>
bowfin	<i>Amia calva</i>
brown shrimp	<i>Farfantepenaeus aztecus</i>
smallmouth bass	<i>Micropterus dolomieu</i>
smallmouth buffalo	<i>Ictiobus bubalus</i>
channel catfish	<i>Ictalurus punctatus</i>
common carp	<i>Cyprinus carpio</i>
crawfish	<i>Procambarus sp.</i>
flathead catfish	<i>Pylodictis olivaris</i>
freshwater drum	<i>Aplodinotus grunniens</i>
gizzard shad	<i>Dorosoma cepedianum</i>
grass carp	<i>Ctenopharyngodon idella</i>
grass shrimp	<i>Palaemonetes pugio</i>
gray snapper	<i>Lutjanus griseus</i>
Gulf menhaden	<i>Brevoortia patronus</i>
Gulf sturgeon	<i>Acipenser oxyrinchus desotoi</i>
hardhead catfish	<i>Ariopsis felis</i>
inland silverside	<i>Menidia beryllina</i>
lane snapper	<i>Lutjanus synagris</i>
largemouth bass	<i>Micropterus salmoides</i>
least killifish	<i>Heterandria formosa</i>
longnose gar	<i>Lepisosteus osseus</i>
mosquitofish	<i>Gambusia affinis</i>
mud crab	<i>Eurypanopeus depressus</i>
mysid shrimp	<i>Mysidopsis bahia</i>
paddlefish	<i>Polyodon spathula</i>
pallid sturgeon	<i>Scaphirhynchus albus</i>
pink shrimp	<i>Farfantepenaeus duorarum</i>
rainwater killifish	<i>Lucania parva</i>
redeer sunfish	<i>Lepomis microlophus</i>
redfish/ red drum	<i>Sciaenops ocellatus</i>
ribbed mussel	<i>Geukensia demissa</i>
Rio Grande cichlid	<i>Cichlasoma cyanoguttatum</i>
roughneck shrimp	<i>Trachypenaeus constrictis</i>
saltwater topminnow	<i>Fundulus jenkinsi</i>
sand seatrout	<i>Cynoscion arenarius</i>
sailfin molly	<i>Poecilia latipinna</i>
sheepshead	<i>Archosargus probatocephalus</i>
sheepshead minnow	<i>Cyprinodon variegatus</i>

shortnose gar	<i>Lepisosteus platostomus</i>
shovelnose sturgeon	<i>Scaphirhynchus platyrhynchus</i>
southern flounder	<i>Paralichthys lethostigma</i>
southern kingfish	<i>Menticirrhus americanus</i>
Spanish mackerel	<i>Scomberomorus maculatus</i>
spot	<i>Leiostomus xanthurus</i>
spotted gar	<i>Lepisosteus oculatus</i>
spotted seatrout	<i>Cynoscion nebulosus</i>
striped mullet	<i>Mugil cephalus</i>
warmouth	<i>Lepomis gulosus</i>
white crappie	<i>Pomoxis annularis</i>
white shrimp	<i>Litopenaeus setiferus</i>
yellow bass	<i>Morone mississippiensis</i>
yellow bullhead	<i>Ameiurus natalis</i>
zebra mussel	<i>Dreissena polymorpha</i>
silver carp	<i>Hypophthalmichthys molitrix</i>

Table B-4a. Louisiana's 2020 Section 303(d) List for subsegments within the study area.

Subsegment Number	Subsegment Description	Water Body Type	Size (mi)	PCR	SCR	FWP	OYS	Impaired Use for Suspected Cause	Suspected Causes of Impairment	Suspected Sources of Impairment
LA120602_00	Bayou Terrebonne-From Company Canal to Humble Canal (Estuarine)	River	9.5	N	F	N	N	FWP	DISSOLVED OXYGEN	INTRODUCTION OF NON-NATIVE ORGANISMS (ACCIDENTAL OR INTENTIONAL)
LA120602_00	Bayou Terrebonne-From Company Canal to Humble Canal (Estuarine)	River	9.5	N	F	N	N	FWP	DISSOLVED OXYGEN	MARINA/BOATING SANITARY ON-VESSEL DISCHARGES
LA120602_00	Bayou Terrebonne-From Company Canal to Humble Canal (Estuarine)	River	9.5	N	F	N	N	FWP	DISSOLVED OXYGEN	MUNICIPAL POINT SOURCE DISCHARGES
LA120602_00	Bayou Terrebonne-From Company Canal to Humble Canal (Estuarine)	River	9.5	N	F	N	N	FWP	DISSOLVED OXYGEN	SYSTEMS (SEPTIC SYSTEMS AND SIMILAR DECENTRALIZED SYSTEMS)
LA120602_00	Bayou Terrebonne-From Company Canal to Humble Canal (Estuarine)	River	9.5	N	F	N	N	FWP	DISSOLVED OXYGEN	PACKAGE PLANT OR OTHER PERMITTED SMALL FLOWS DISCHARGES
LA120602_00	Bayou Terrebonne-From Company Canal to Humble Canal (Estuarine)	River	9.5	N	F	N	N	PCR	ENTERO-COCCUS	MARINA/BOATING SANITARY ON-VESSEL DISCHARGES
LA120602_00	Bayou Terrebonne-From Company Canal to Humble Canal (Estuarine)	River	9.5	N	F	N	N	PCR	ENTERO-COCCUS	MUNICIPAL POINT SOURCE DISCHARGES
LA120602_00	Bayou Terrebonne-From Company Canal to Humble Canal (Estuarine)	River	9.5	N	F	N	N	PCR	ENTERO-COCCUS	SYSTEMS (SEPTIC SYSTEMS AND SIMILAR DECENTRALIZED SYSTEMS)
LA120602_00	Bayou Terrebonne-From Company Canal to Humble Canal (Estuarine)	River	9.5	N	F	N	N	PCR	ENTERO-COCCUS	PACKAGE PLANT OR OTHER PERMITTED SMALL FLOWS DISCHARGES
LA120602_00	Bayou Terrebonne-From Company Canal to Humble Canal (Estuarine)	River	9.5	N	F	N	N	PCR	ENTERO-COCCUS	SILVICULTURE HARVESTING
LA120704_00	Bayou Terrebonne-From Humble Canal to Lake Barre (Estuarine)	River	14.8	N	F	F	N	OYS	FECAL COLIFORM	INTRODUCTION OF NON-NATIVE ORGANISMS (ACCIDENTAL OR INTENTIONAL)
LA120704_00	Bayou Terrebonne-From Humble Canal to Lake Barre (Estuarine)	River	14.8	N	F	F	N	OYS	FECAL COLIFORM	MARINA/BOATING SANITARY ON-VESSEL DISCHARGES
LA120704_00	Bayou Terrebonne-From Humble Canal to Lake Barre (Estuarine)	River	14.8	N	F	F	N	OYS	FECAL COLIFORM	SEWAGE DISCHARGES IN UNSEWERED AREAS
LA120704_00	Bayou Terrebonne-From Humble Canal to Lake Barre (Estuarine)	River	14.8	N	F	F	N	PCR	ENTERO-COCCUS	MARINA/BOATING SANITARY ON-VESSEL DISCHARGES

LA120704_00	Bayou Terrebonne-From Humble Canal to Lake Barre (Estuarine)	River	14.8	N	F	F	N	PCR	ENTERO-COCCUS	SEWAGE DISCHARGES IN UNSEWERED AREAS
LA120704_00	Bayou Terrebonne-From Humble Canal to Lake Barre (Estuarine)	River	14.8	N	F	F	N	PCR	ENTERO-COCCUS	SILVICULTURE HARVESTING

Note: PCR = Primary Contact Recreation (swimming), SCR = Secondary Contact Recreation (boating), FWP = Fish and Wildlife Propagation (fishing), OYS = Oyster Propagation, F = Fully supporting designated use, N = Not supporting designated use.

Table B-4b. Subsegment 120704 designated use support

Year	Designated Use Support			
	PCR	SCR	FWP	OYS
2012	Full	Full	Not	Not
2014	Not	Full	Full	Not
2016	Not	Full	Full	Not
2018	Not	Full	Full	Not
2020	Not	Full	Full	Not

Table B-4c

Causes and sources of impairment for subsegment 120704 - Bayou Terrebonne-From Humble Canal to Lake Barre (Estuarine)						
Year	Designated Use					
	PCR		FWP		OYS	
	Causes	Sources	Causes	Sources	Causes	Sources
2012			Fishing Advisory - No Restriction	Accidental Release/Spill	Fecal Coliform	Marina/Boating Sanitary On-Vessel Discharges Sewage Discharges In Unsewered Areas
			Foam/Flocs/Scum/Oil Slicks Other	Accidental Release/Spill Accidental Release/Spill	Fishing Advisory - No Restriction Foam/Floac/Scum/Oil Slicks Other	Accidental Release/Spill Accidental Release/Spill Accidental Release/Spill
2014	Fecal Coliform	Marina/Boating Sanitary On-Vessel Discharges Sewage Discharges In Unsewered Areas			Fecal Coliform	Marina/Boating Sanitary On-Vessel Discharges Sewage Discharges In Unsewered Areas
2016	Fecal Coliform	Marina/Boating Sanitary On-Vessel Discharges Sewage Discharges In Unsewered Areas			Fecal Coliform	Marina/Boating Sanitary On-Vessel Discharges Sewage Discharges In Unsewered Areas
2018	Enterococcus	Marina/Boating Sanitary On-Vessel Discharges Sewage Discharges In Unsewered Areas			Fecal Coliform	Marina/Boating Sanitary On-Vessel Discharges Sewage Discharges In Unsewered Areas
2020	Enterococcus	Marina/Boating Sanitary On-Vessel Discharges Sewage Discharges In Unsewered Areas			Fecal Coliform	Marina/Boating Sanitary On-Vessel Discharges Sewage Discharges In Unsewered Areas

Table B-4d Water Quality Summary for LDEQ monitoring stations 0349 and 3001 (located approximately 3.5 miles from the project area)
*Note: highlighted cells exceed criteria for the parameter.

Group	Parameter	Units	0349								3001								LDEQ								EPA			
			n	Avg	St Dev	5th	25th	Median	75th	95th	n	Avg	St Dev	5th	25th	Median	75th	95th	Freshwater ¹		Estuarine		Marine		0349	3001	Freshwater		Marine	
																			Acute	Chronic	Acute	Chronic	Acute	Chronic			Acute	Chronic	Acute	Chronic
Field Parameters	Dissolved Oxygen	mg/L	51	6.0	2.3	2.0	4.6	5.9	7.8	9.8	23	7.5	2.0	4.8	6.1	7.2	8.9	10.4	5.0		4.0		5.0				30 day mean of 5.5 mg/L; 7 day mean of 6 mg/L (early life stages); 7 day mean minimum of 4 mg/L; 1 day minimum of 5 mg/L (early life stages)			
	Dissolved Oxygen Percent Saturation	%	51	66	20	26	59	70	79	94	23	89	16	65	79	87	97	112												
	pH	SU	51	7.3	0.3	6.7	7.1	7.4	7.5	7.8	23	7.8	0.3	7.2	7.6	7.9	7.9	8.1		6-9						6.5 - 9		6.5 - 8.5		
	Salinity	ppt	51	1.0	1.8	0.1	0.1	0.2	0.9	4.6	23	7.9	4.1	0.7	5.4	8.3	10.1	14.5												
	Specific Conductance	µmhos/cm	51	1,792	3,106	225	304	425	1,367	8,217	23	13,432	6,765	1,324	9,631	14,354	17,283	23,986												
	Water Temperature	°F	51	72	13	51	62	76	84	88	23	73	11.1	53	63	76	81	86	90		95		95				See EPA Gold Book ²			
Laboratory General Parameters	Alkalinity	mg/L	51	88	21	63	73	84	101	136	24	103	21	76	85	104	113	144									20,000			
	Chloride (As Cl)	mg/L	50	453	920	21	33	76	383	1,812	24	3,860	2,404	276	1,685	4,350	5,698	7,518	Average plus three standard deviations					3,214	11,072	860,000	230,000			
	Hardness (As CaCO3)	mg/L	51	330	468	78	97	136	320	980	24	1,483	815	177	755	1,610	1,945	2,758												
	Total Dissolved Solids	mg/L	50	1,062	1,842	137	226	304	854	4,951	24	8,400	4,370	825	6,203	8,830	10,950	14,845	Average plus three standard deviations				6,589	21,511	Criteria corresponds to the appropriate background value plus ten percent					
	Total Suspended Solids	mg/L	48	23	21	6	10	15	31	51	24	27	28	12	17	20	25	43								Criteria corresponds to the appropriate background value plus ten percent				
	Turbidity	NTU	48	23	14	7	12	19	31	46	24	15	13	6	8	11	18	21	Criteria corresponds to the appropriate background value plus ten percent							17.5				
Major ions	Calcium	µg/L	12	26,617	8,523	17,075	20,400	25,500	29,800	40,790																				
	Fluoride	mg/L	12	0.16	0.05	0.11	0.14	0.15	0.18	0.26																				
	Potassium	µg/L	12	6,480	5,089	3,206	3,833	4,160	6,655	15,375																				
	Sodium	µg/L	12	110,092	129,769	19,340	38,125	55,950	115,225	342,900																				
	Silicon Oxide	mg/L	12	6.5	2.0	4.1	4.8	6.4	7.4	9.5																				
	Sulfate	mg/L	50	74	107	11	23	35	57	277	24	852	1,537	69	366	580	776	990	Average plus three standard deviations				394	5,463						
Metals	Arsenic	µg/L	4	1.8	0.7	1.1	1.4	1.6	2.0	2.7									339.8	150	69	36	69	36			340	150	69	36
	Cadmium	µg/L	3	0.021	0.007	0.014	0.018	0.022	0.026	0.028									77.43	2.49	Minimum of freshwater and marine criteria		45.35	10			2	0.25	40	8.8
	Copper	µg/L	4	1.7	0.2	1.5	1.7	1.8	1.8	1.9									56.80	34.10	Minimum of freshwater and marine criteria		3.63	3.63				9	4.8	3.1
	Iron	µg/L	12	308	250	94	119	261	379	726																				
	Lead	µg/L	3	0.053	0.040	0.019	0.025	0.033	0.071	0.101									38.63	5.22	Minimum of freshwater and marine criteria		209	8.8			65	2.5	210	8.1
	Magnesium	µg/L	12	18,206	16,674	7,368	8,945	11,300	18,850	47,275																				
	Manganese	µg/L	10	40	28	17	22	30	44	89																				
	Nickel	µg/L	4	0.9	0.4	0.5	0.7	0.9	1.1	1.4									3,889	432	Minimum of freshwater and marine criteria		74	8.2			470	52	74	8.2
Zinc	µg/L	4	3.4	2.2	1.2	2.0	2.8	4.2	6.3									315	288	Minimum of freshwater and marine criteria		90	81			120	120	90	81	
Nutrients	Ammonia Nitrogen	mg/L	34	0.21	0.09	0.12	0.14	0.19	0.26	0.37	13	0.18	0.08	0.11	0.13	0.15	0.20	0.31									17	1.9	5	0.75
	Nitrate+Nitrite Nitrogen	mg/L	42	0.4	0.2	0.1	0.2	0.3	0.4	0.7	8	0.3	0.1	0.1	0.1	0.3	0.3	0.5									0.76 (total nitrogen [nitrate/nitrite plus Kjeldahl nitrogen])			
	Nitrogen, Kjeldahl	mg/L	45	1.0	0.4	0.6	0.8	1.0	1.2	1.7	23	1.2	0.4	0.6	0.9	1.2	1.3	1.7												
	Phosphorus (As P)	mg/L	45	0.2	0.3	0.1	0.1	0.2	0.2	0.4	22	0.2	0.1	0.1	0.1	0.2	0.3	0.4									128			
Organic Contaminants	Bromomethane	µg/L	1	2.3	0.0	2.3	2.3	2.3	2.3	2.3																				
	Chloromethane	µg/L	3	4.0	2.5	1.5	2.3	3.3	5.4	7.0									55,000	27,500	27,000	13,500	27,000	13,500						
	Methylene Chloride	µg/L	1	0.5	0.0	0.5	0.5	0.5	0.5	0.5									19,300	9,650	25,600	12,800	19,300	9,650						
	Toluene	µg/L	1	0.58	0.00	0.58	0.58	0.58	0.58	0.58									1,270	635	950	475	950	475						
Pathogens	Enterococci	COL/100ml	7	1,273	1,751	258	405	480	960	4,210	5	540	394	103	290	373	840	1,080	Mean less than 35 colonies/100 mL and no more than 10% above 130 colonies/100 mL											
	Fecal Coliform	COL/100ml	50	721	1,377	89	183	260	490	4,065	19	770	1,599	12	50	112	375	4,740	Primary contact recreation: no more than 25% of monthly samples above 400 colonies/100 mL. Secondary contact recreation: no more than 25% of monthly samples above 2,000 colonies/100 mL.											

¹Freshwater criteria for cadmium, copper, lead, nickel, and zinc are based on average hardness concentrations for LDEQ Site 0349

²EPA Gold Book (<https://www.epa.gov/wqc/quality-criteria-water-gold-book>)

Table B-5. Typical Noise Levels Associated with Common Activities

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
	0	

Source: California Department of Transportation (Caltrans) 2013. Technical Noise Supplement to the Caltrans Traffic Noise Analysis Protocol. Pg 2-20.

Key: dBA = A-weighted decibels